

County Weld State Colorado

Elevation
K.B. 5080'
D.F. —
G.L. 5063'

liner	58.4 1/2	---	
	4 1/2	11.6	

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.

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
Verification Pass ran to repeat anomaly at 293 FT
Logging tools were clean and free of debris upon completion of operations

Thank you for choosing Reliance Oilfield Services, LLC!!

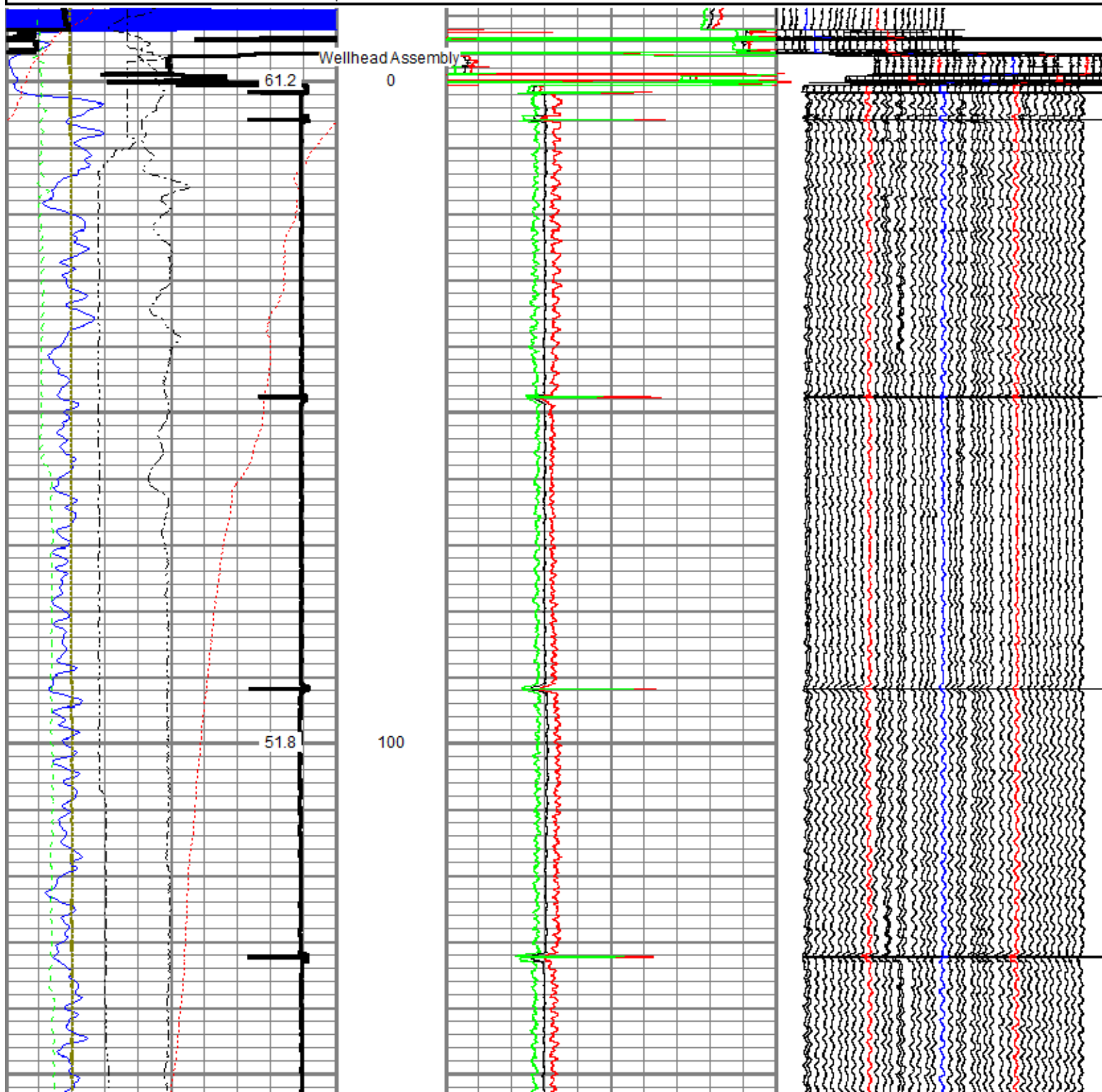
7" Main Pass

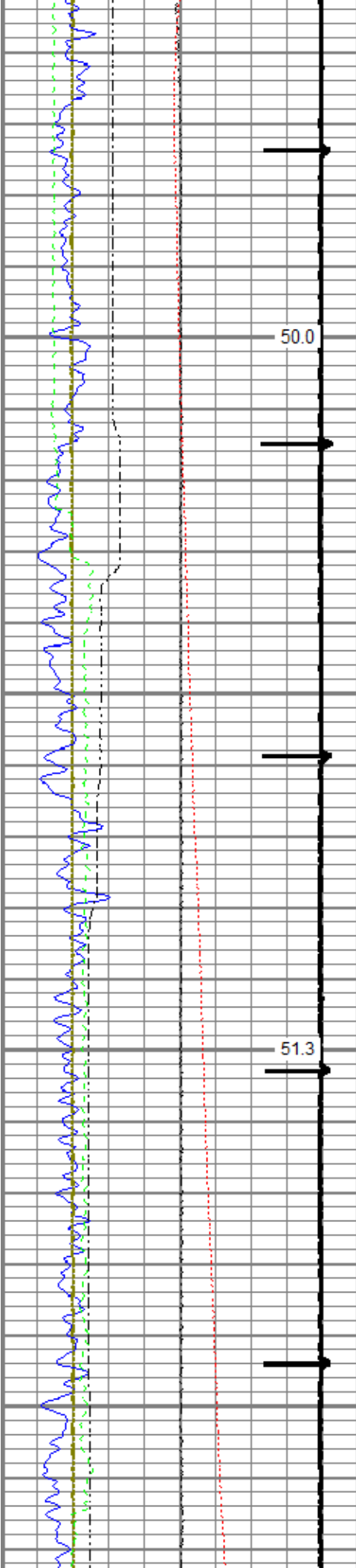


Database File	anadarko_yellowhammer 34c-17hz\0512345498_anadarko_yellowhammer 34c-17hz_mit_02-18-18.db
Dataset Pathname	pass8.3
Presentation Format	ros_70mit40sx
Dataset Creation	Sun Feb 18 16:50:39 2018
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	120
-100	Line Speed (ft/min)	100
-10	Deviation (deg)	90
0	Line Tension (lb)	2000
-2	Differential Temperature (degF)	2
0	Temperature (degF)	20
Casing Collar Locator		

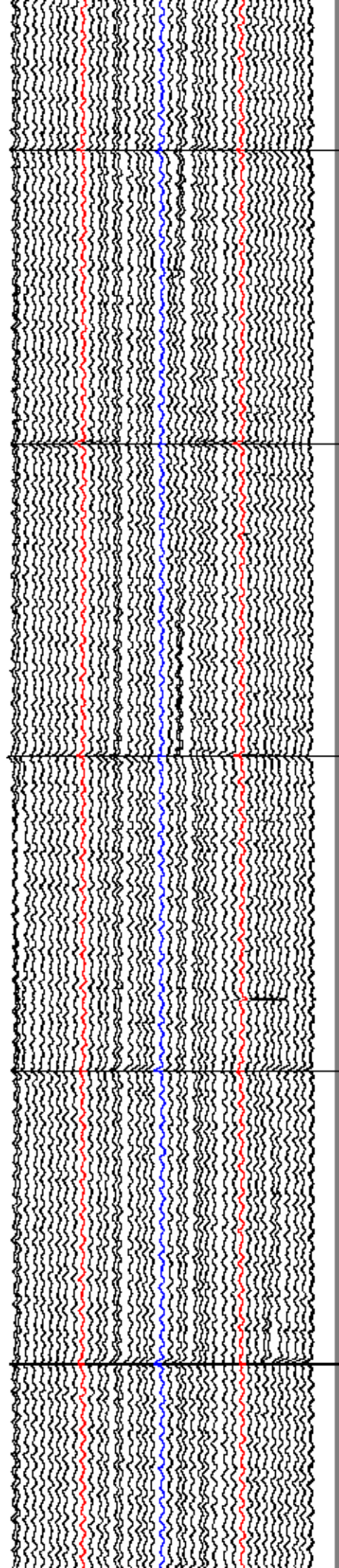
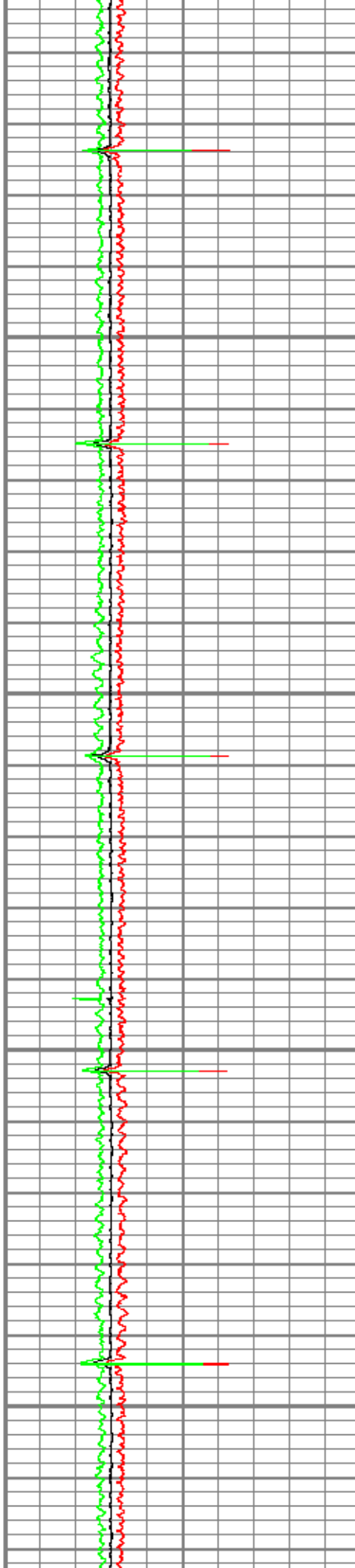
6	Average Diameter (in)	7	Caliper #10
6	Maximum Diameter (in)	7	Caliper #20
6	Minimum Diameter (in)	7	Caliper #30

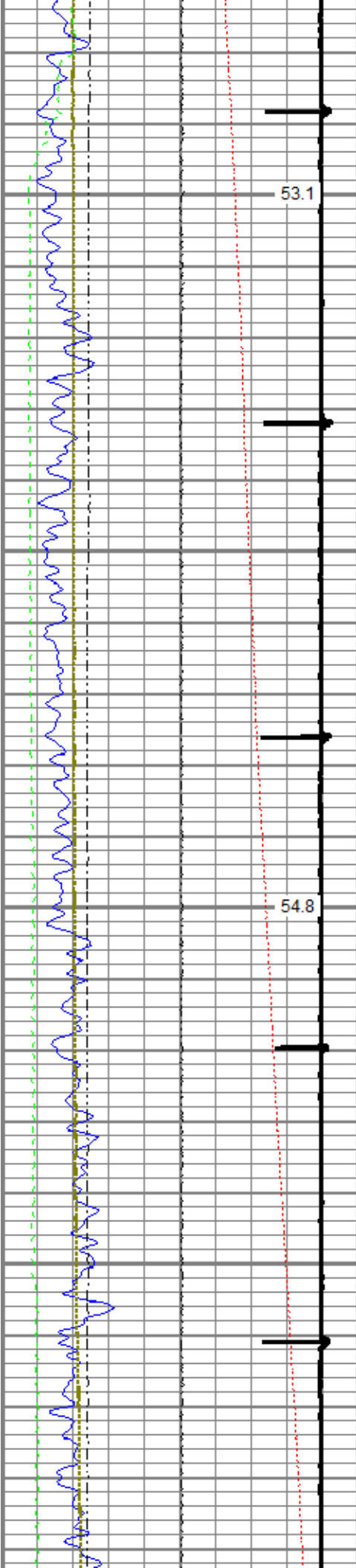




200

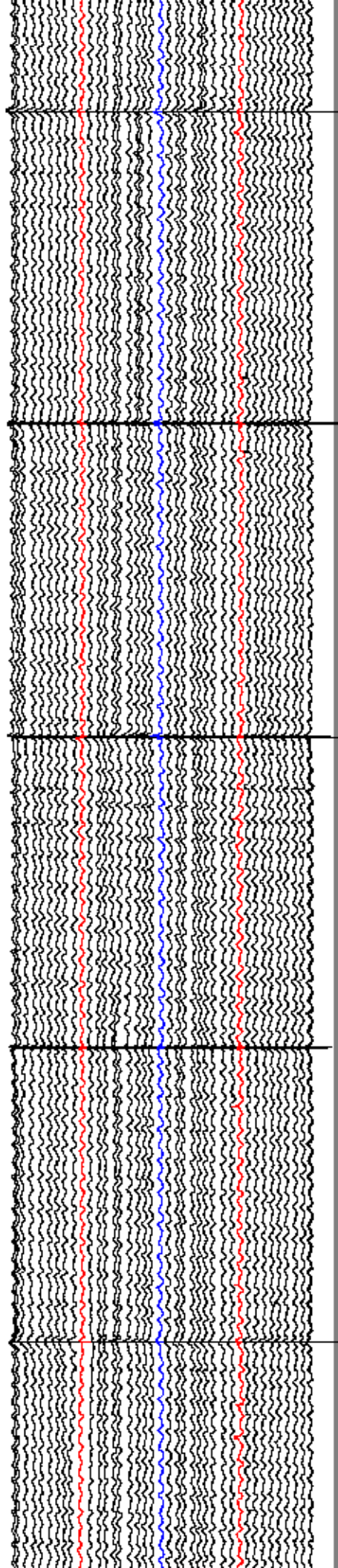
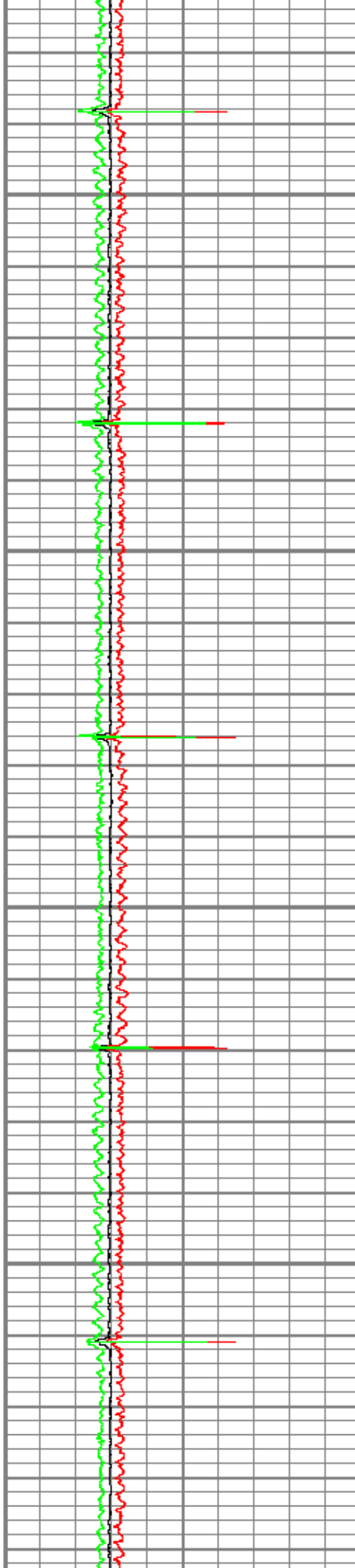
300

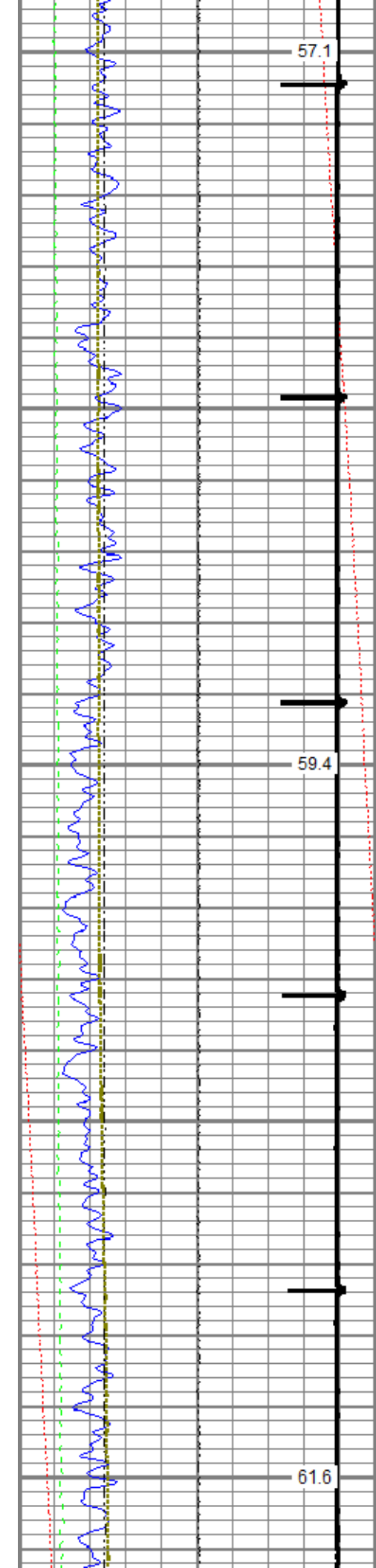




400

500

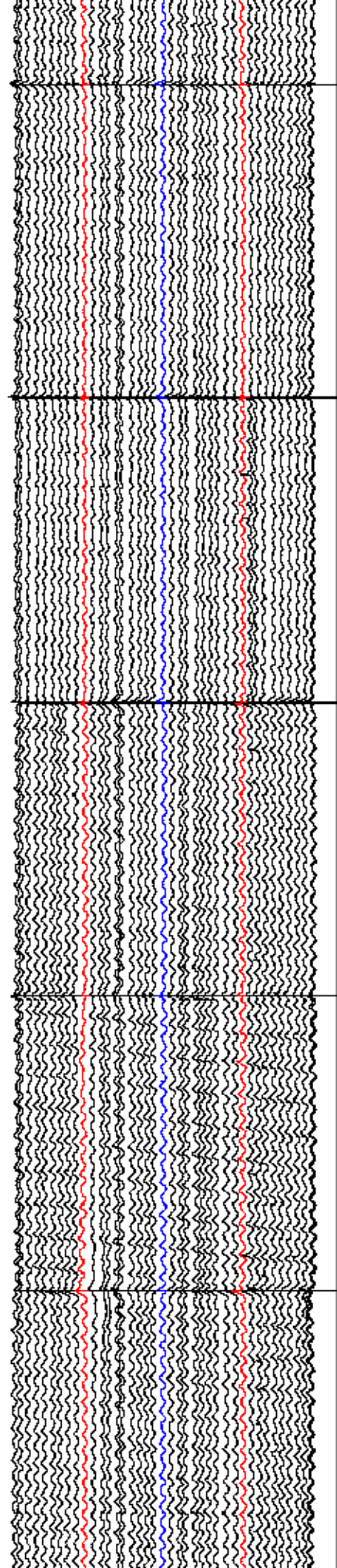
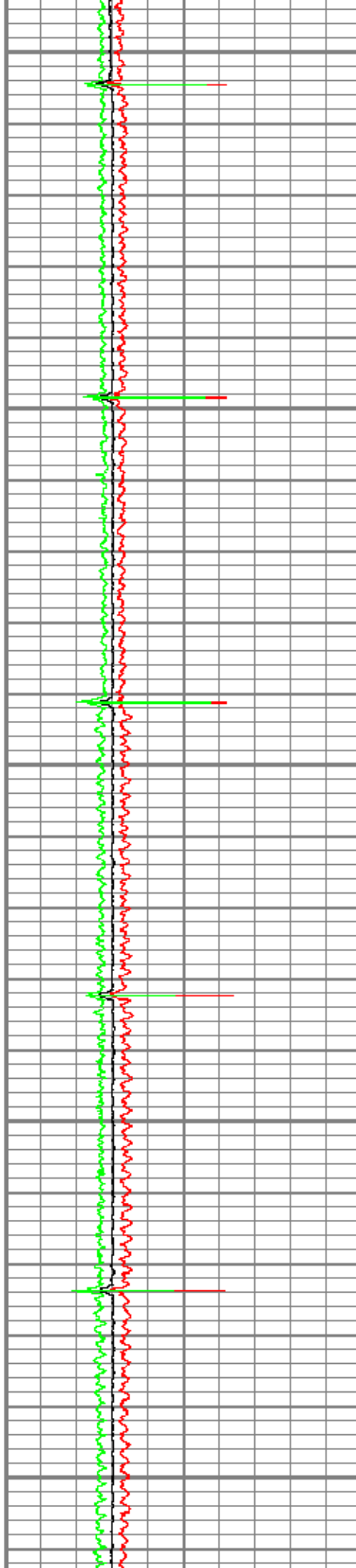


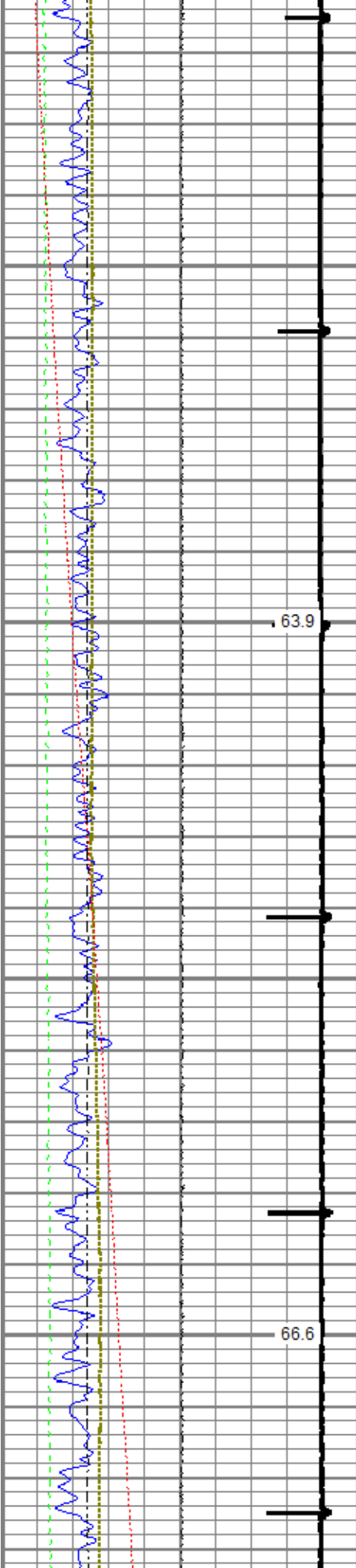


600

700

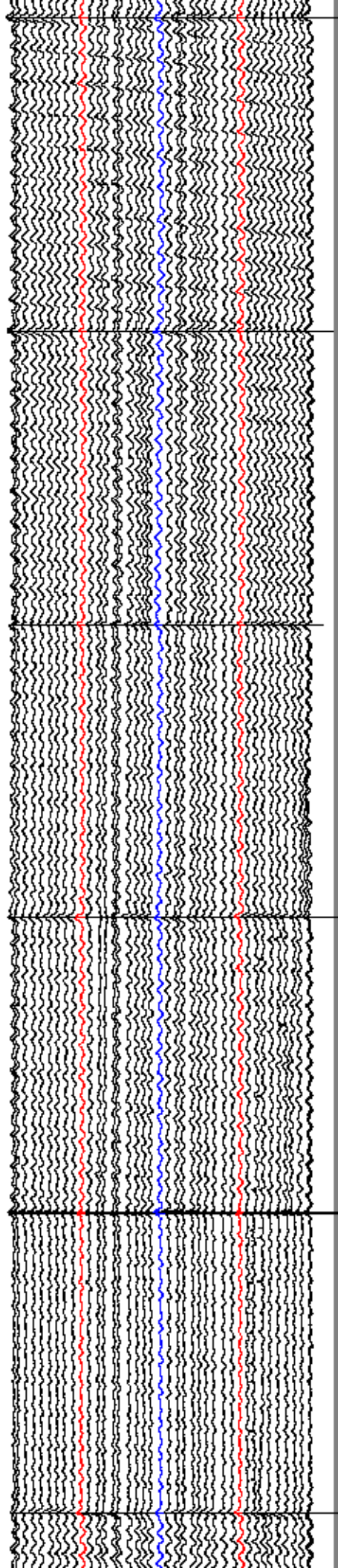
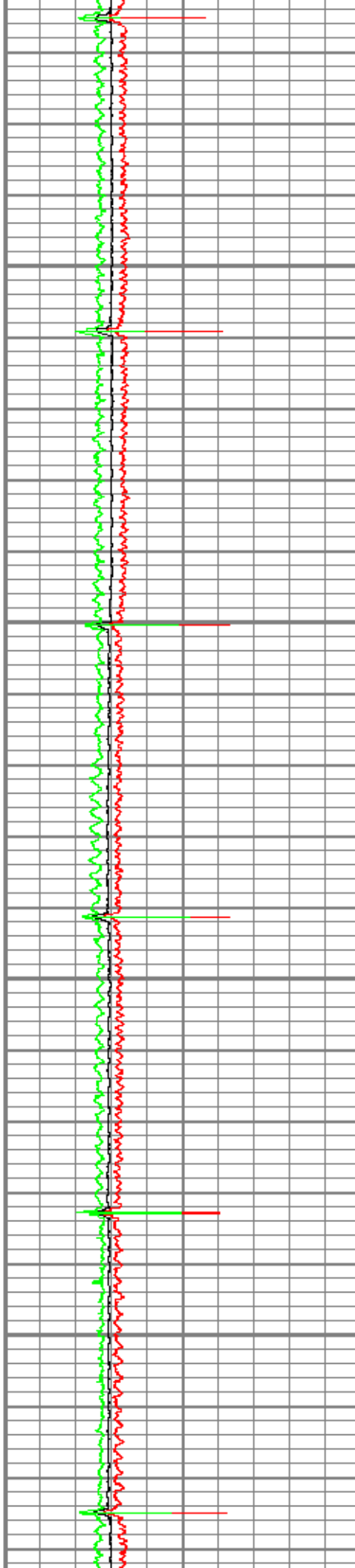
800

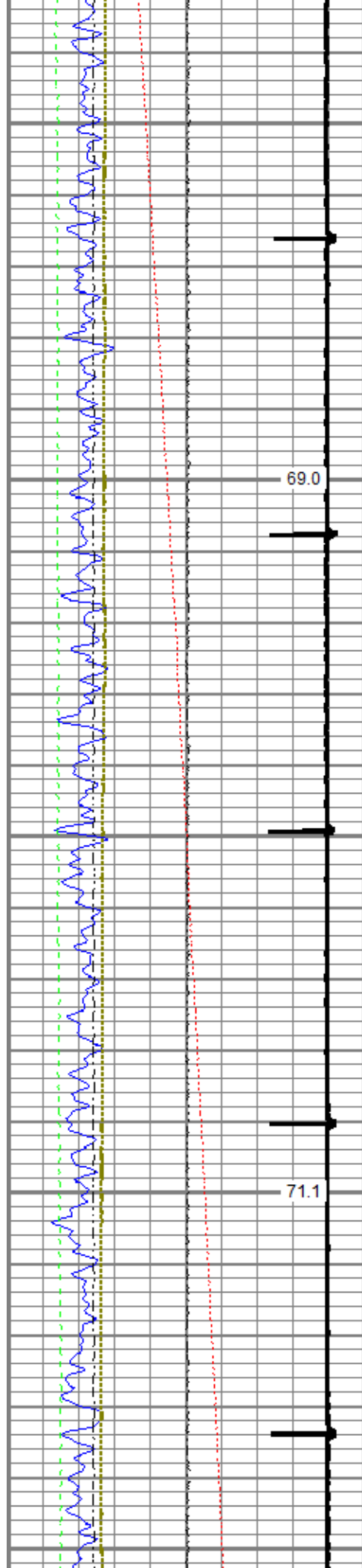




900

1000



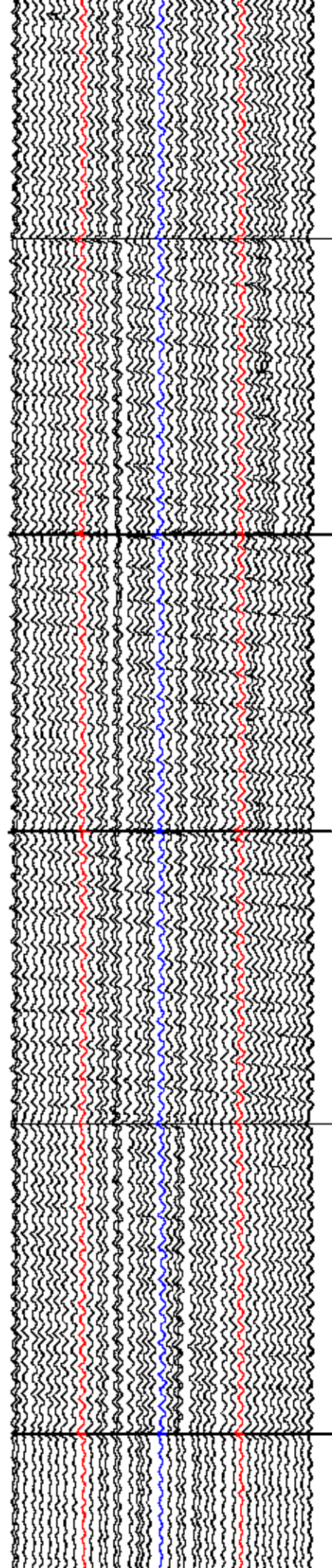
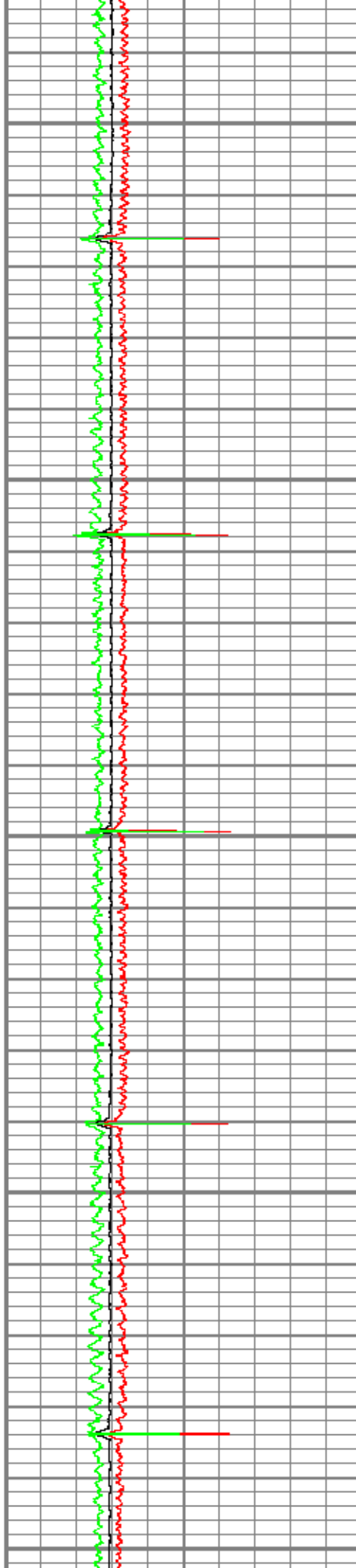


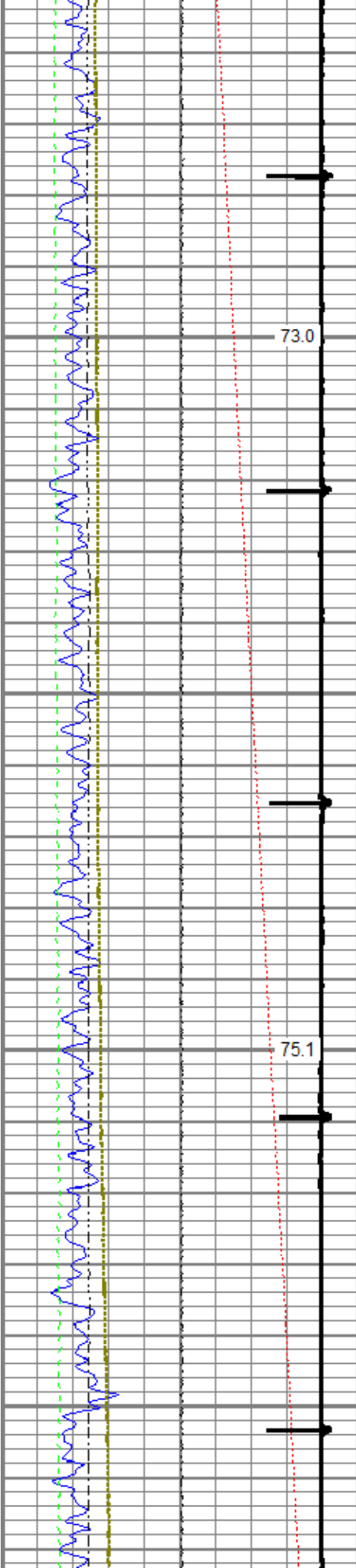
69.0

1100

71.1

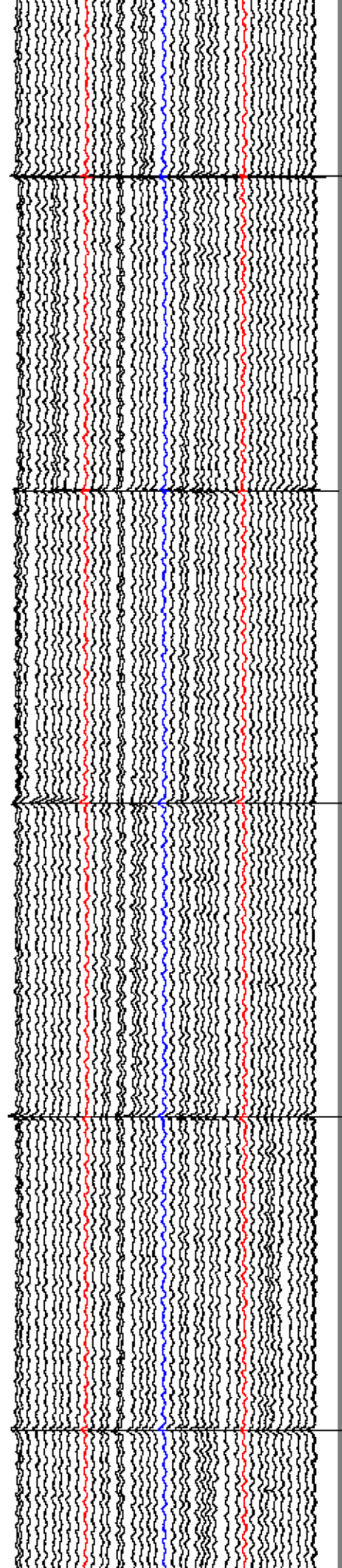
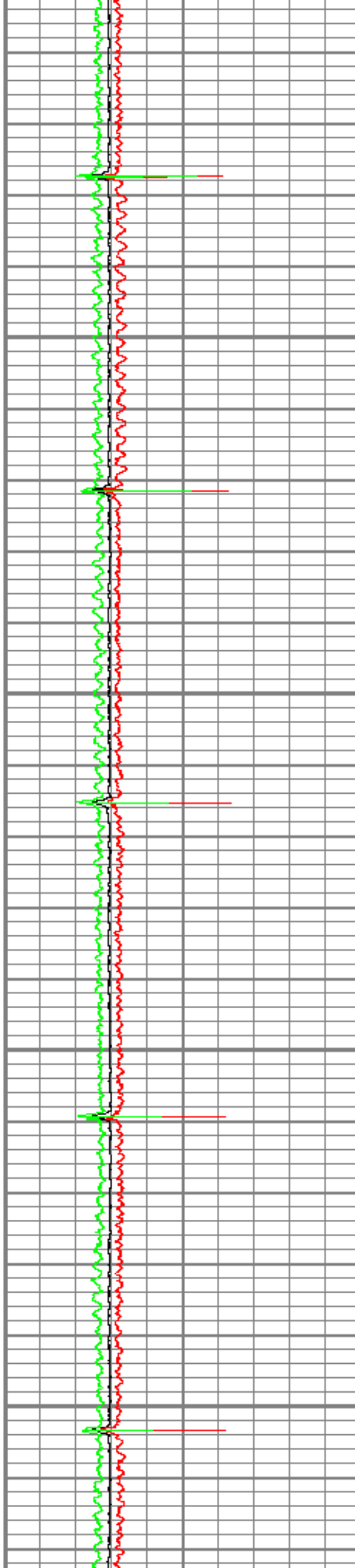
1200

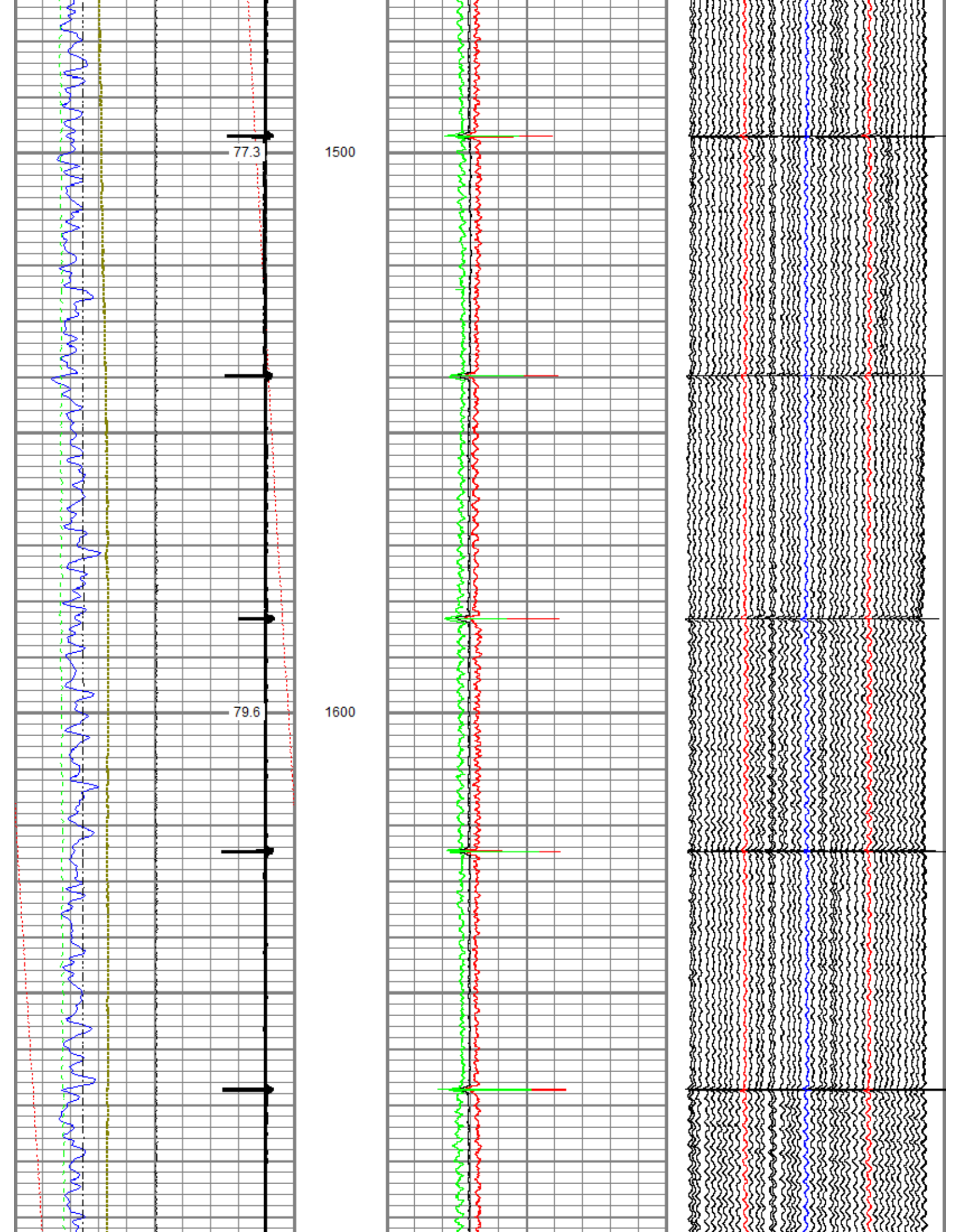


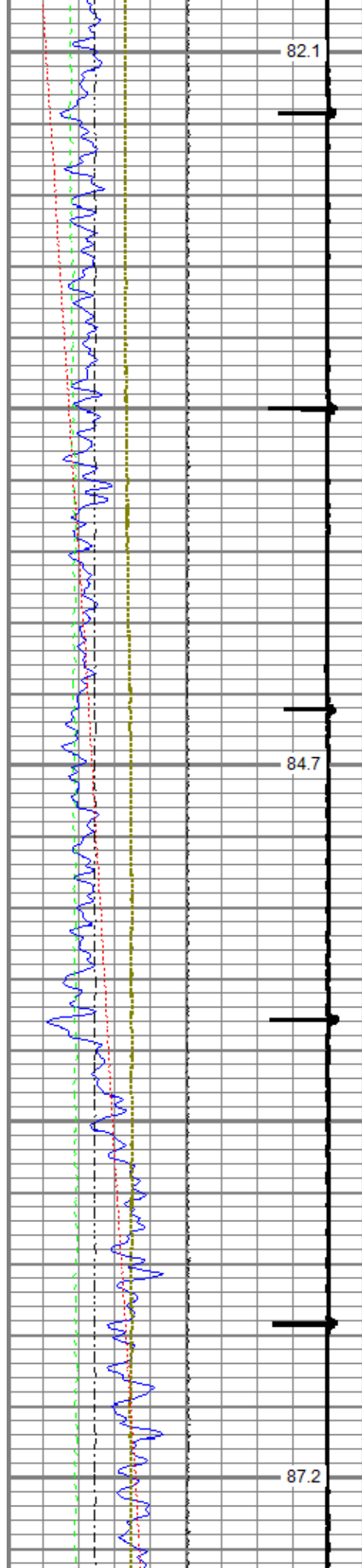


1300

1400



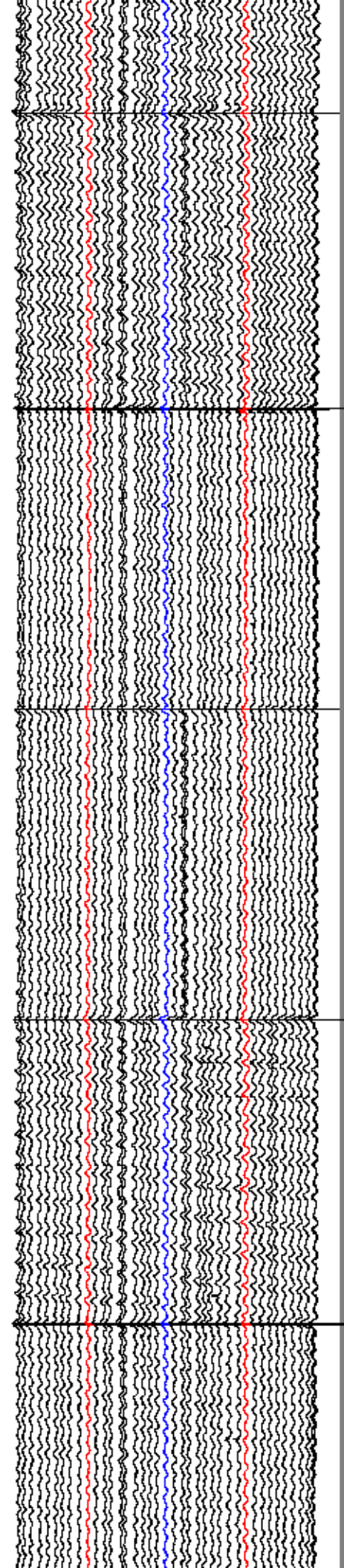
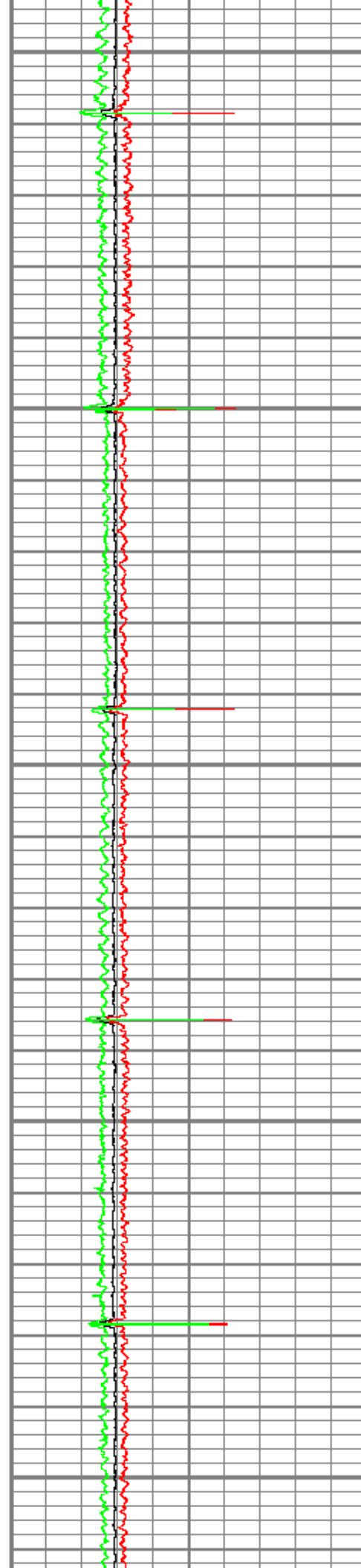


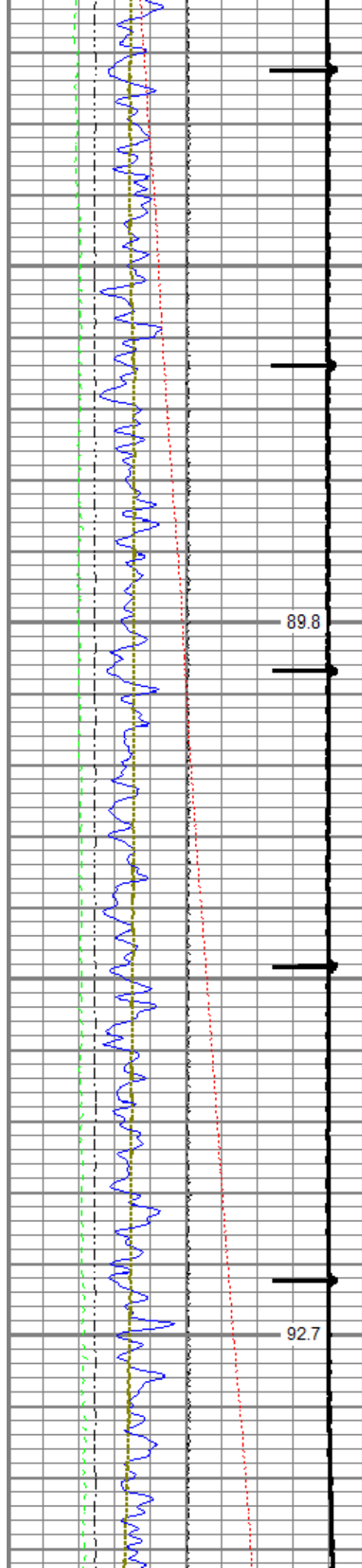


1700

1800

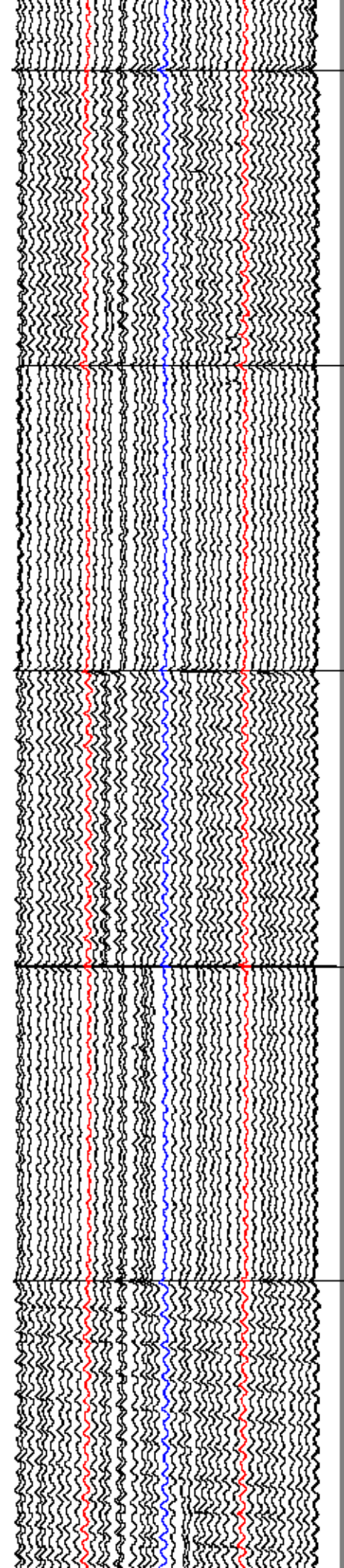
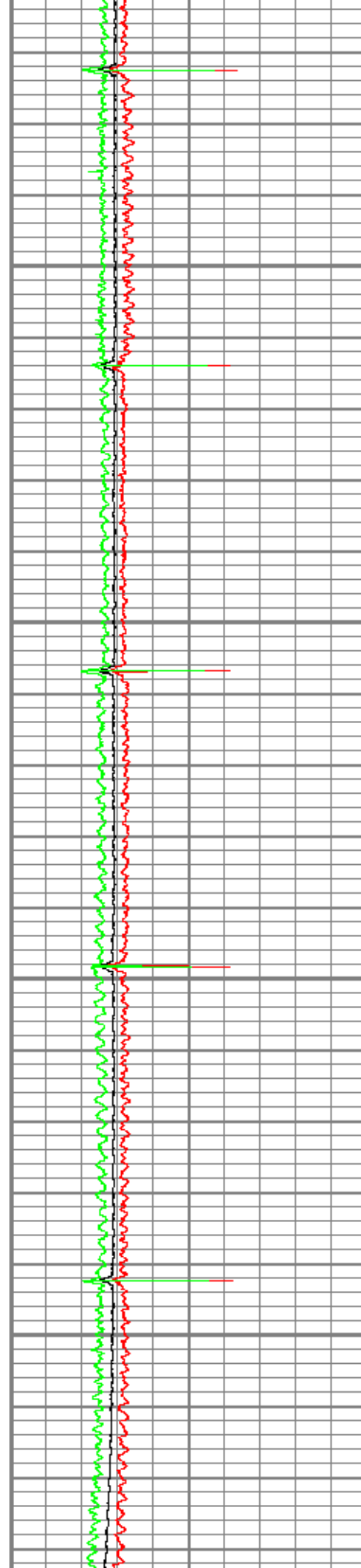
1900

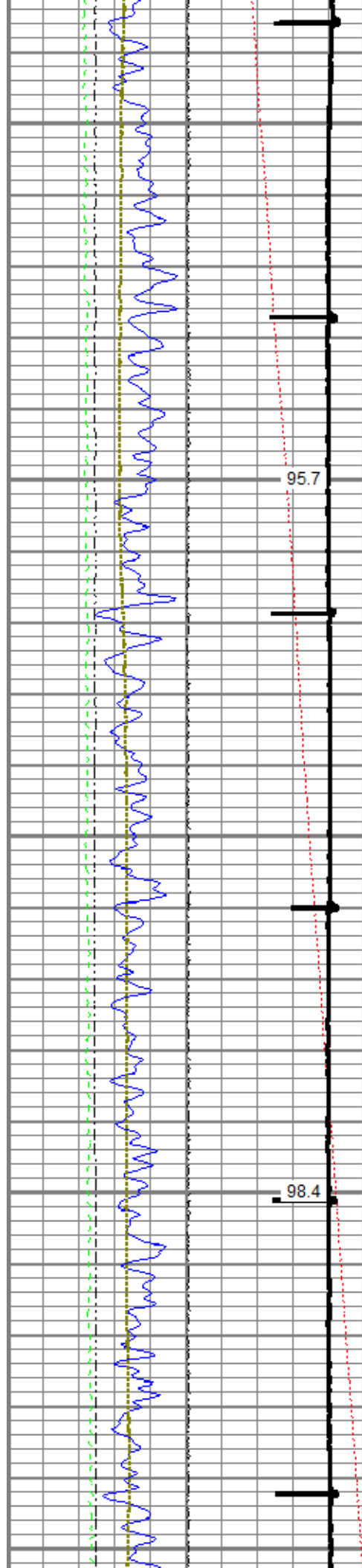




2000

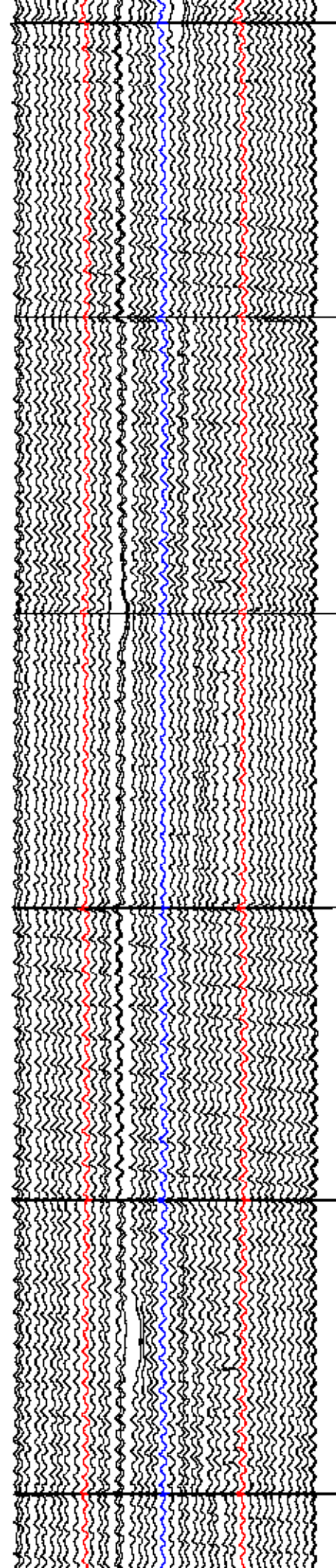
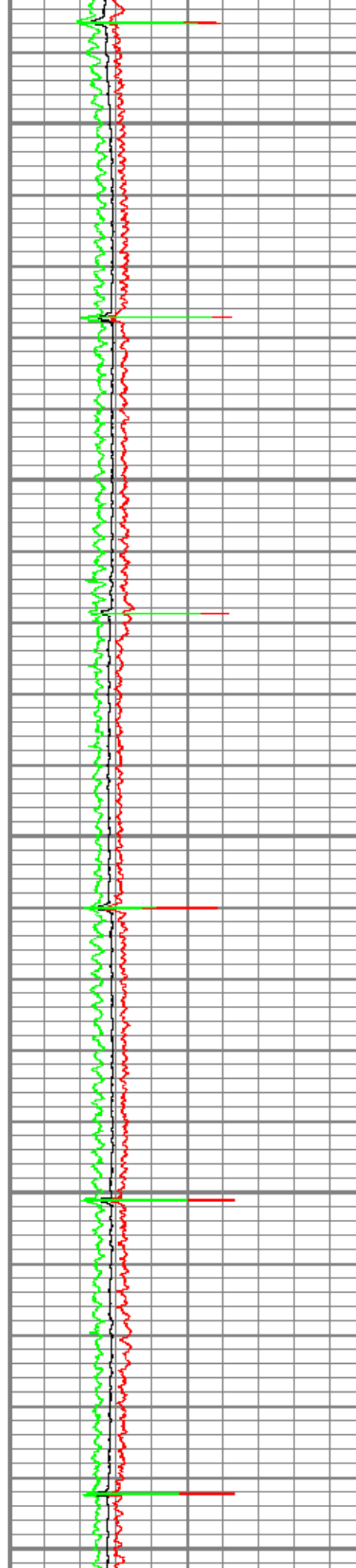
2100

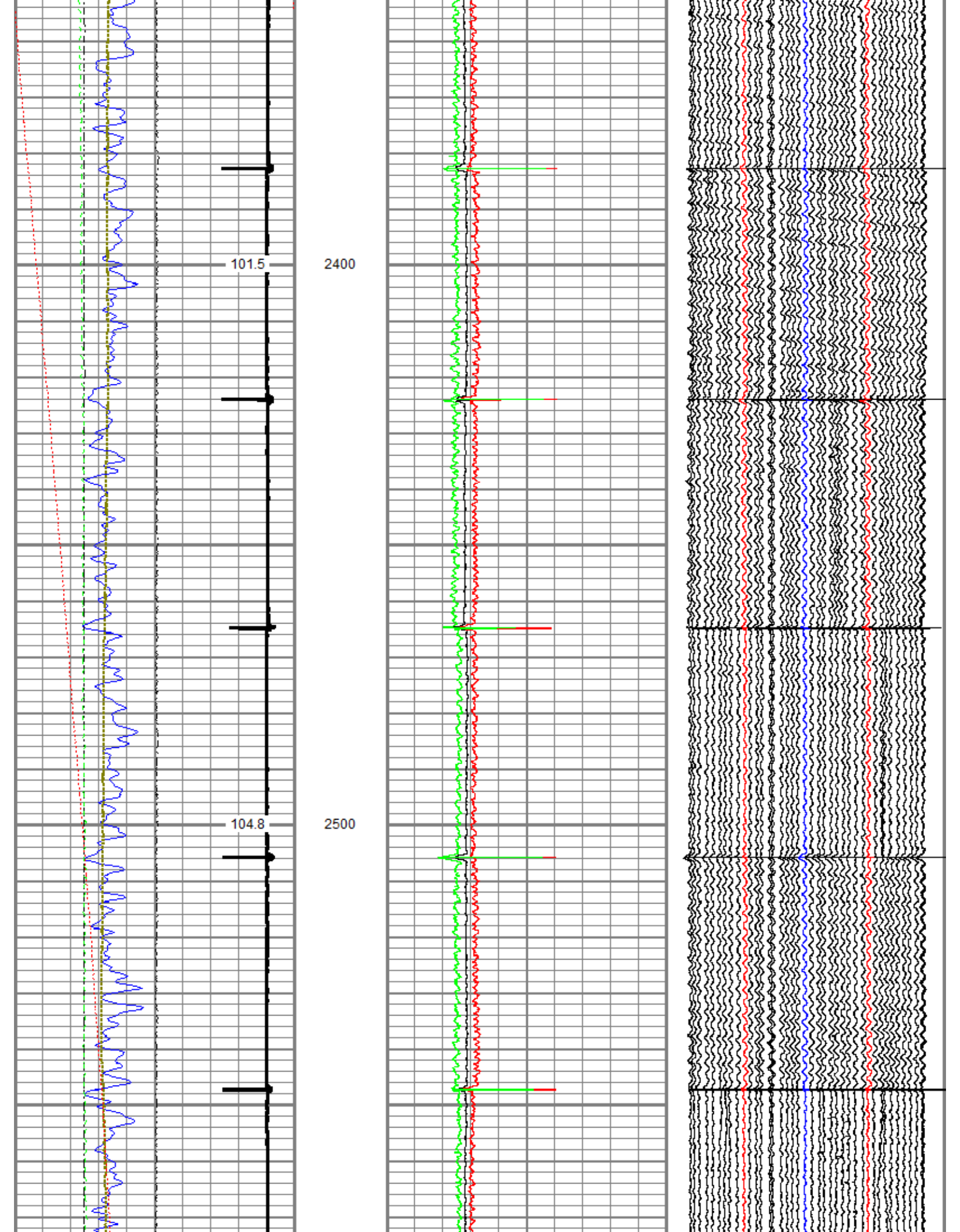


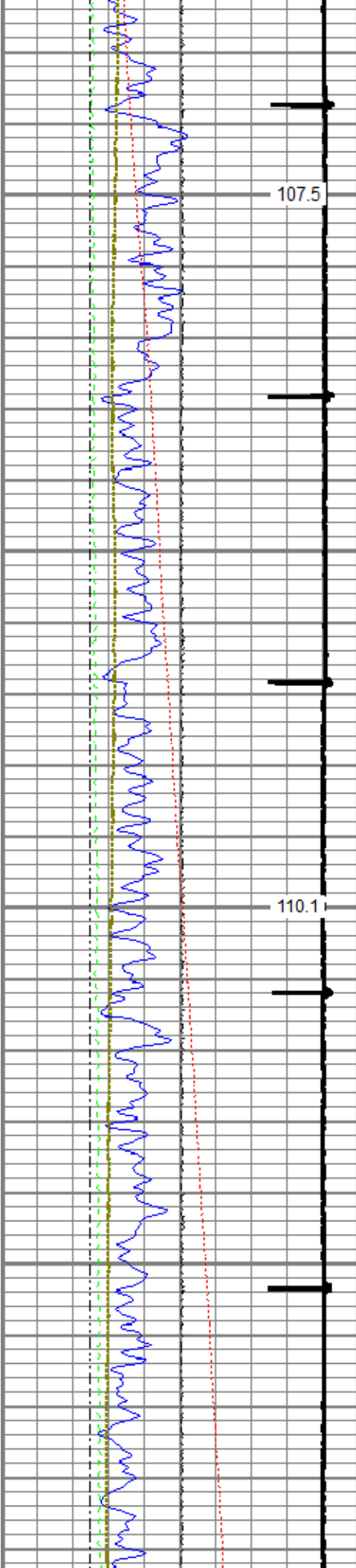


2200

2300

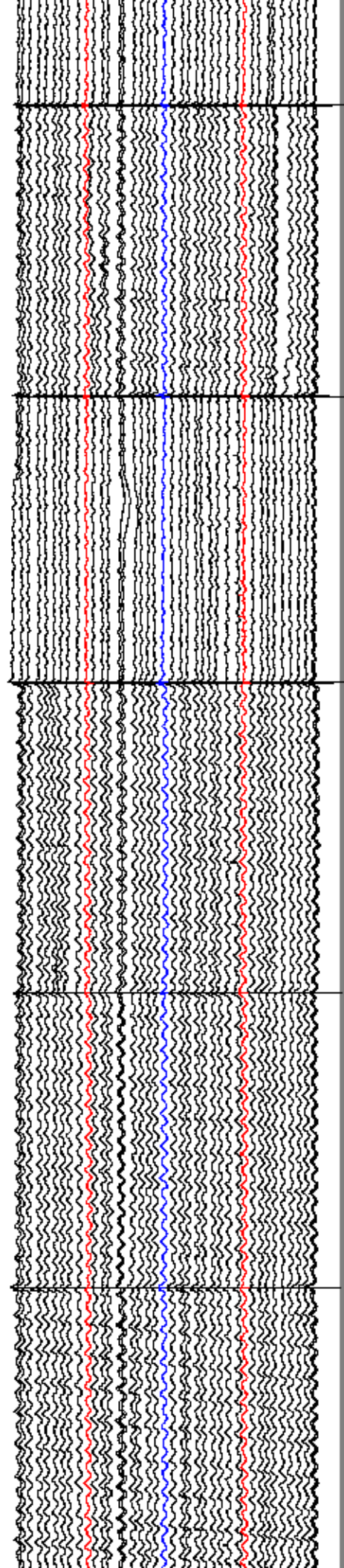
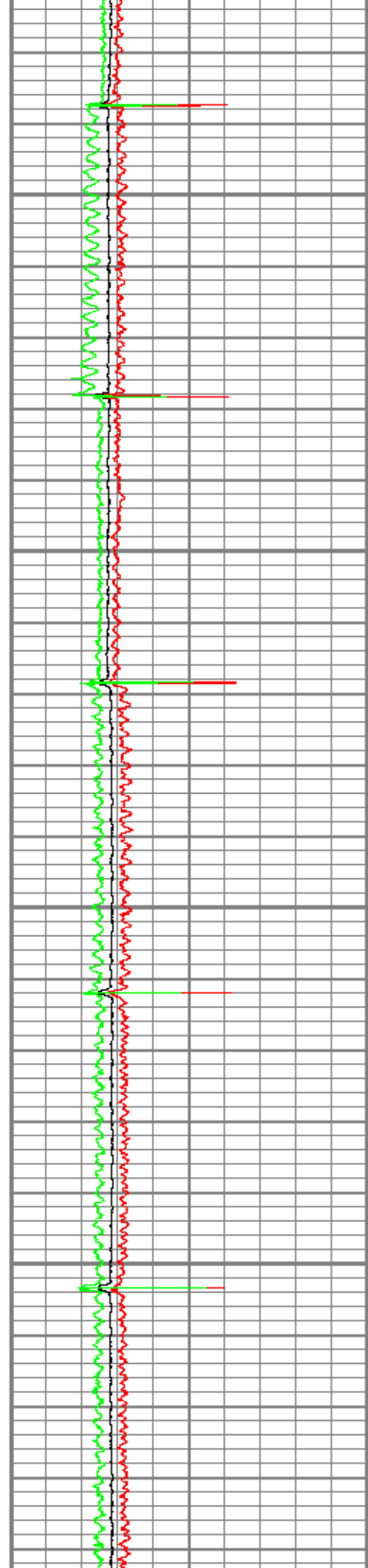


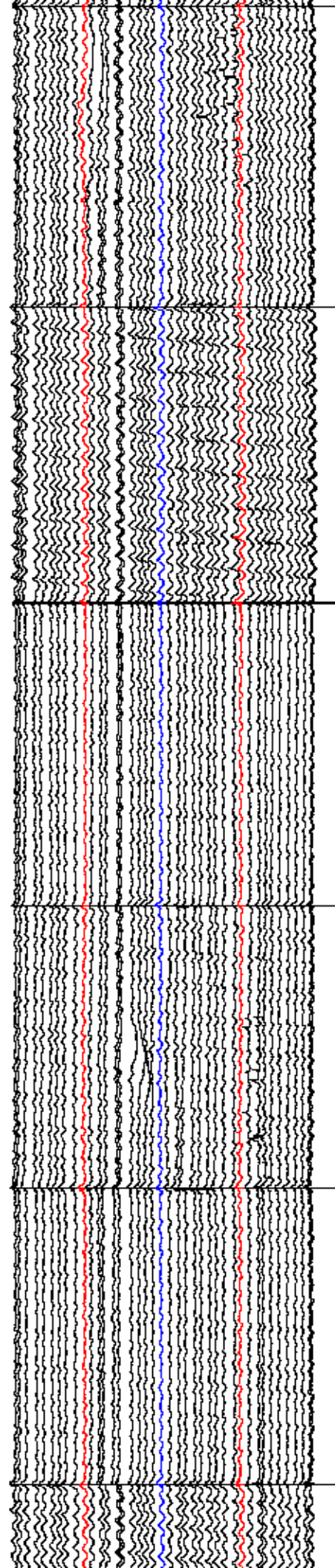
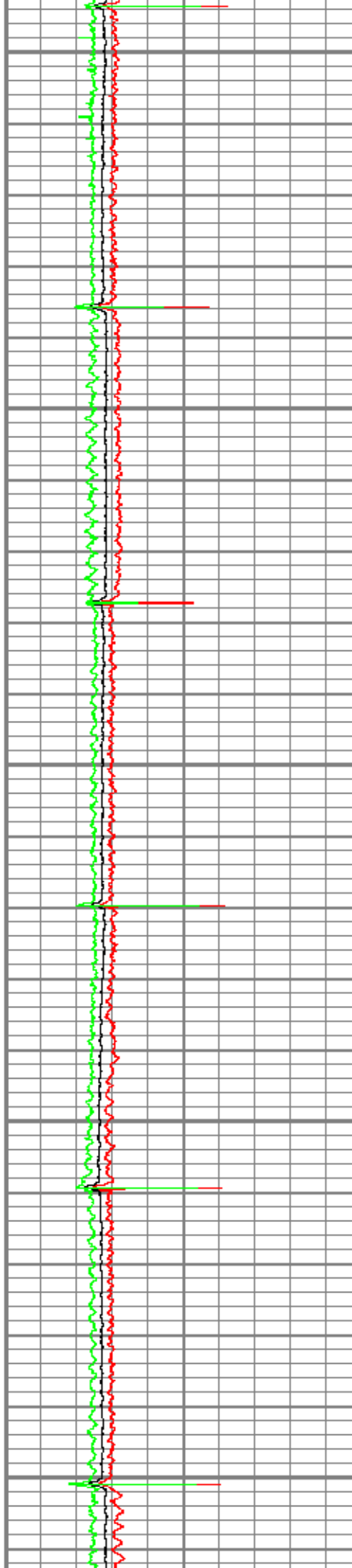
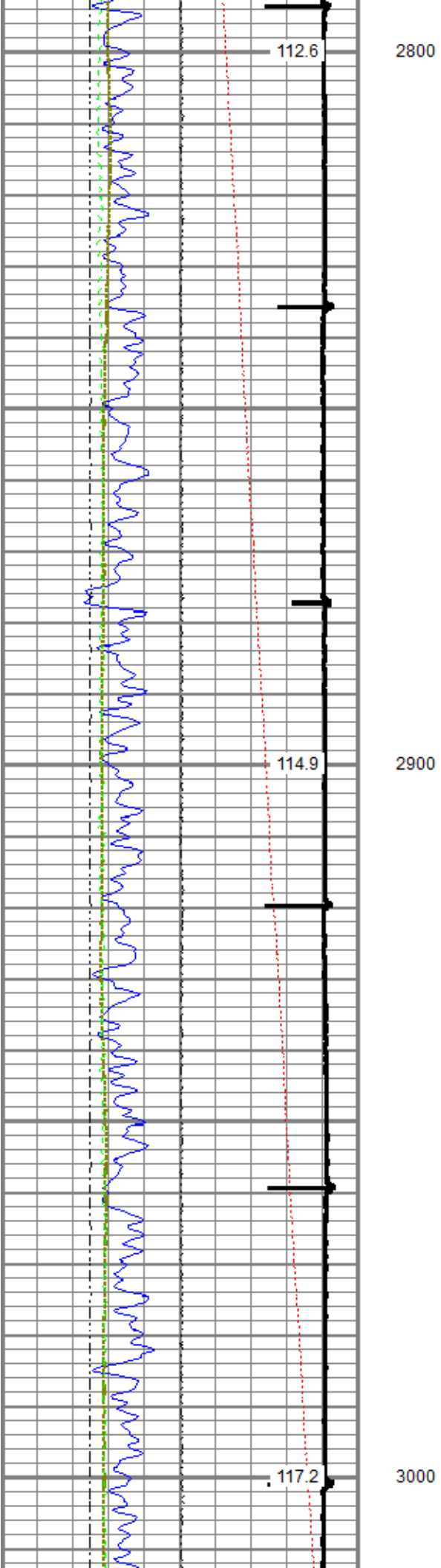


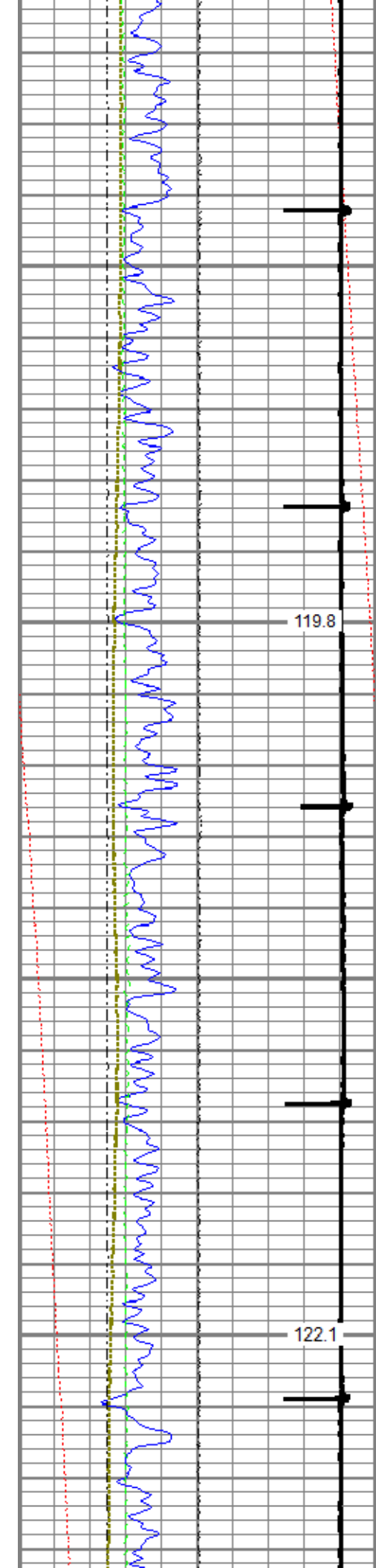


2600

2700





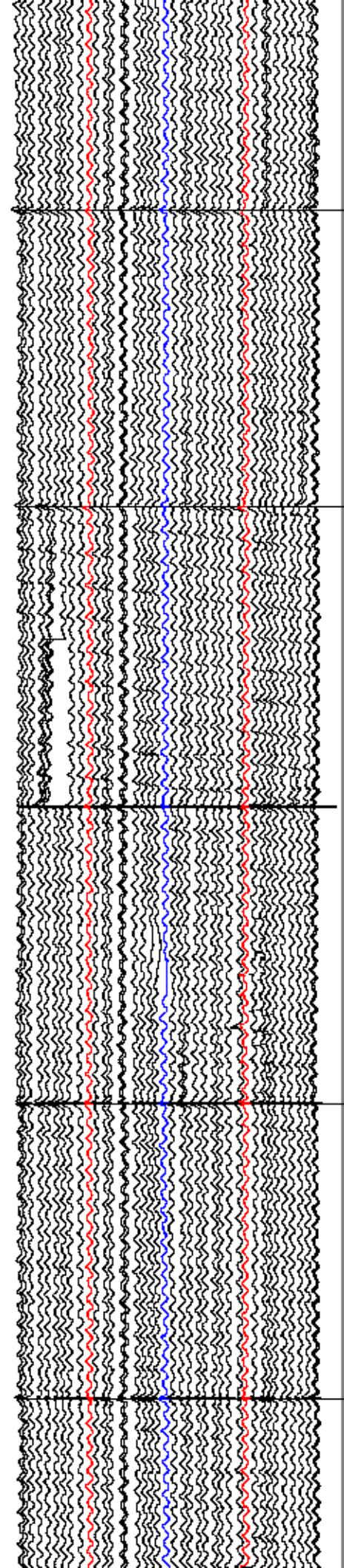
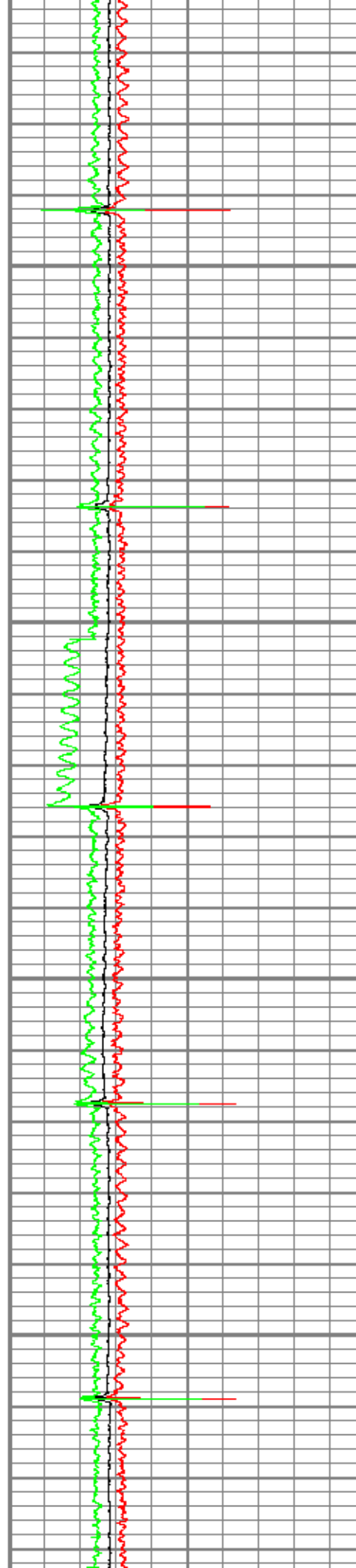


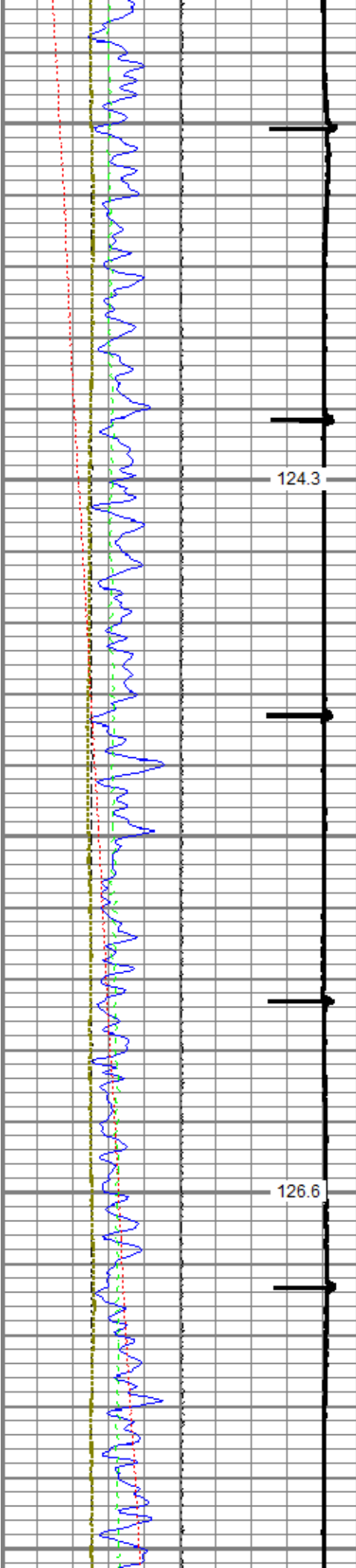
119.8

3100

122.1

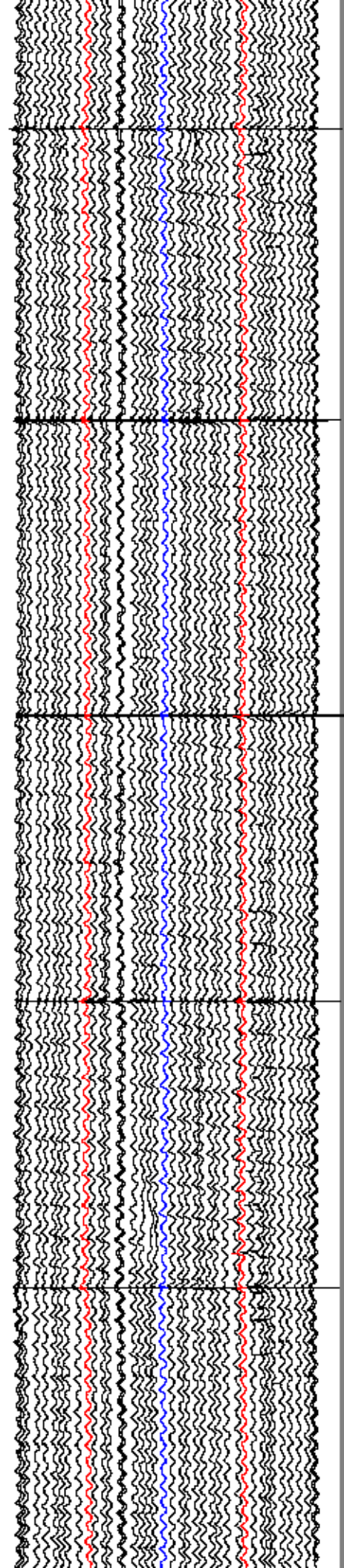
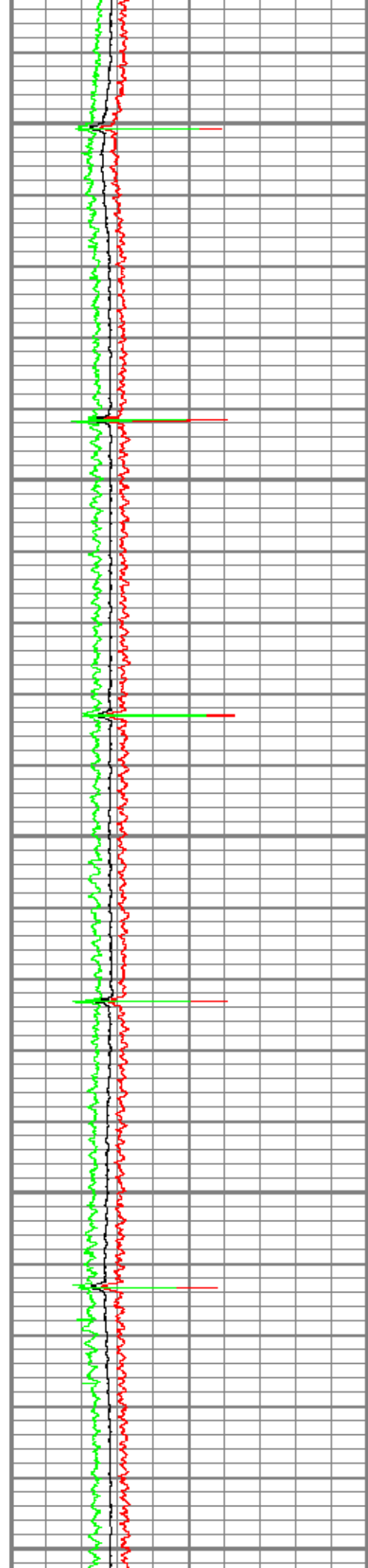
3200

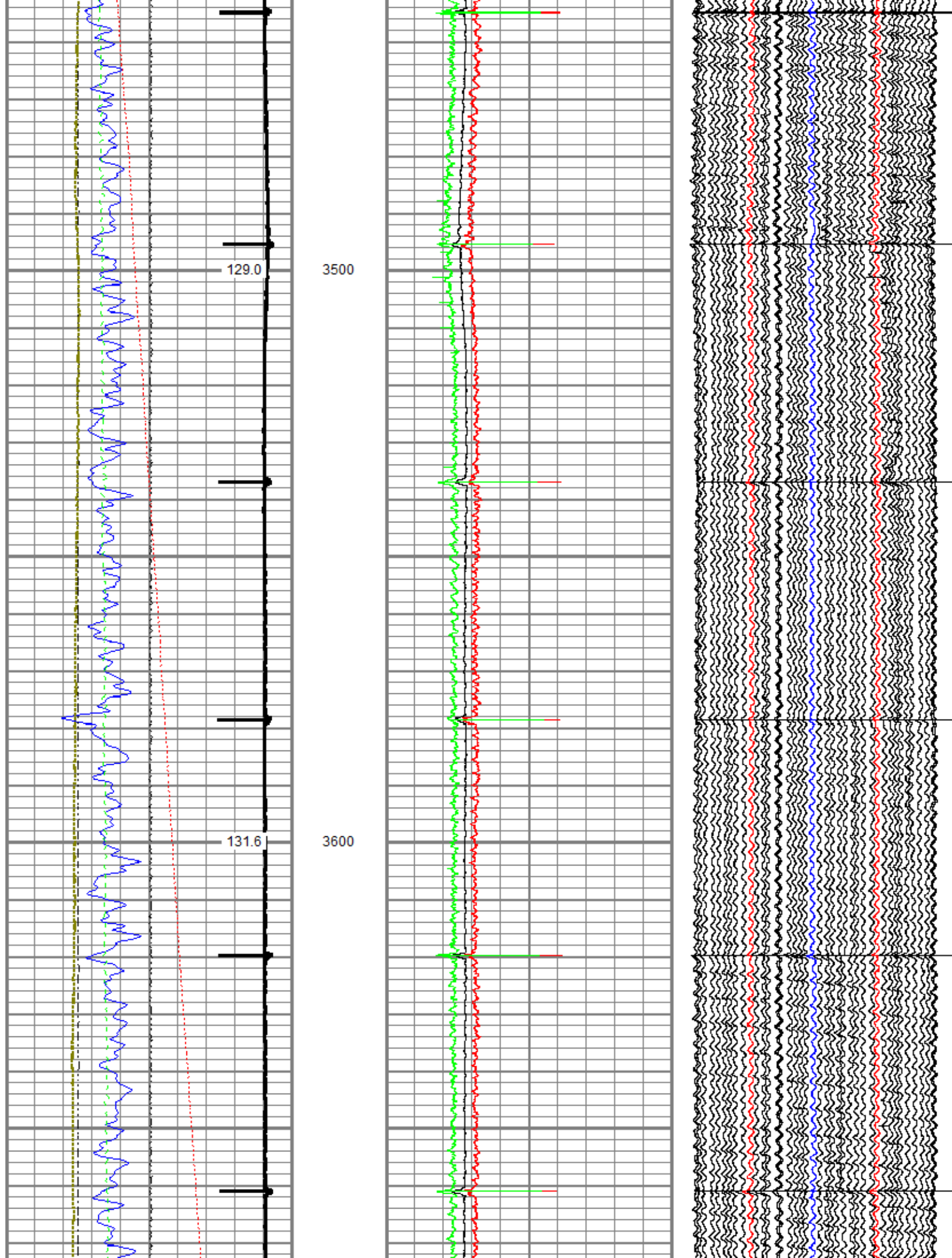


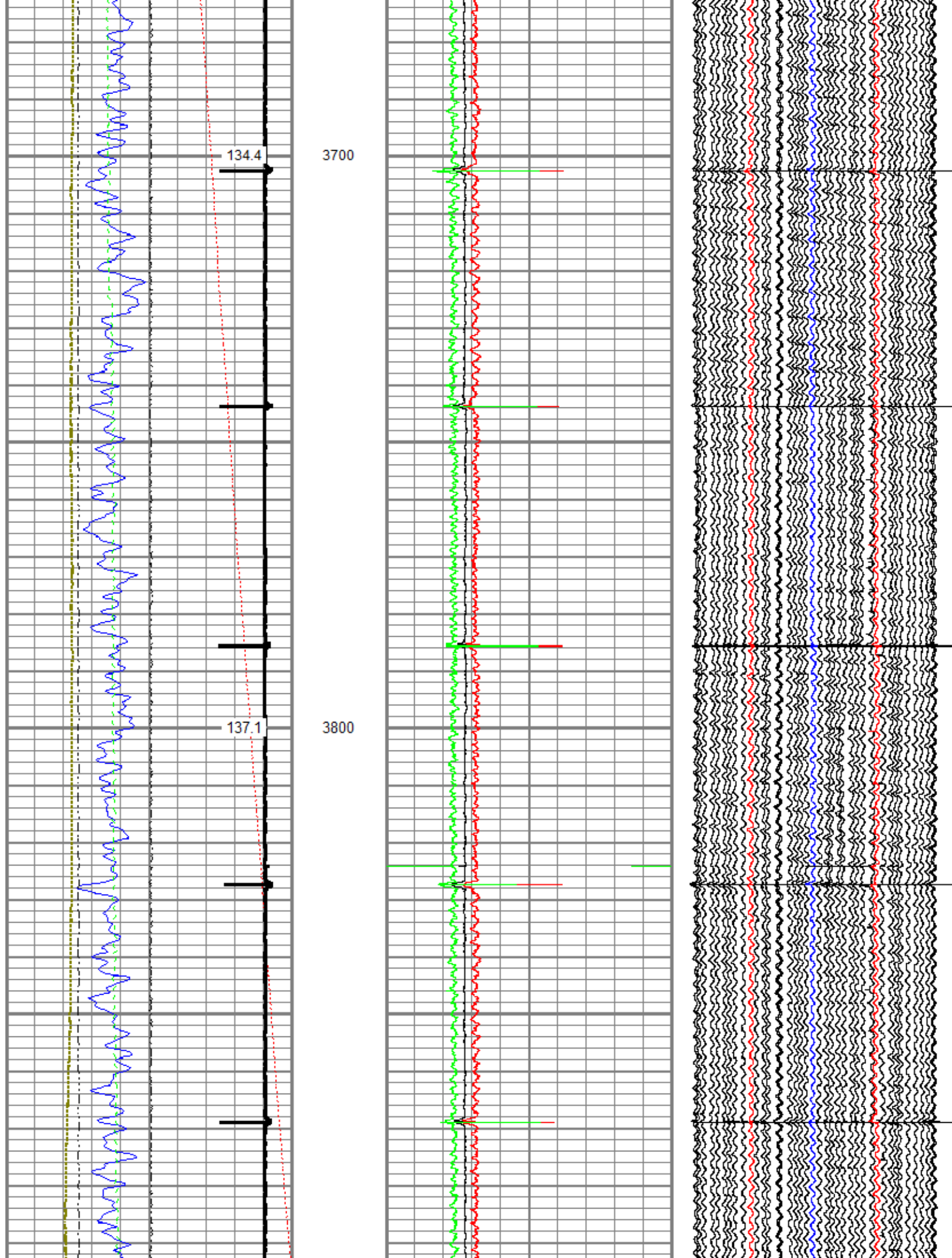


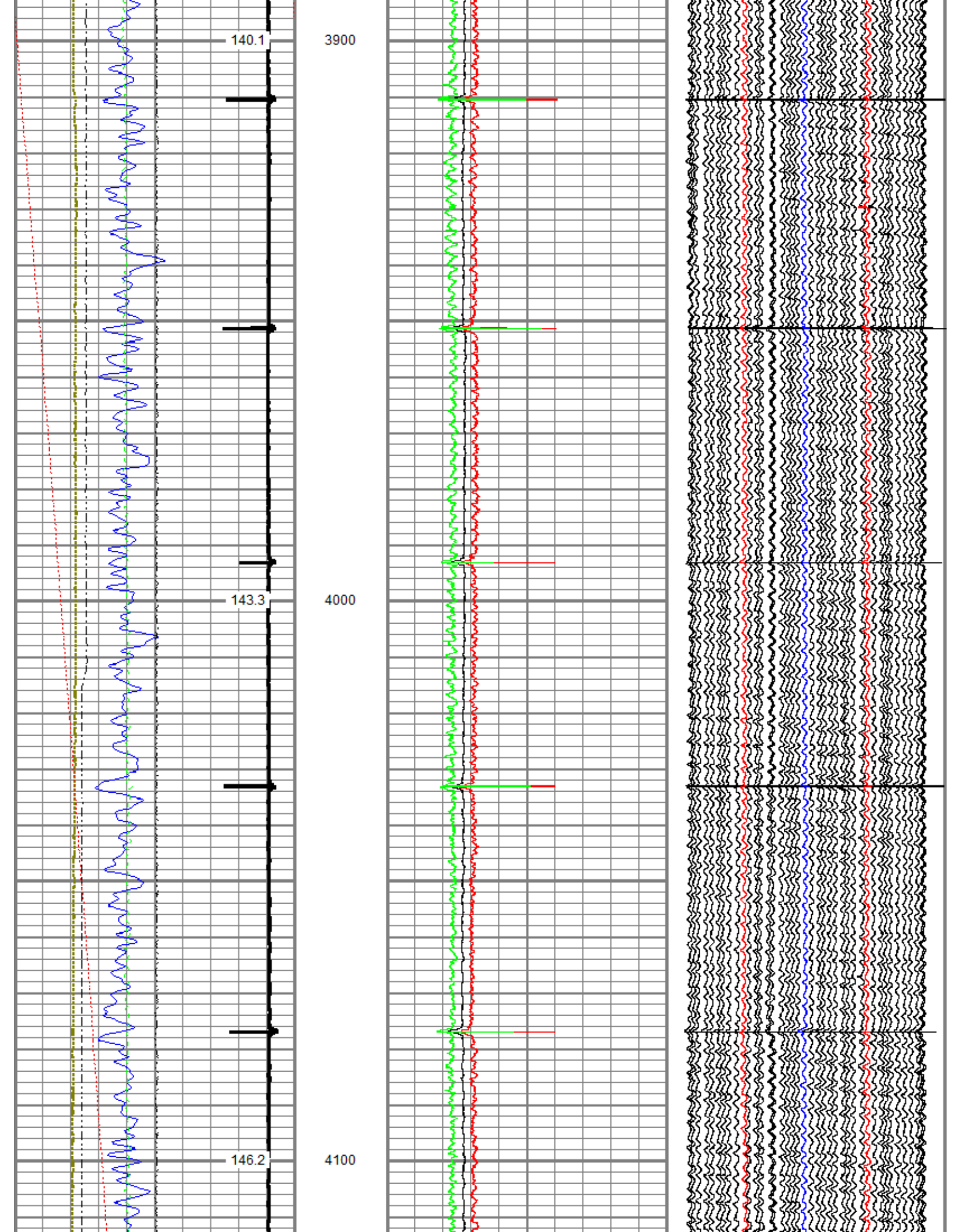
3300

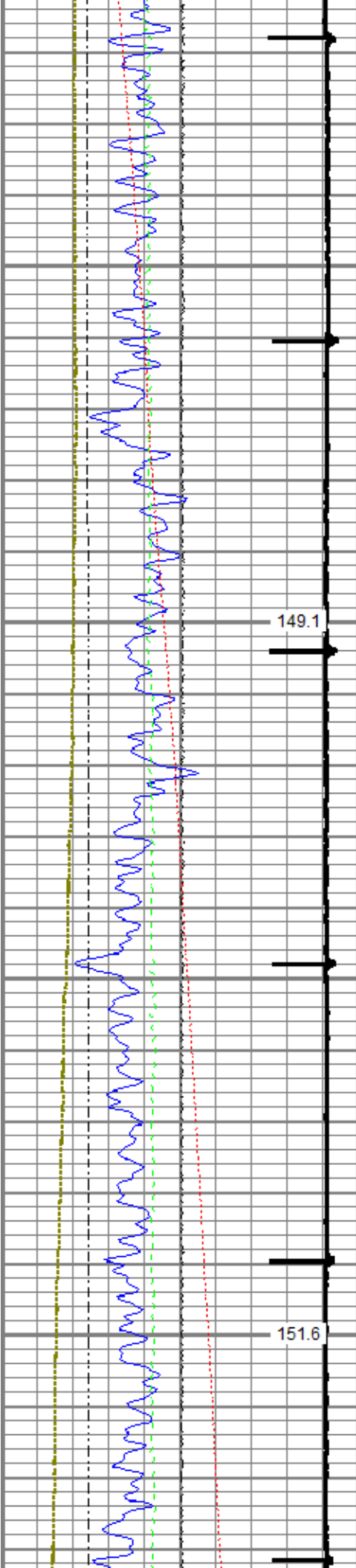
3400





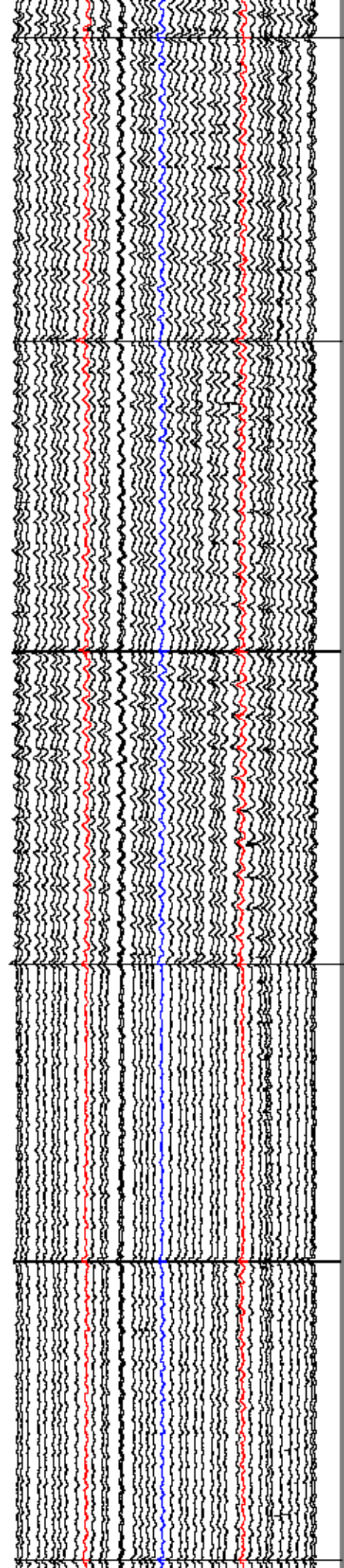
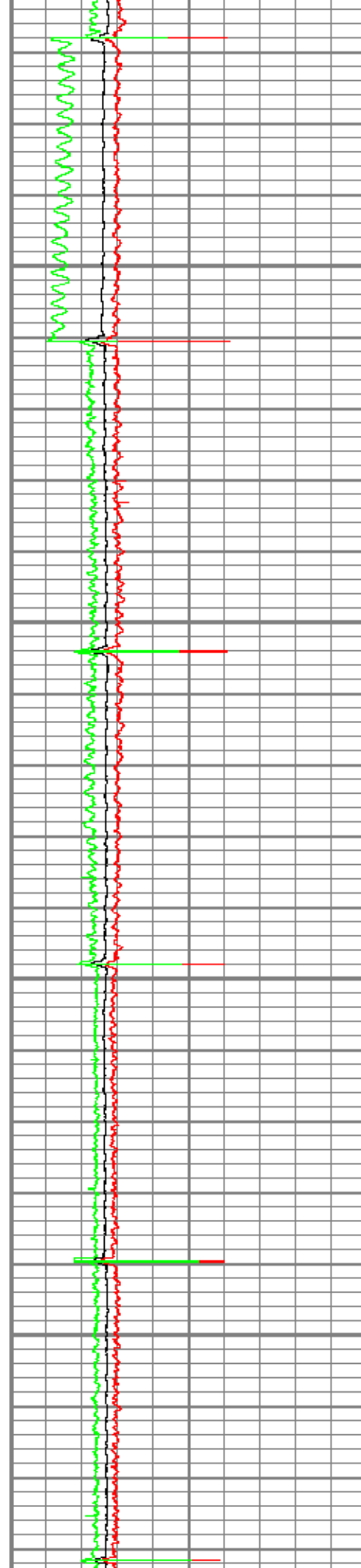


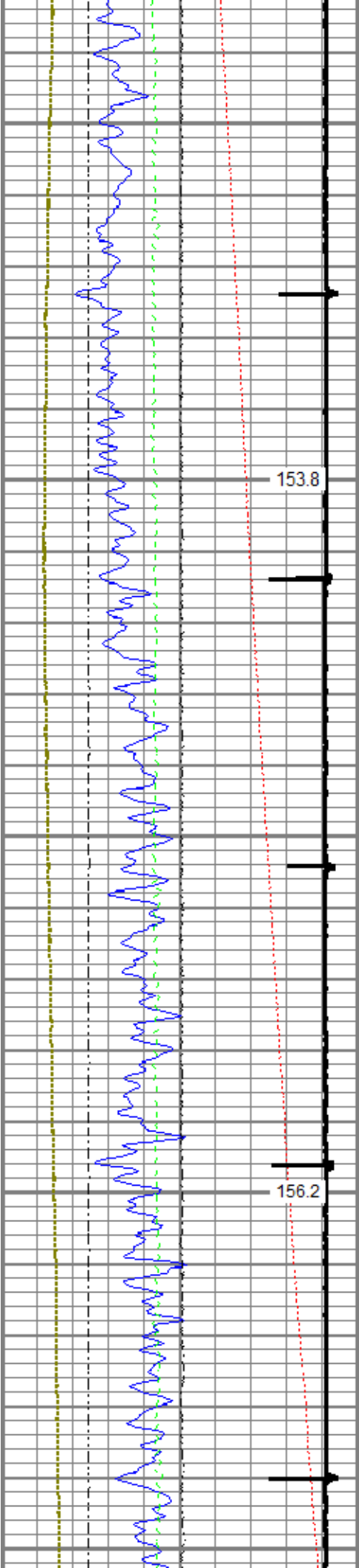




4200

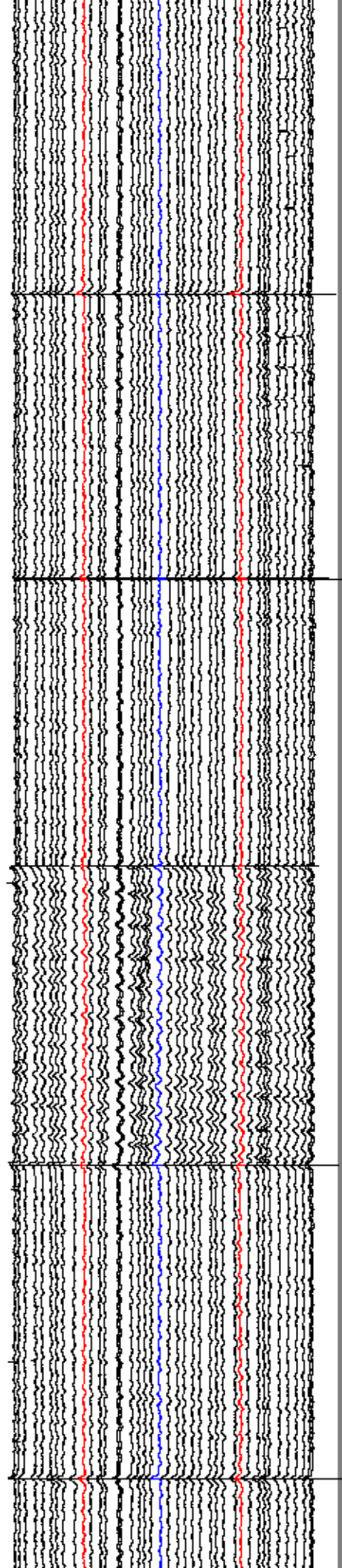
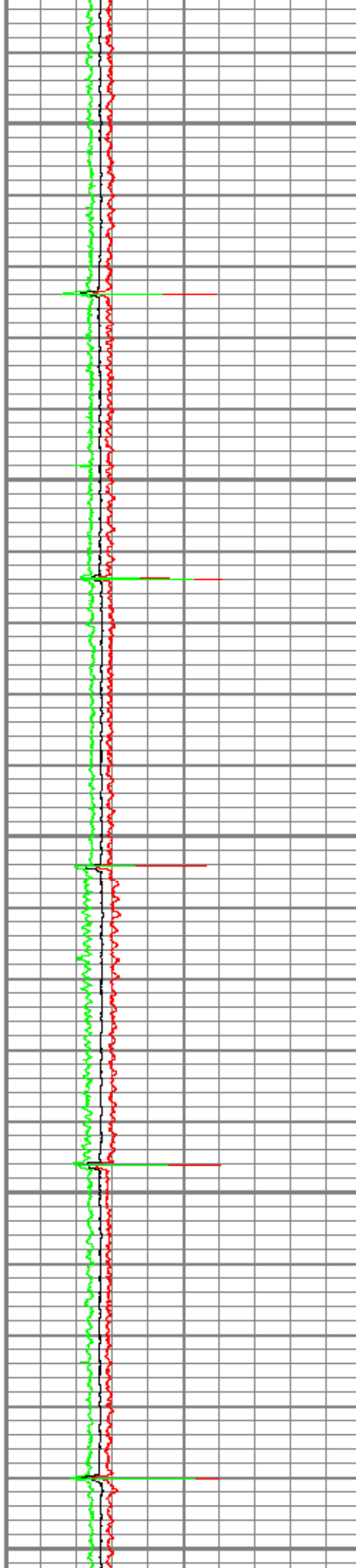
4300

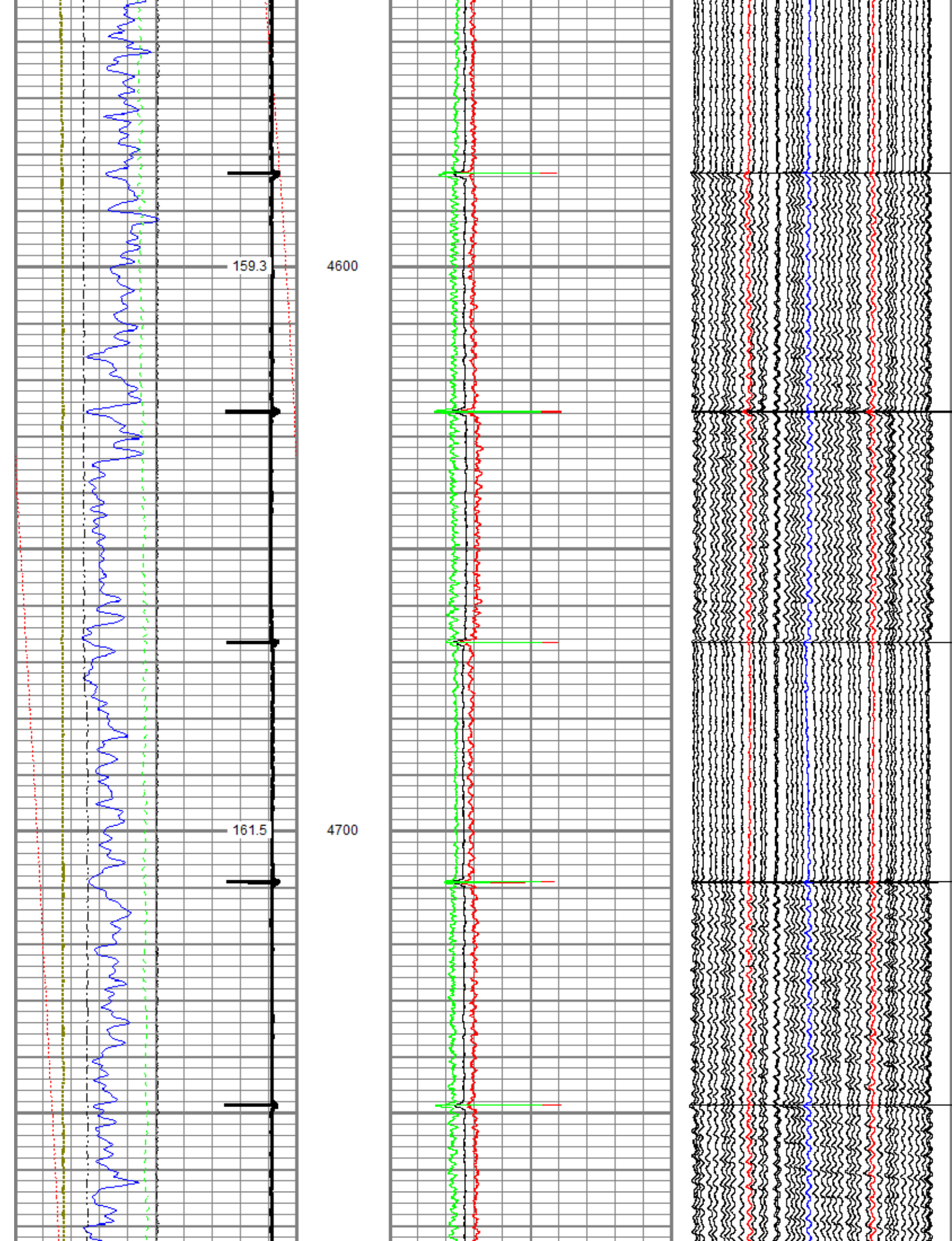


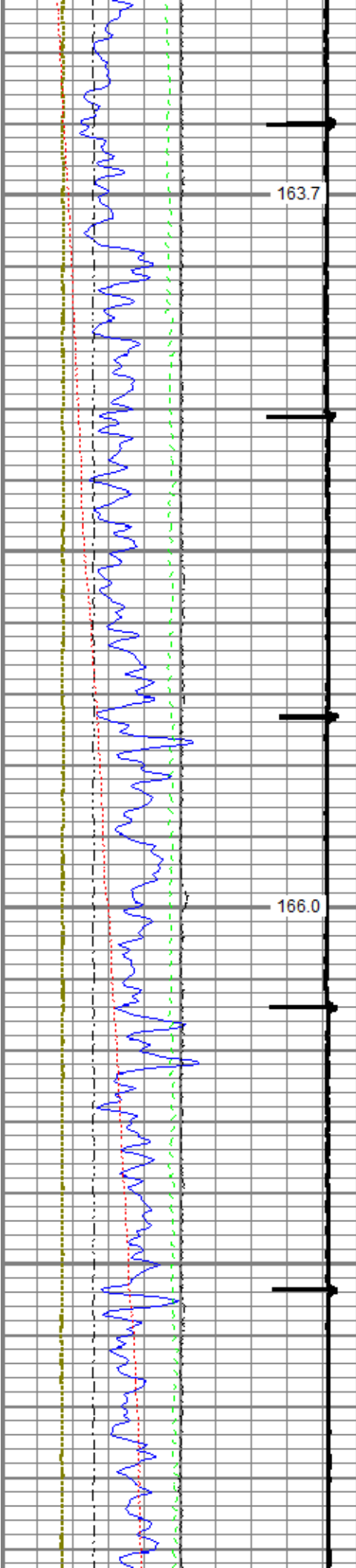


4400

4500

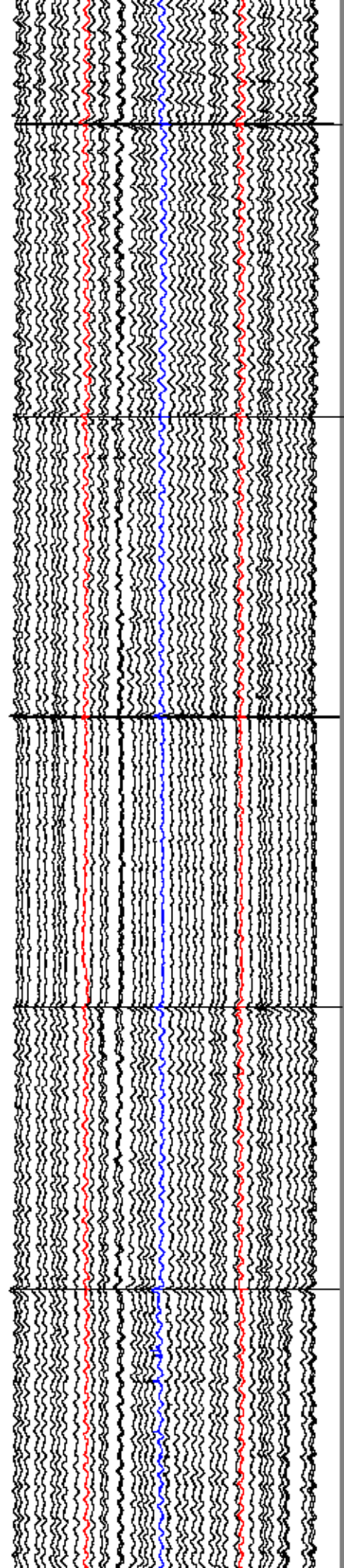
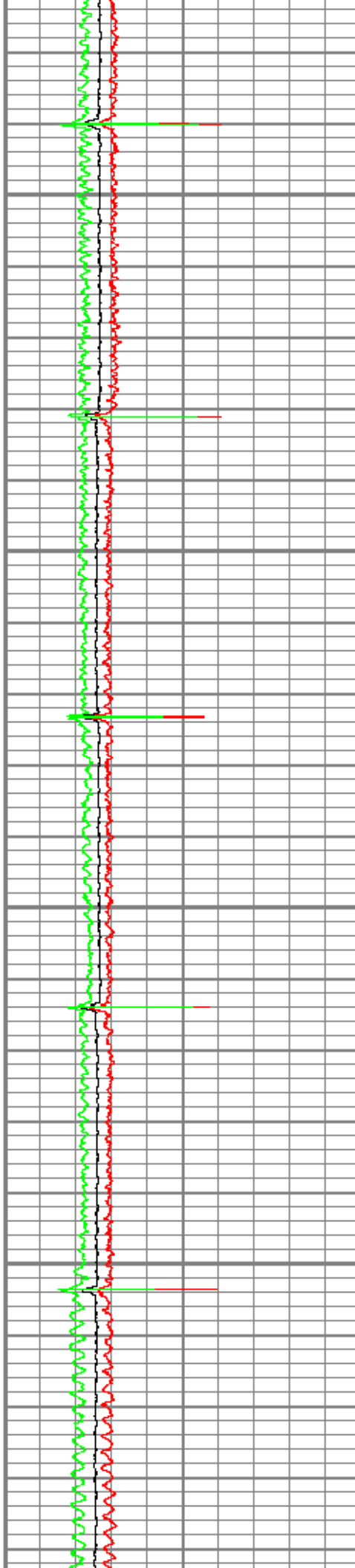


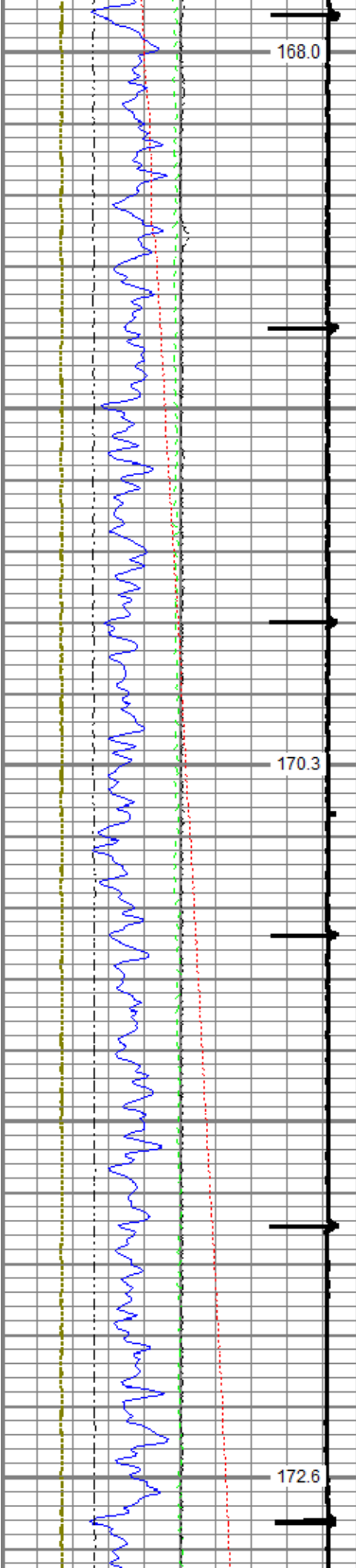




4800

4900

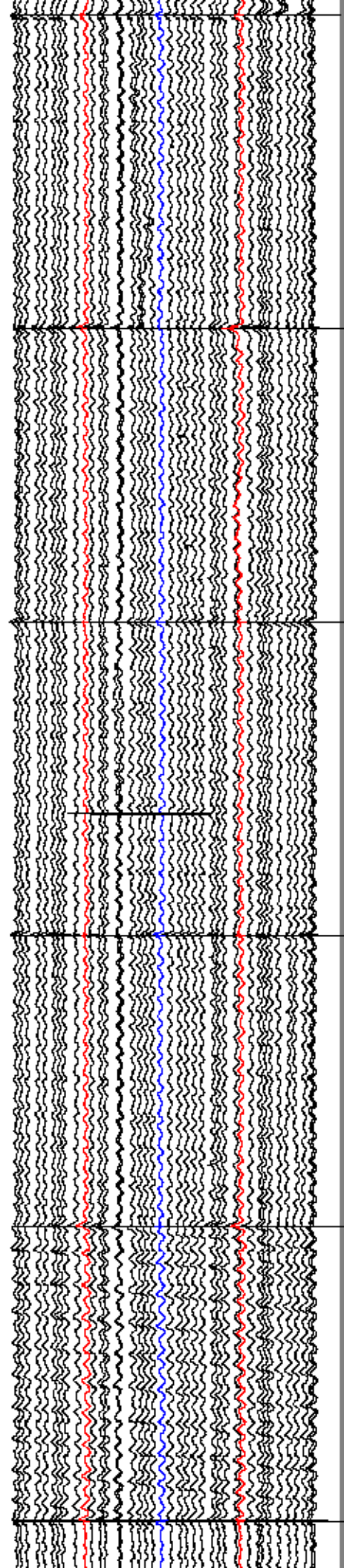
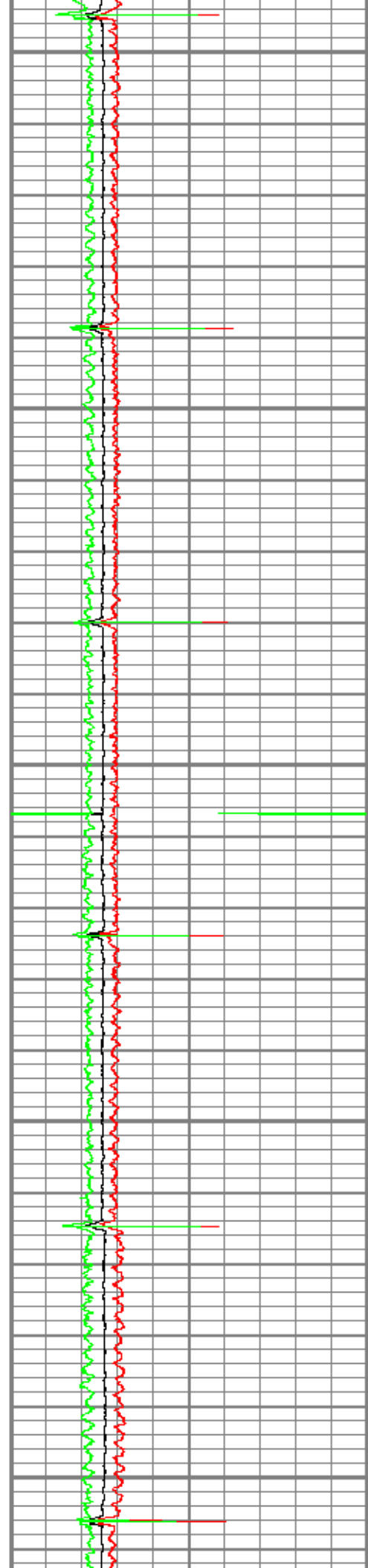


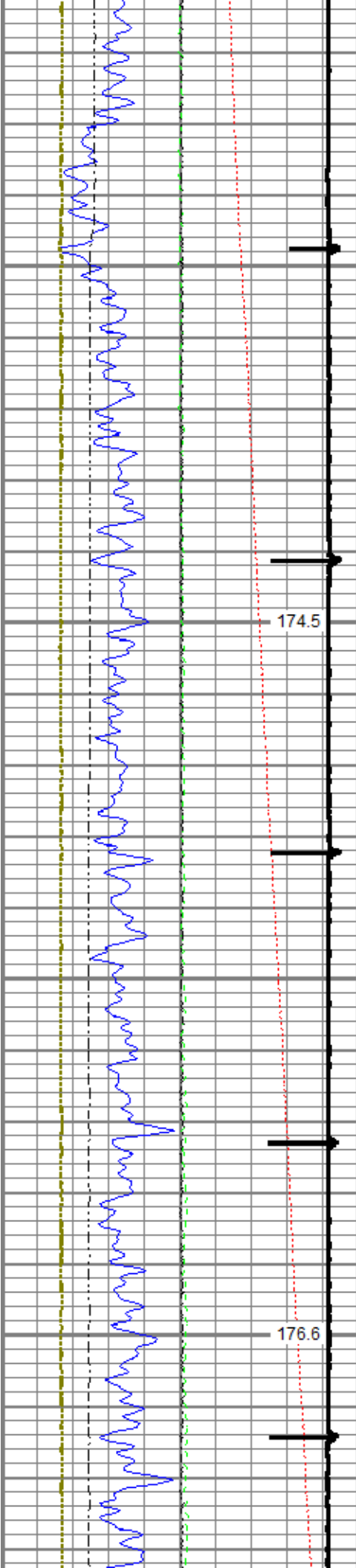


5000

5100

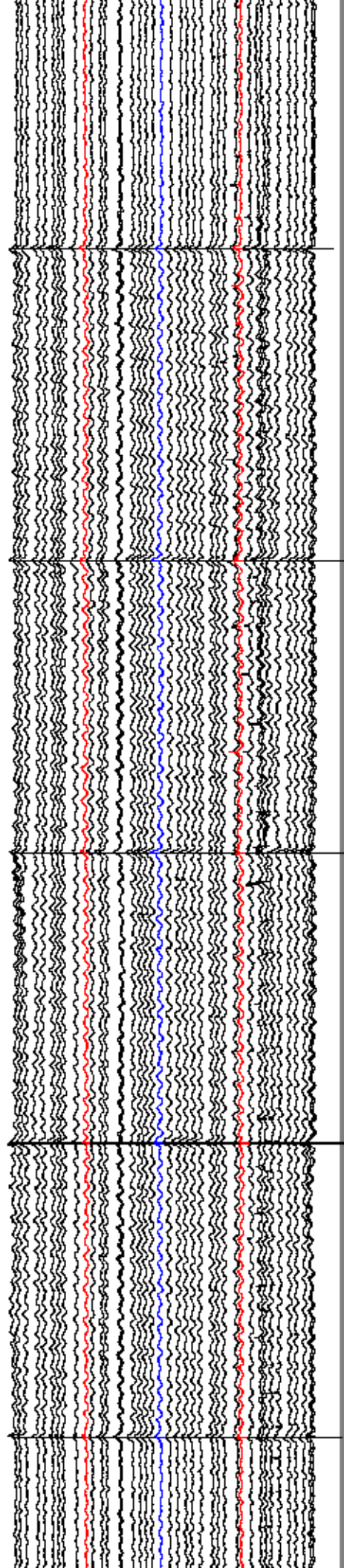
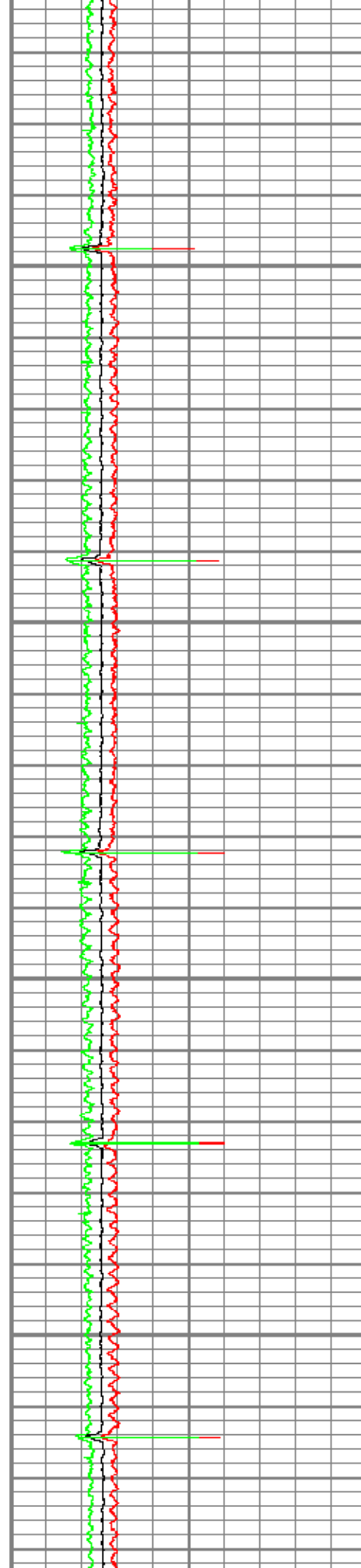
5200

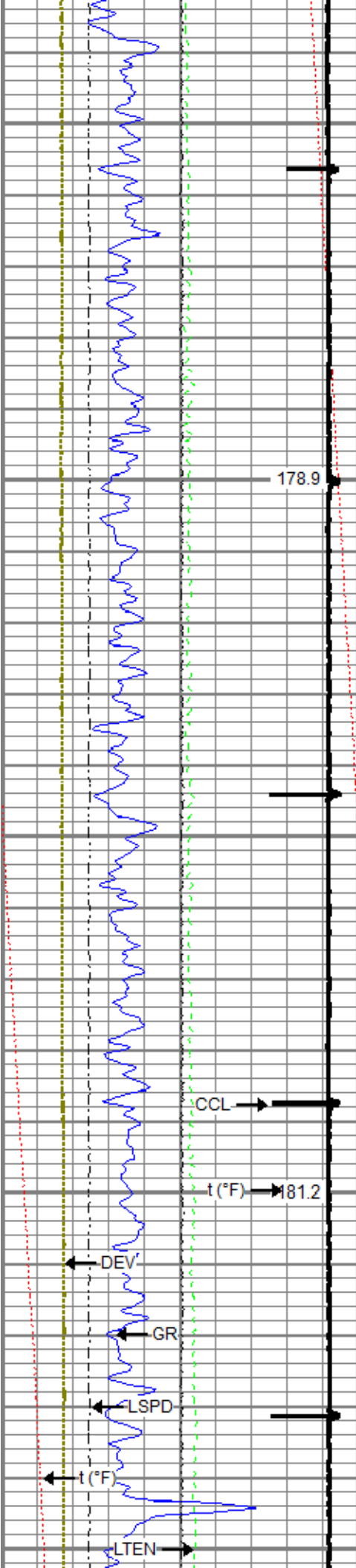




5300

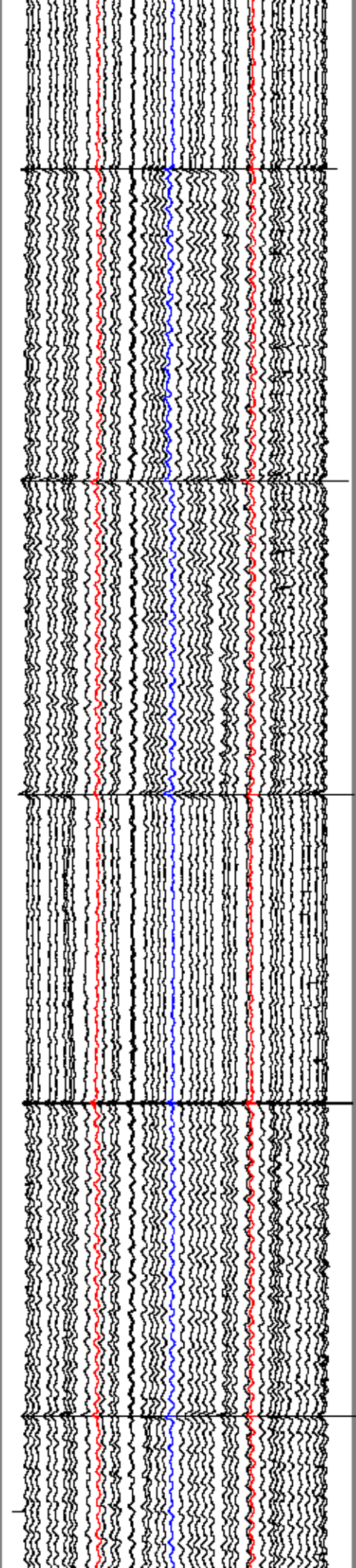
5400

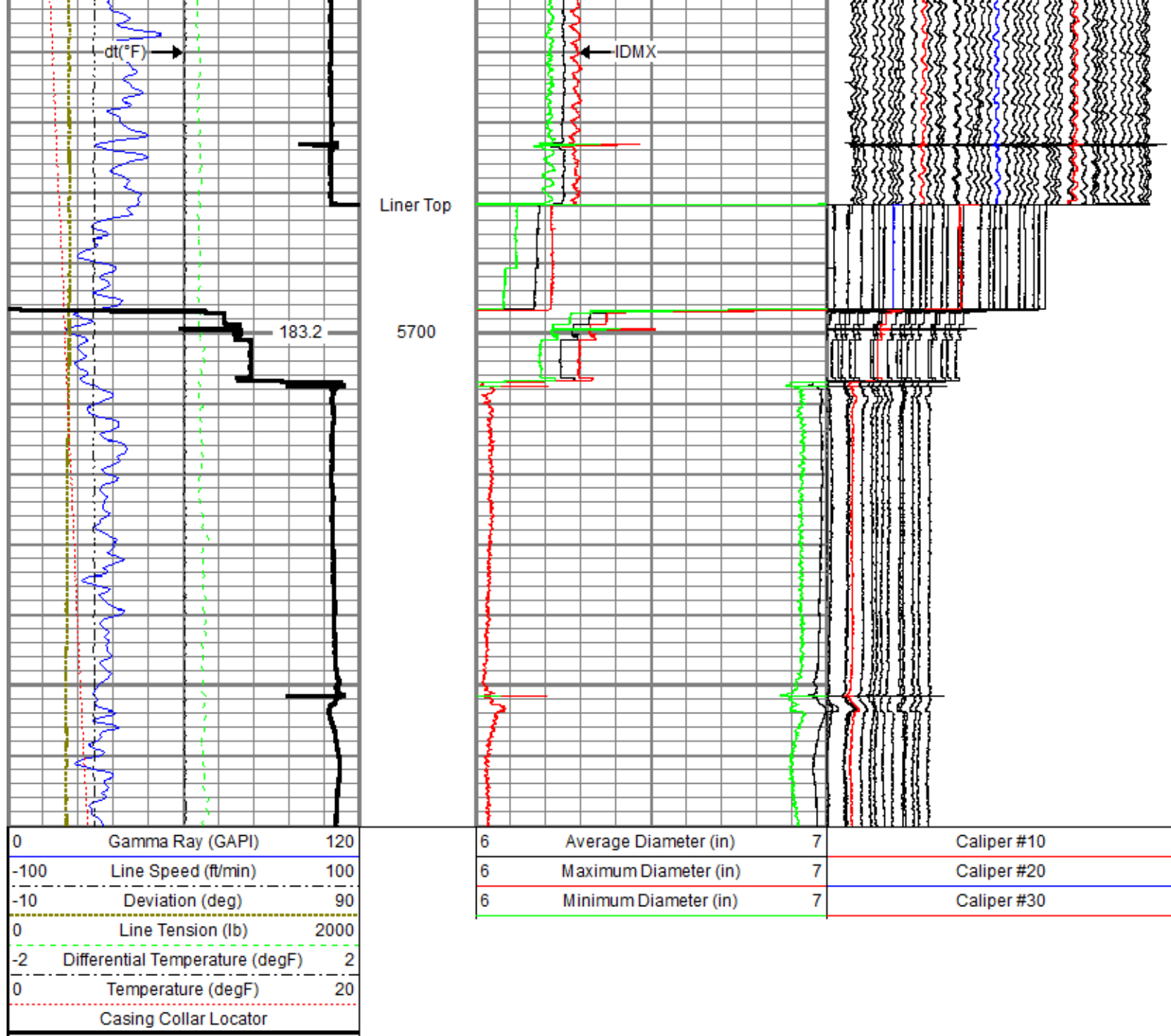




5500

5600



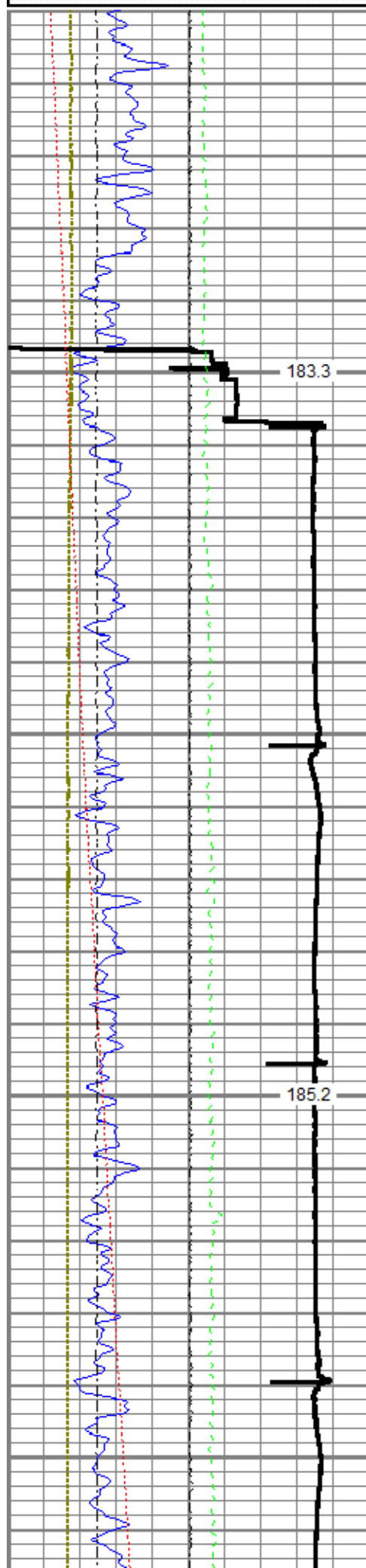


4.5" Main Pass

Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko_yellowhammer 34c-17hz\0512345498_anadarko_yellowhammer 34c-17hz_mit_02-18-18.db
 Dataset Pathname: pass8.4
 Presentation Format: ros_45mit40sx
 Dataset Creation: Mon Feb 19 06:57:42 2018
 Charted by: Depth in Feet scaled 1:240

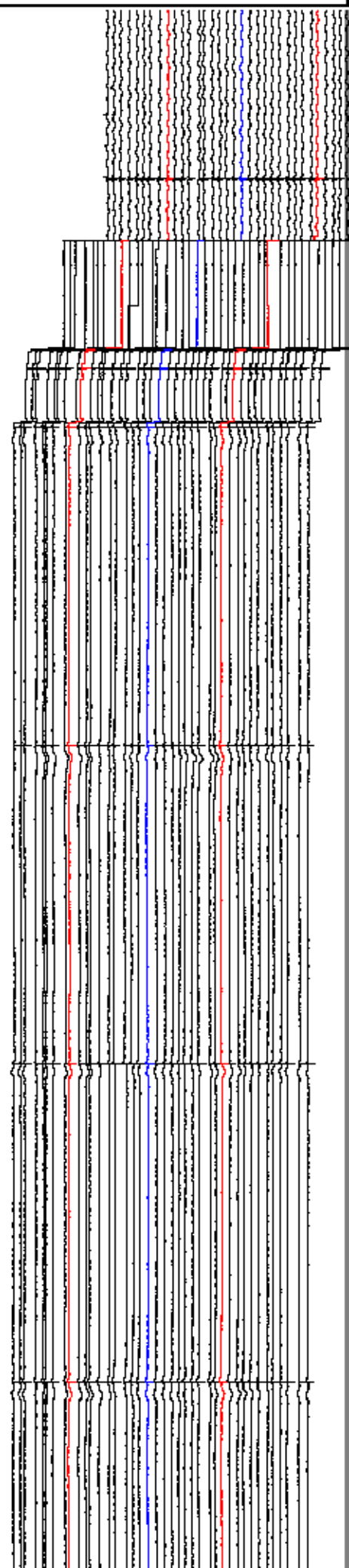
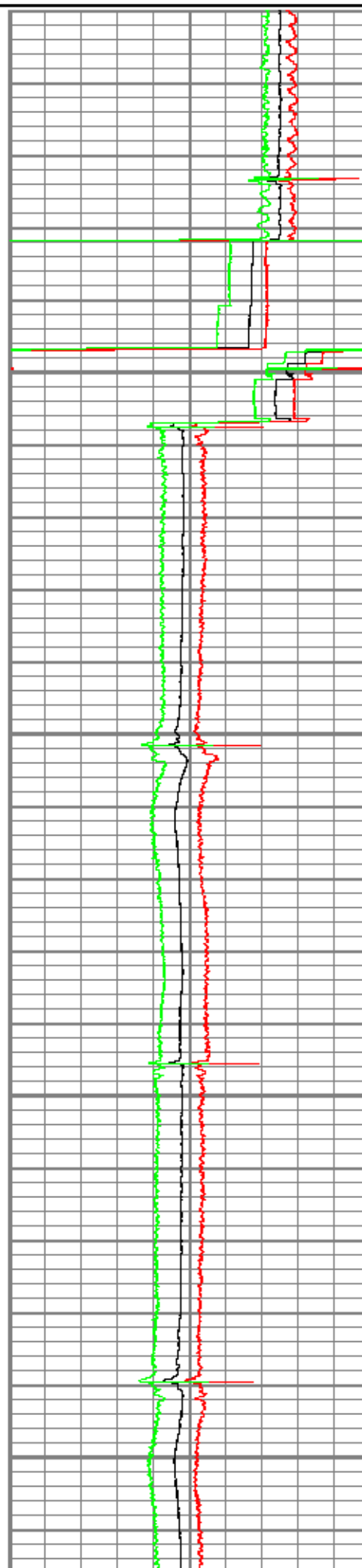
0	Gamma Ray (GAPI)	120	3.5	Average Diameter (in)	4.5	Caliper #10
-100	Line Speed (ft/min)	100	3.5	Maximum Diameter (in)	4.5	Caliper #20
-10	Deviation (deg)	90	3.5	Minimum Diameter (in)	4.5	Caliper #30
	Casing Collar Locator					
0	Line Tension (lb)	2000				
-2	Differential Temperature (degF)	2				

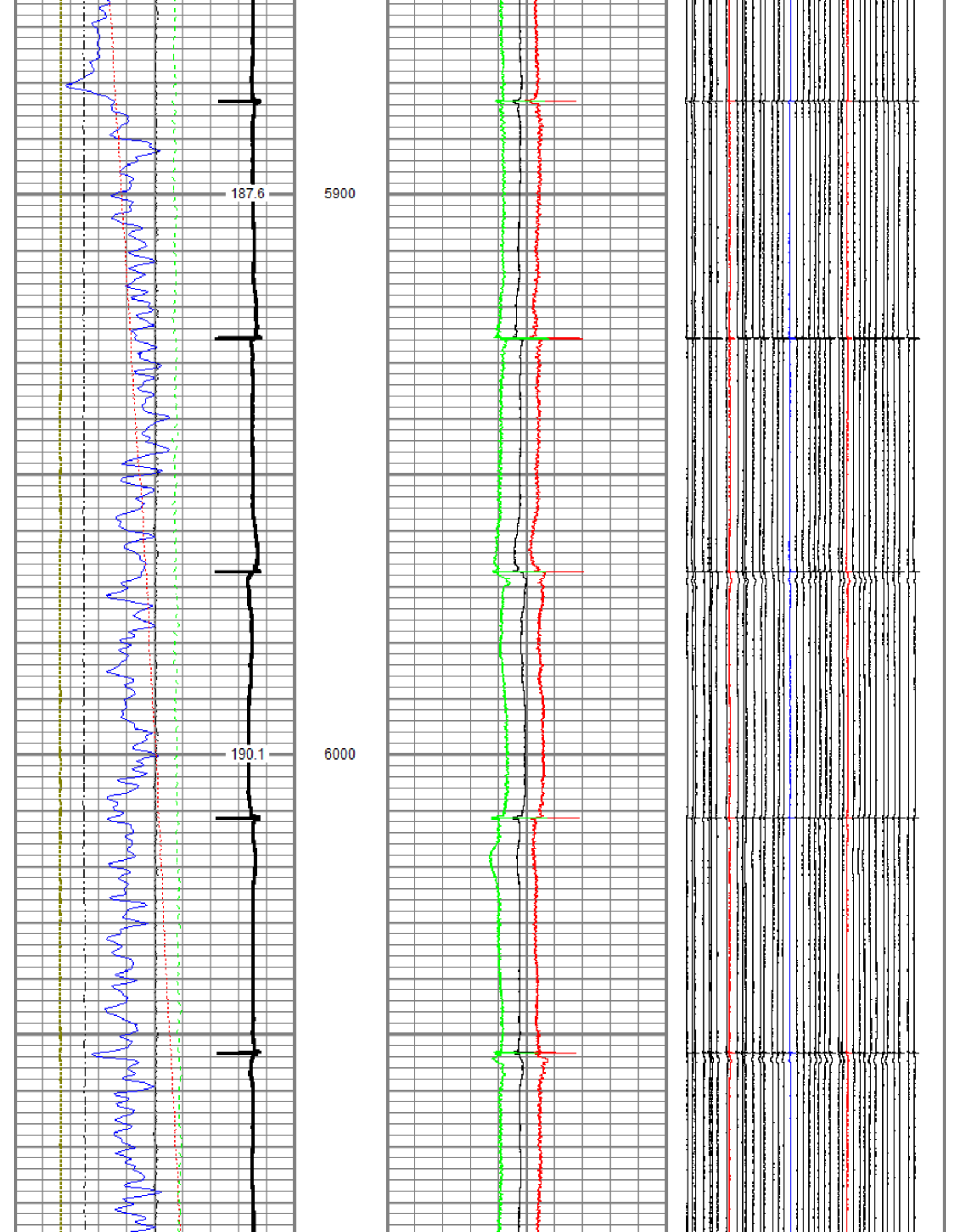


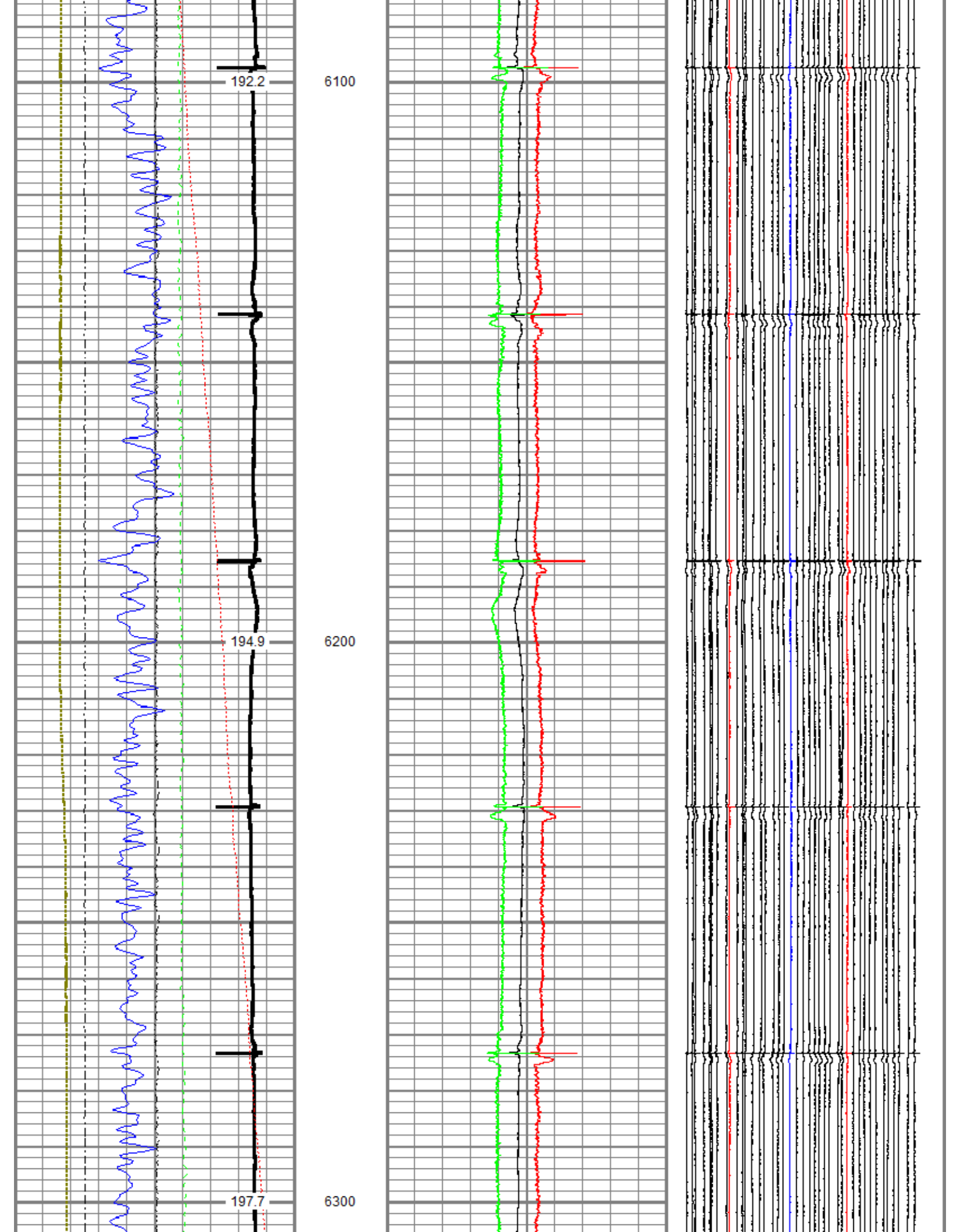
Liner Top

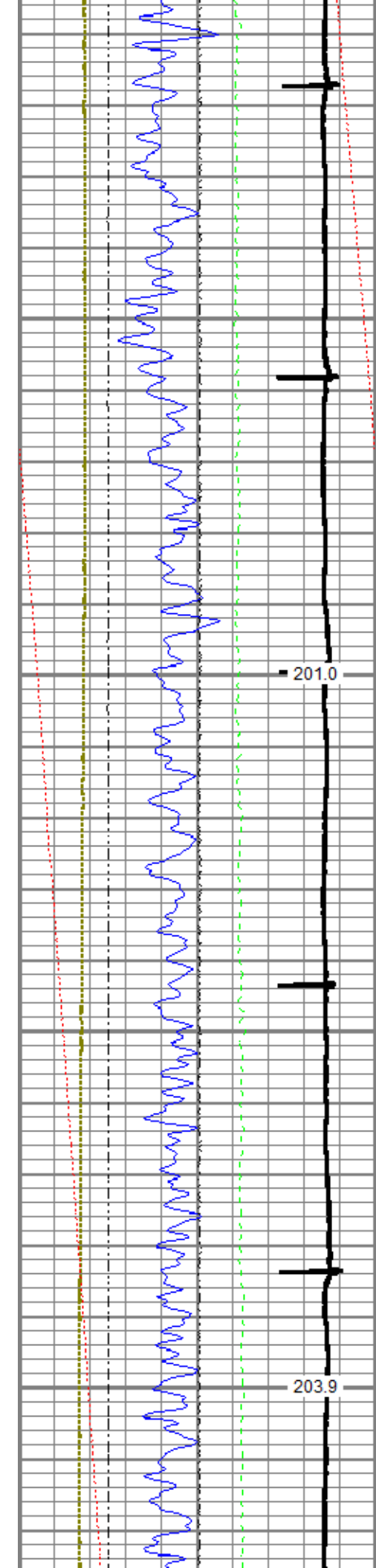
5700

5800



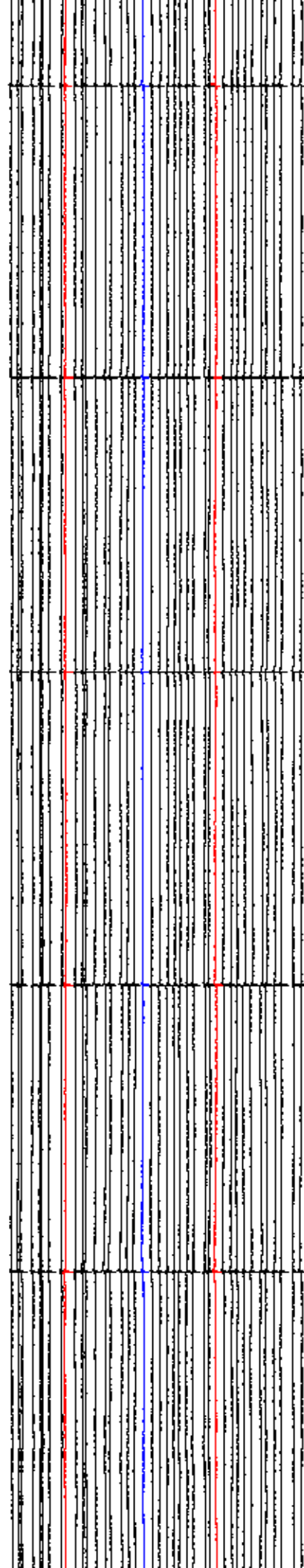
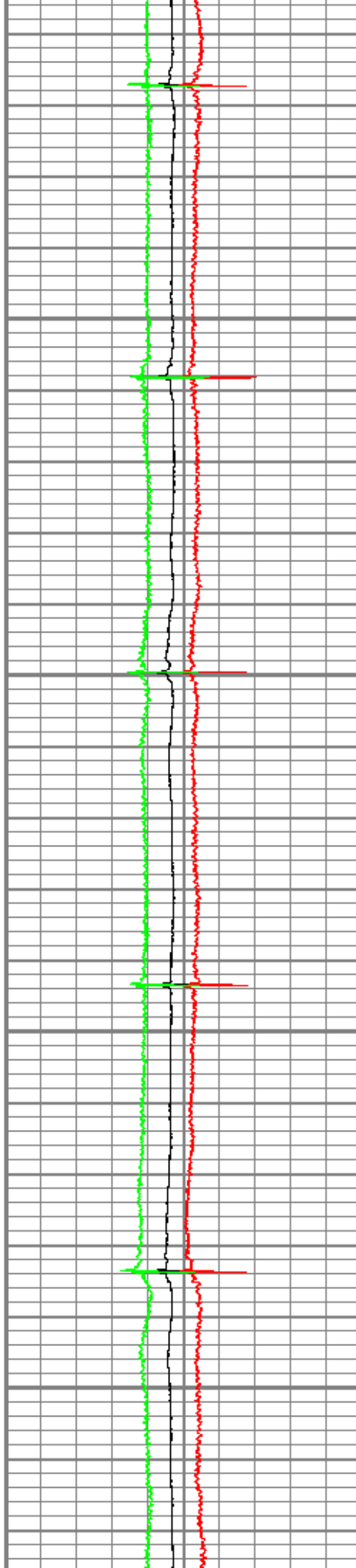


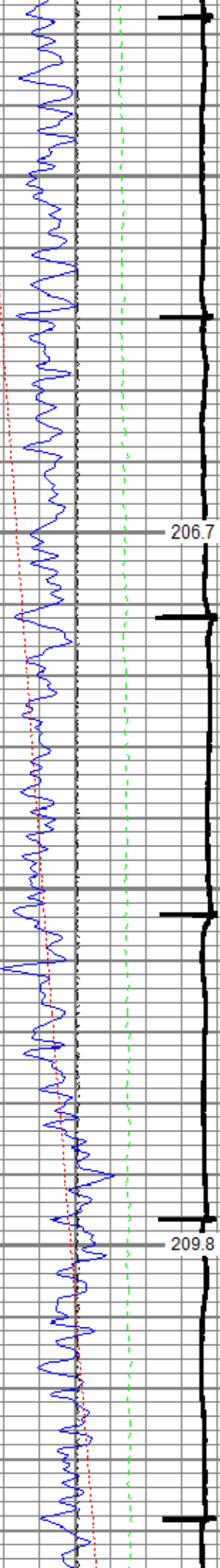




6400

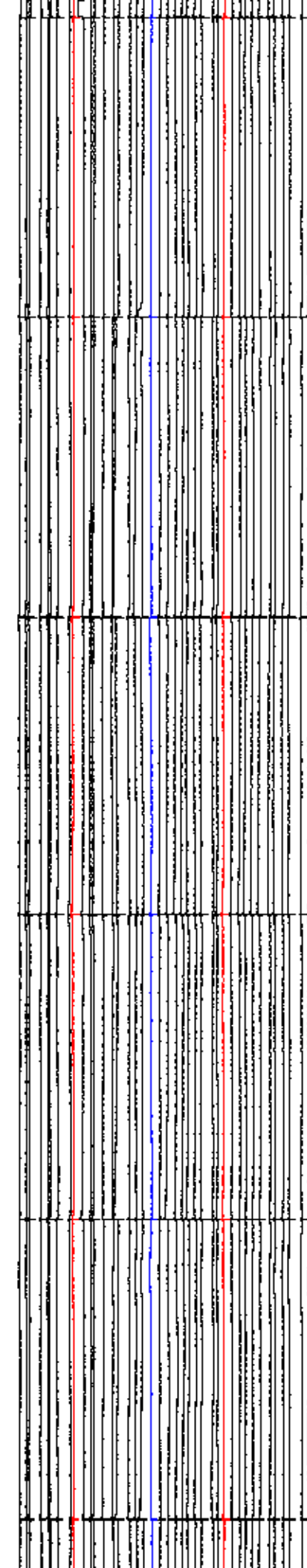
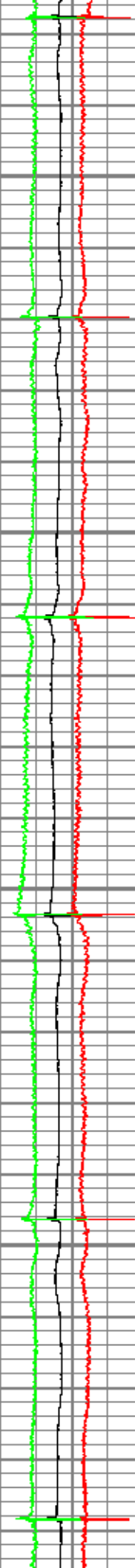
6500

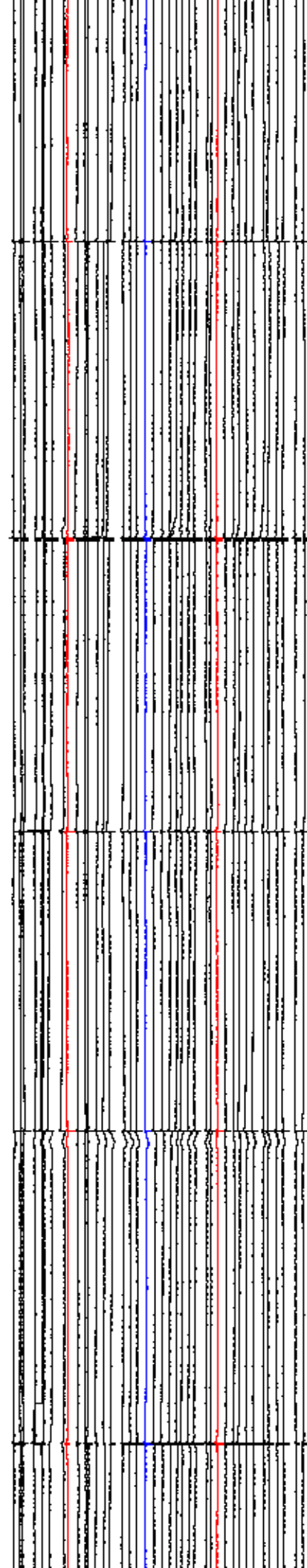
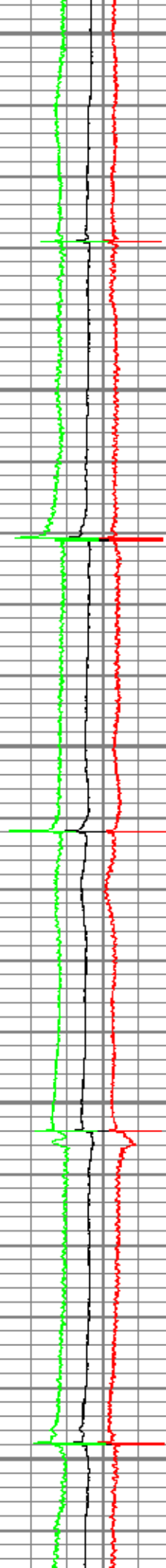
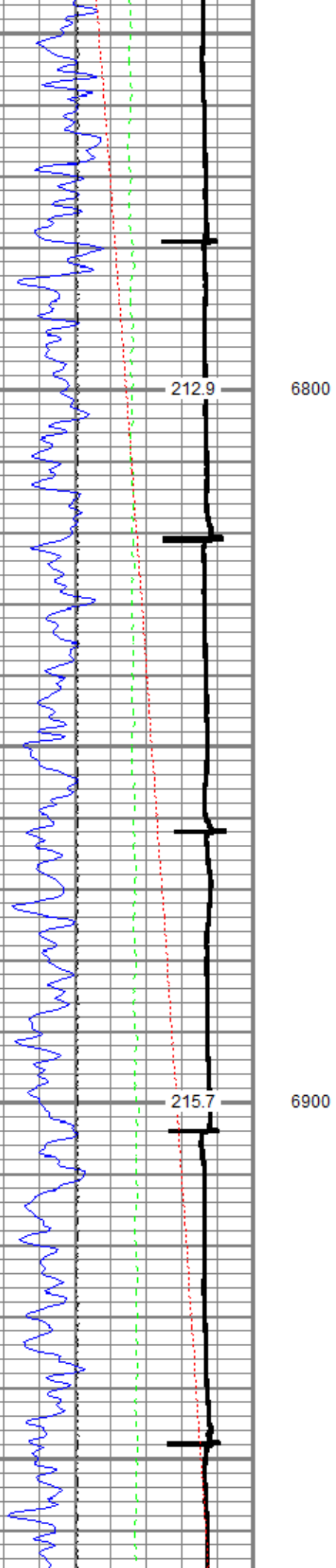


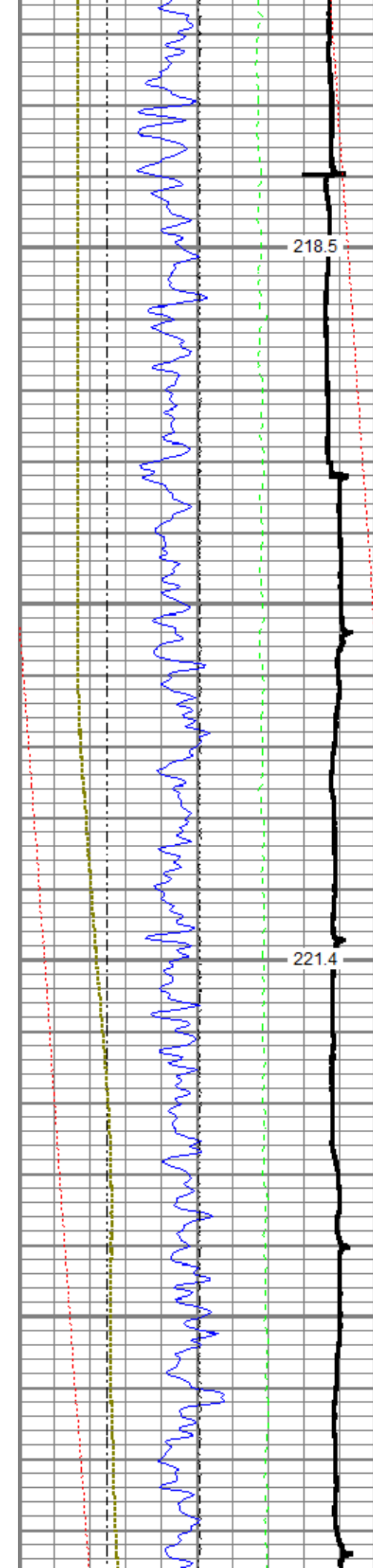


6600

6700

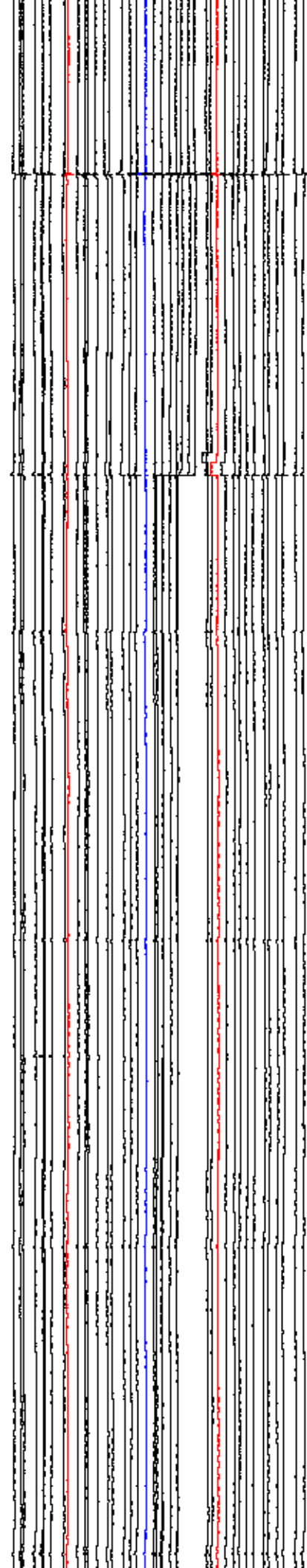
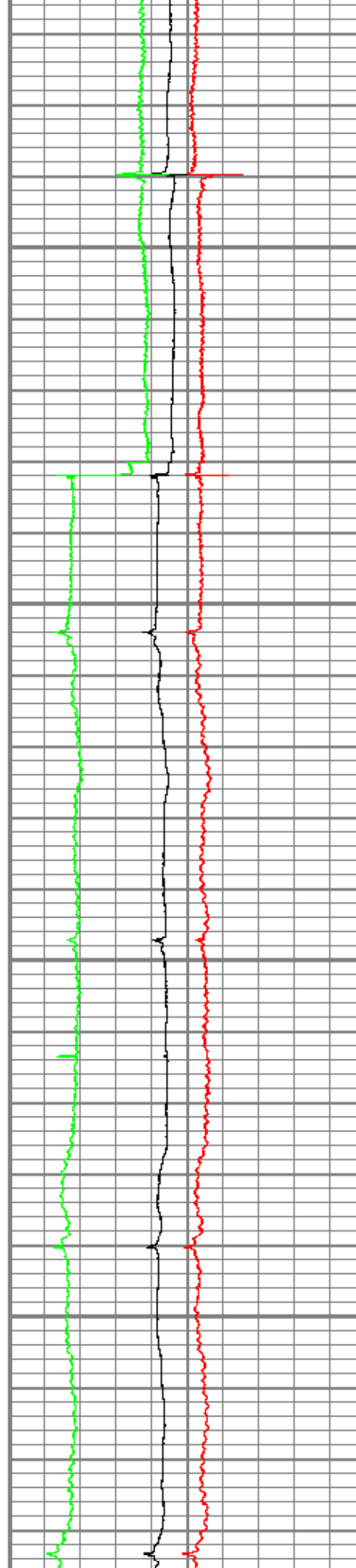


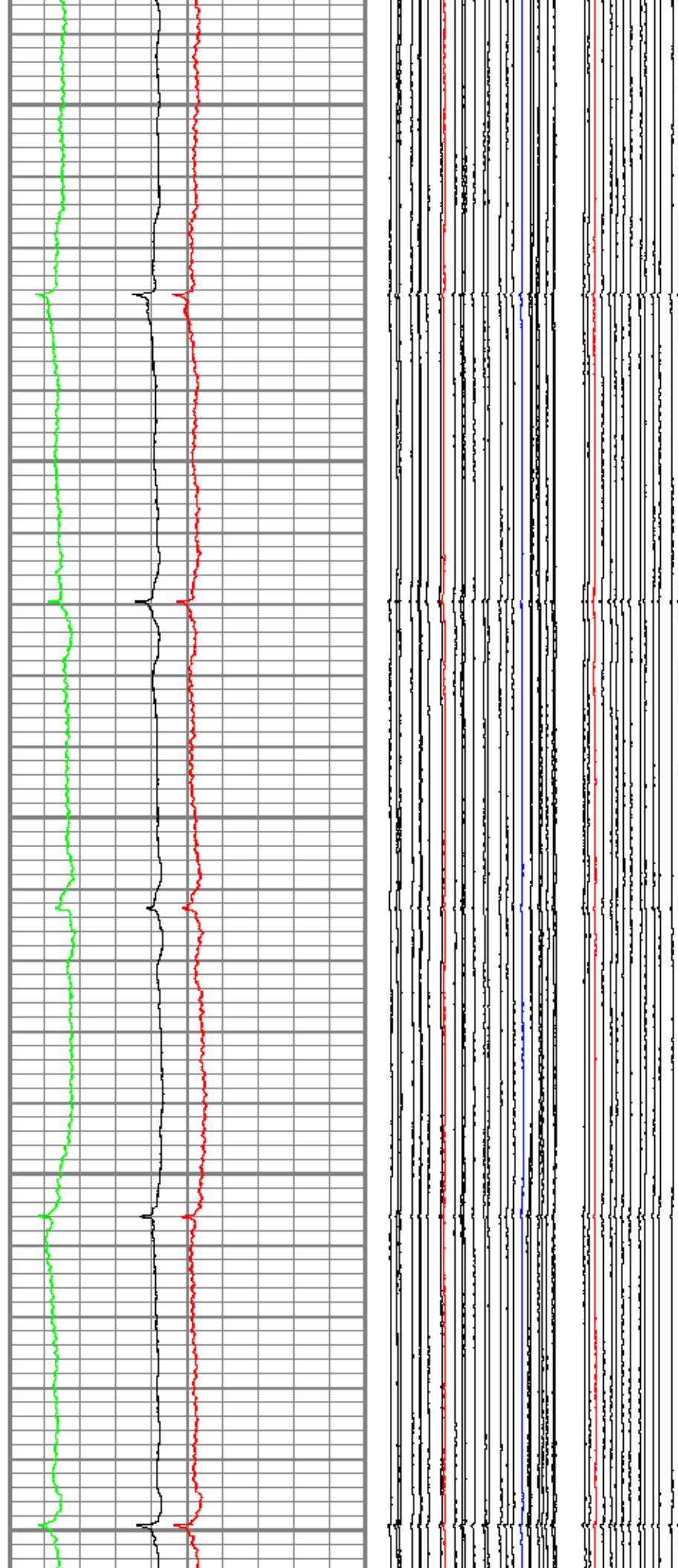
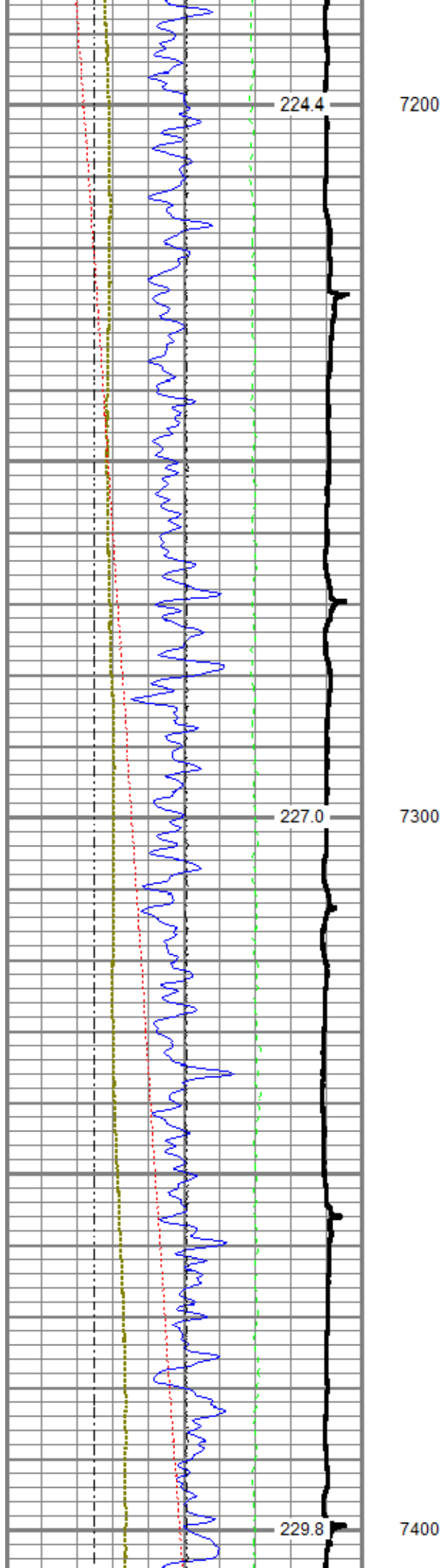


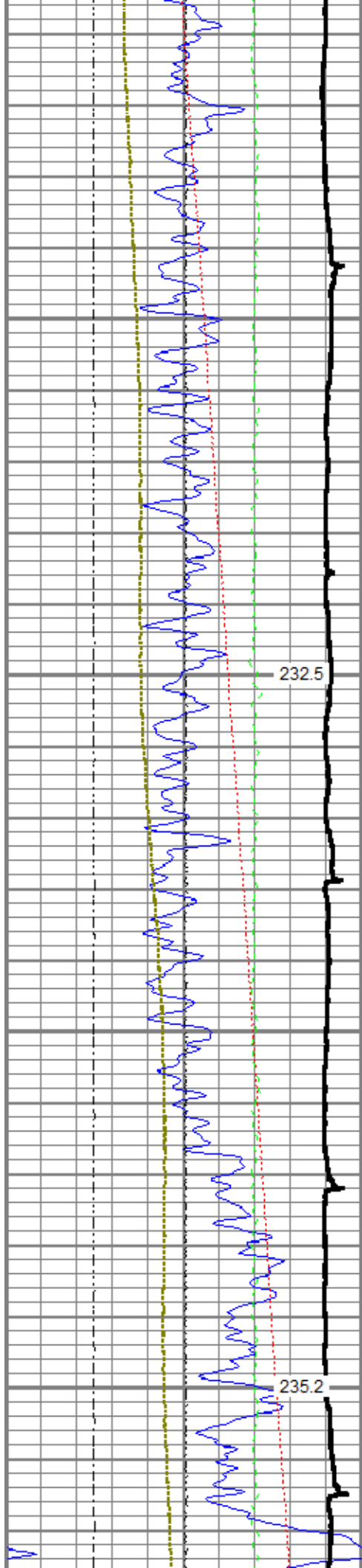


7000

7100

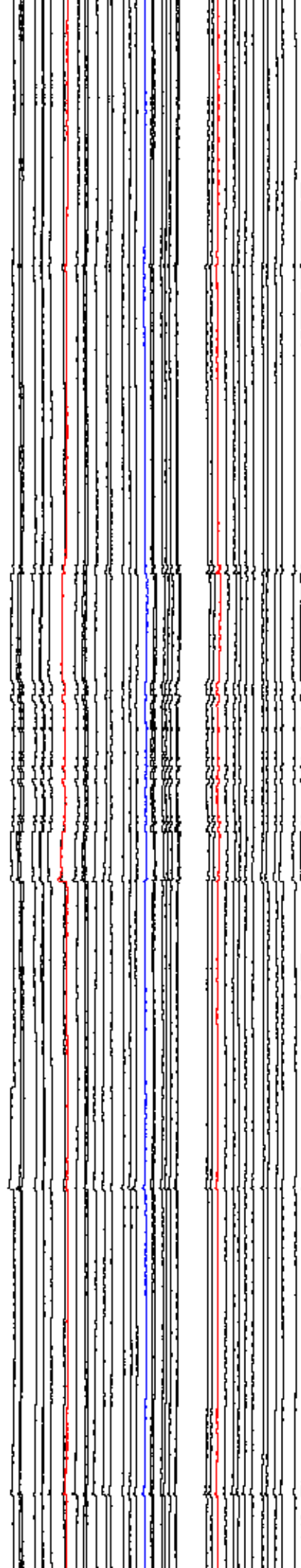
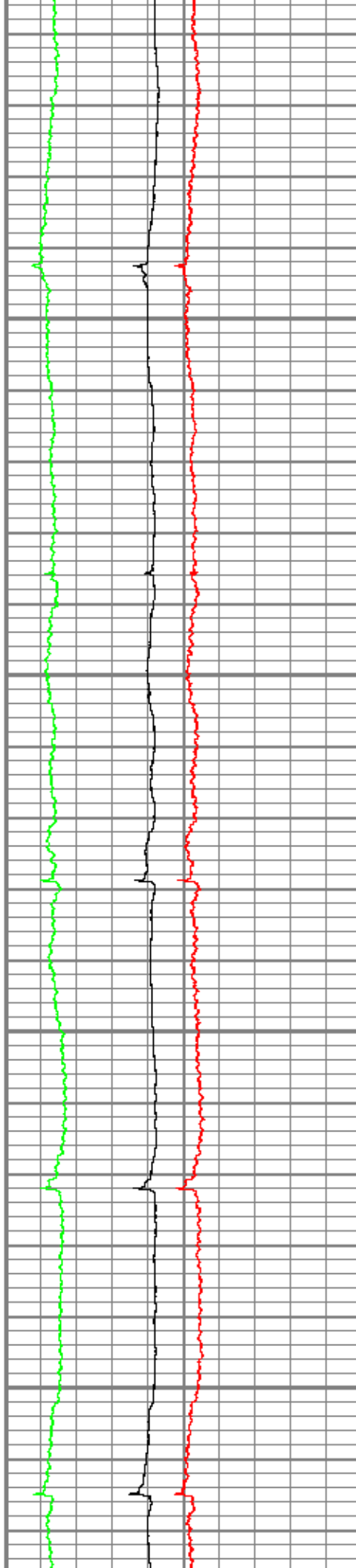


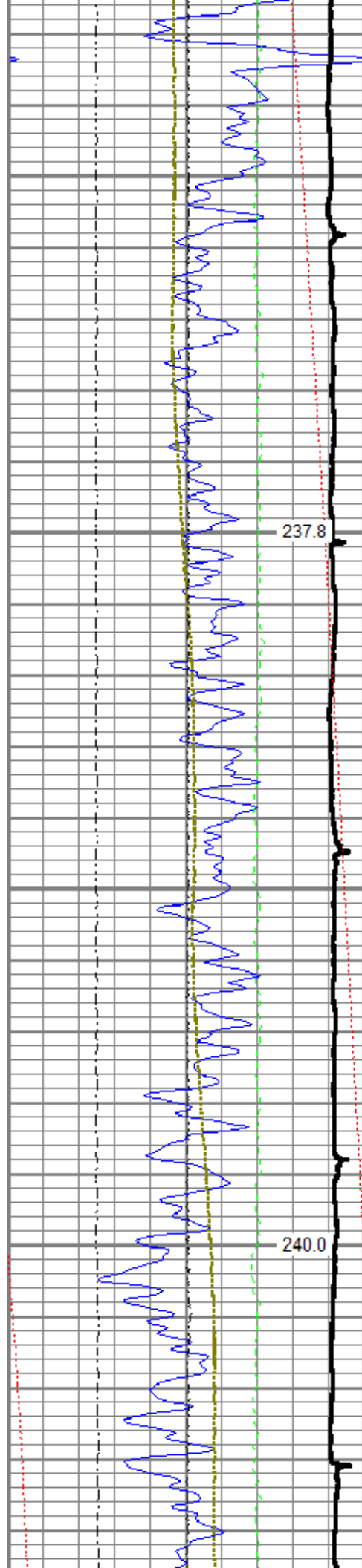




7500

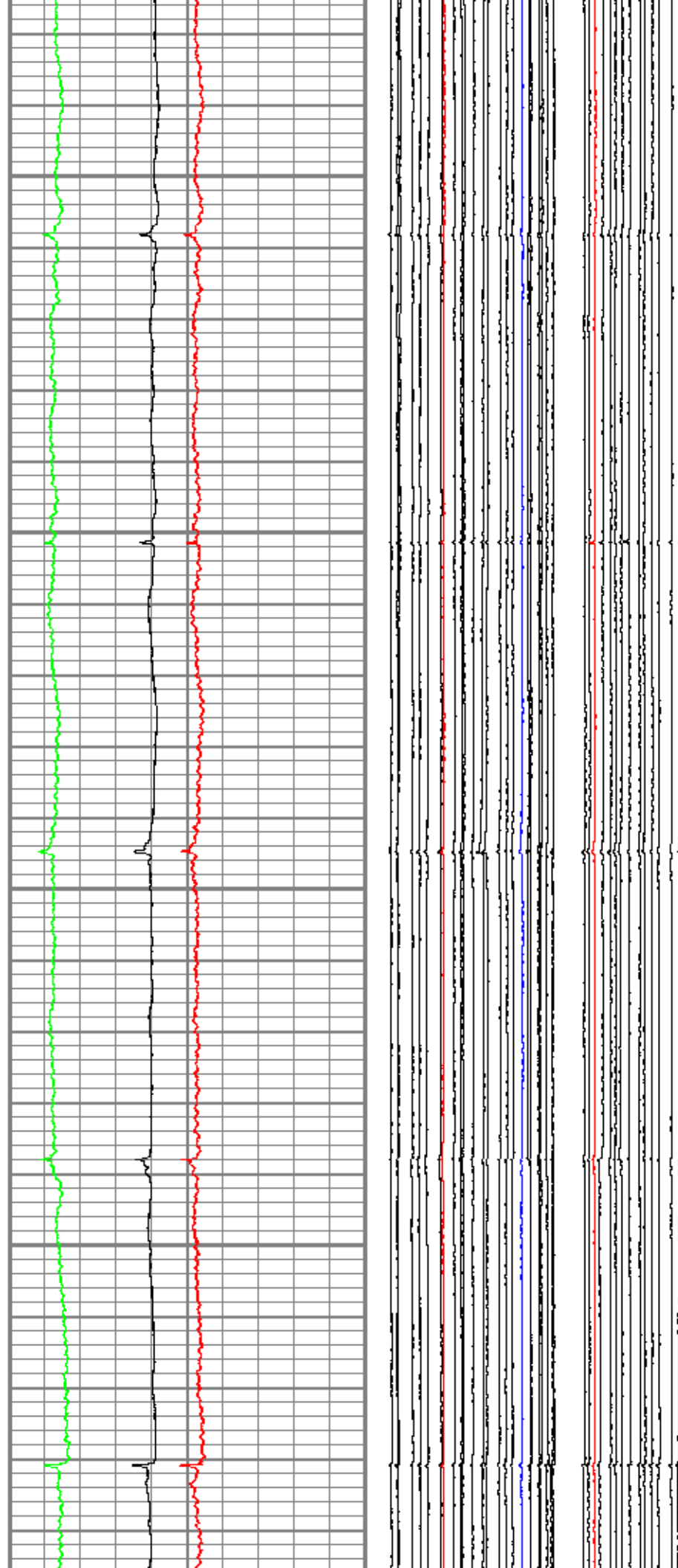
7600

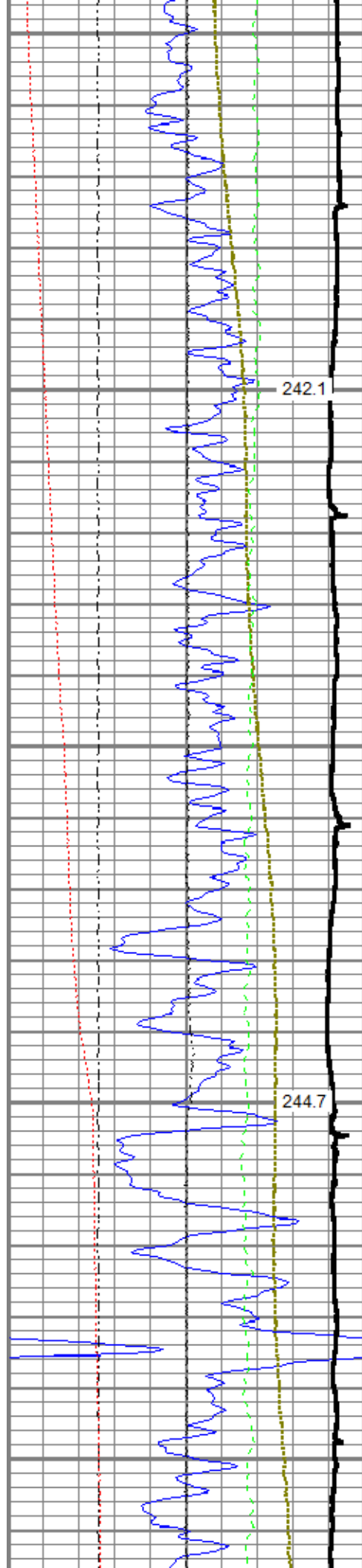




7700

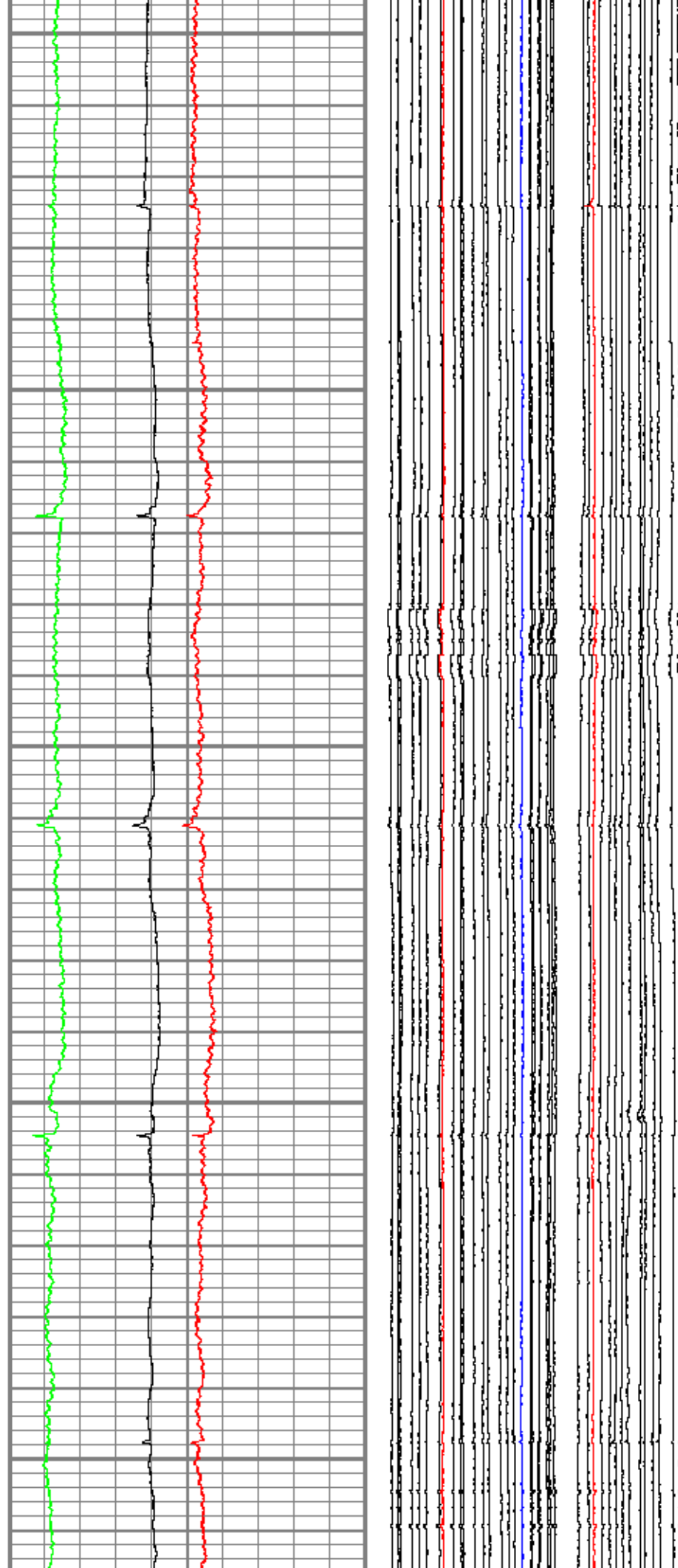
7800

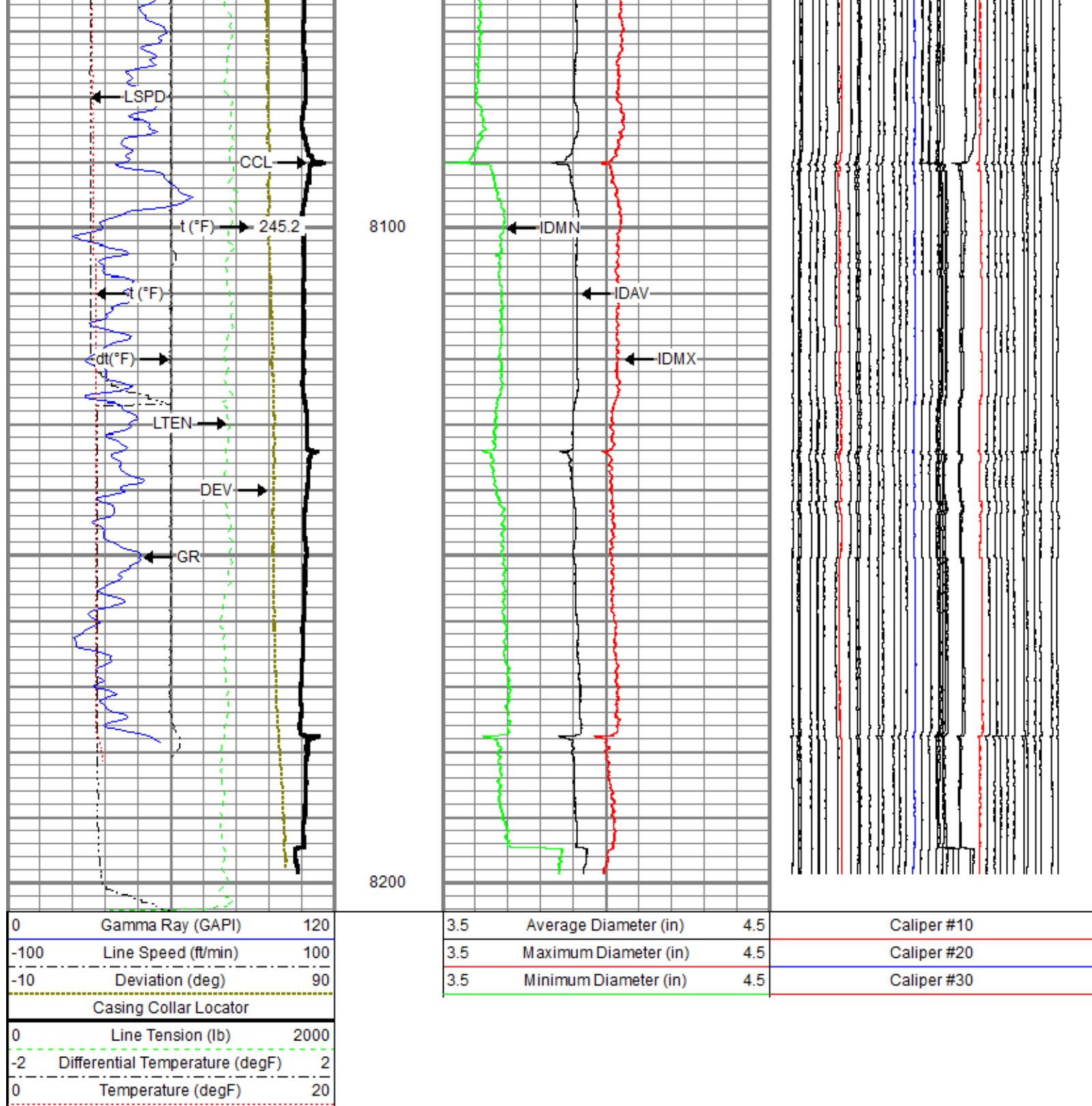




7900

8000





Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

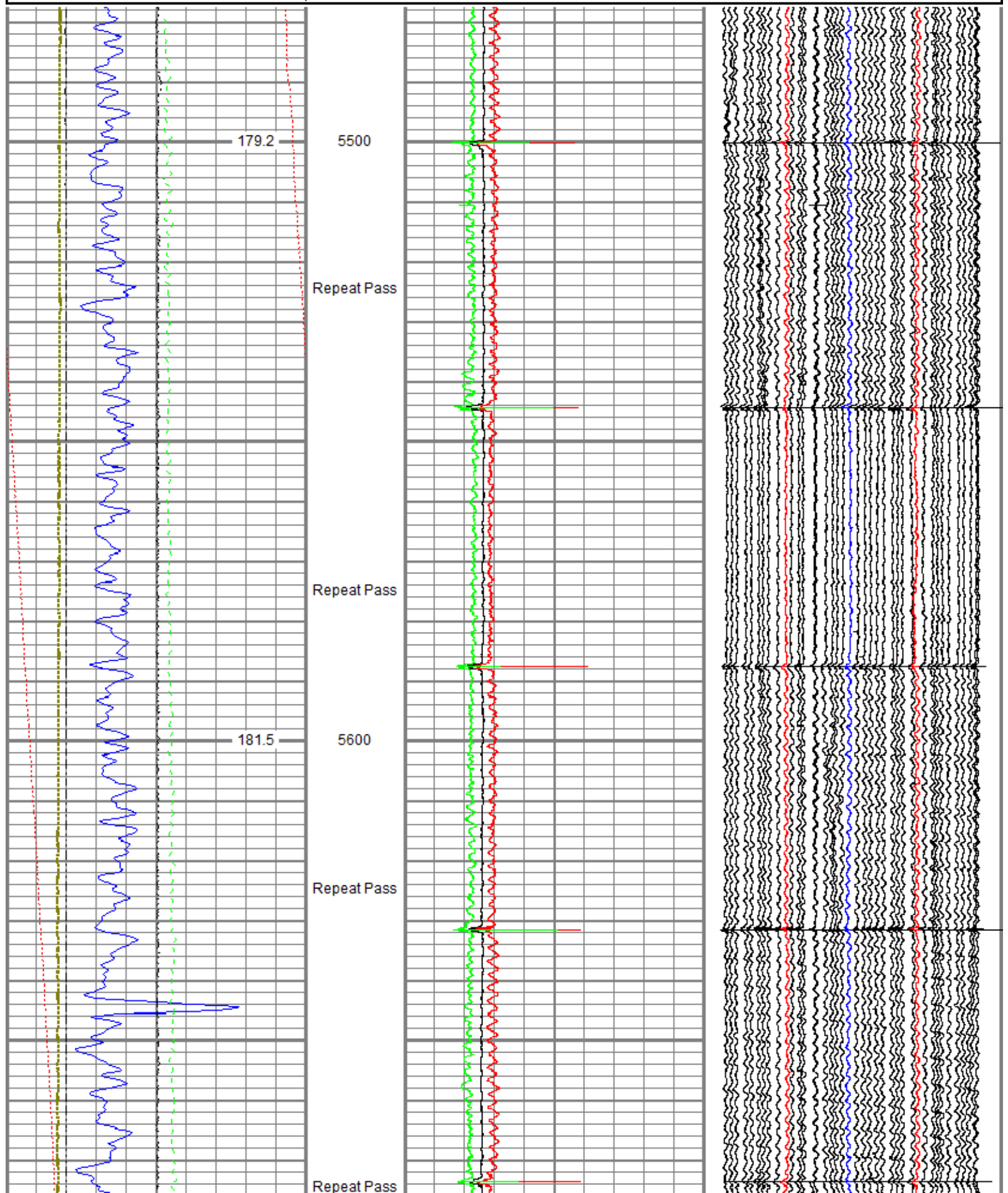
Database File anadarko_yellowhammer 34c-17hz\0512345498_anadarko_yellowhammer 34c-17hz_mit_02-18-18.db
 Dataset Pathname pass6
 Presentation Format ros_70mit40sx
 Dataset Creation Sun Feb 18 12:42:35 2018
 Charted by Depth in Feet scaled 1:240

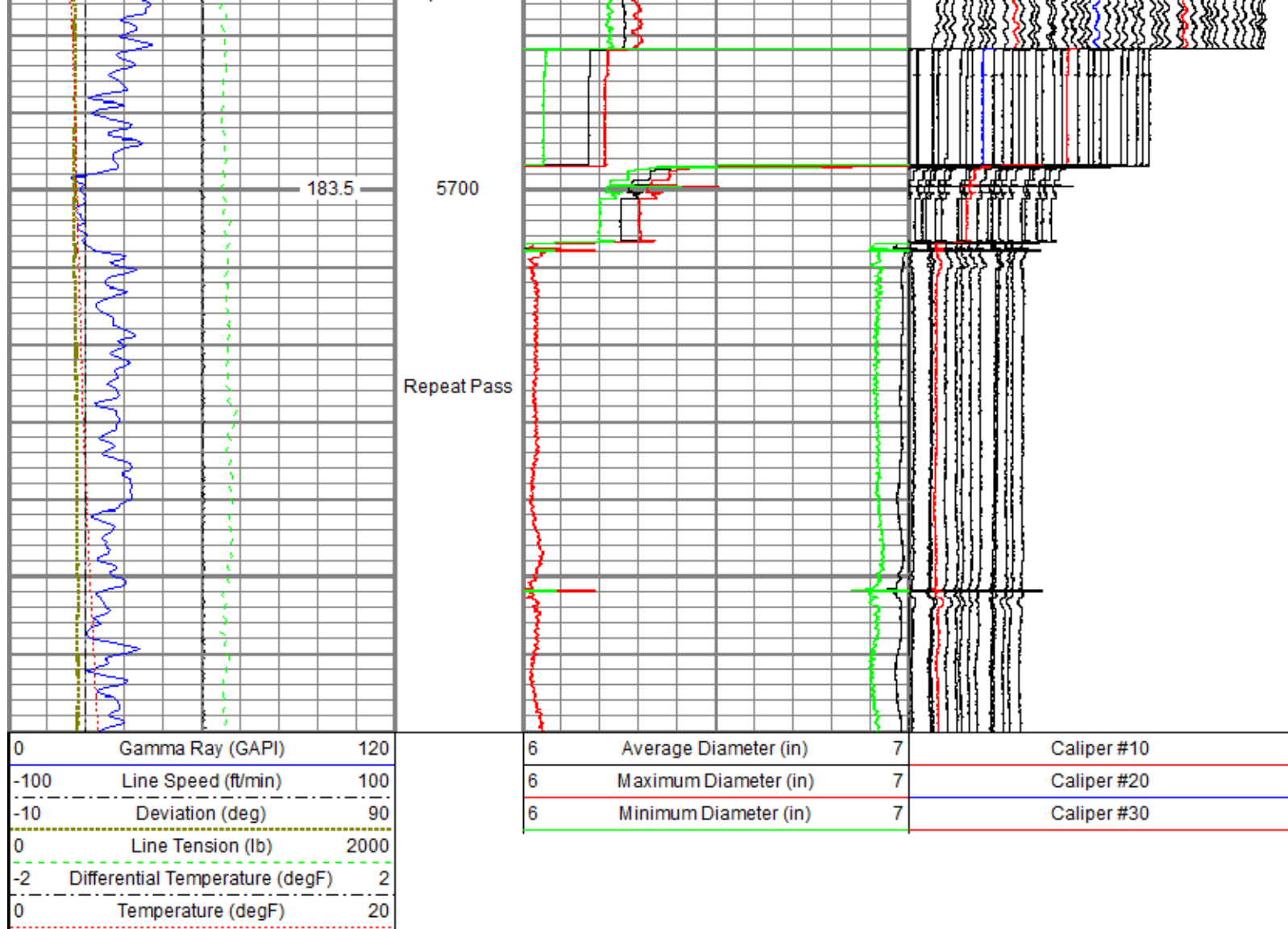
0	Gamma Ray (GAPI)	120	6	Average Diameter (in)	7	Caliper #10
---	------------------	-----	---	-----------------------	---	-------------

-100	Line Speed (ft/min)	100
-10	Deviation (deg)	90
0	Line Tension (lb)	2000
-2	Differential Temperature (degF)	2
0	Temperature (degF)	20

6	Maximum Diameter (in)	7
6	Minimum Diameter (in)	7

6	Caliper #20
7	Caliper #30

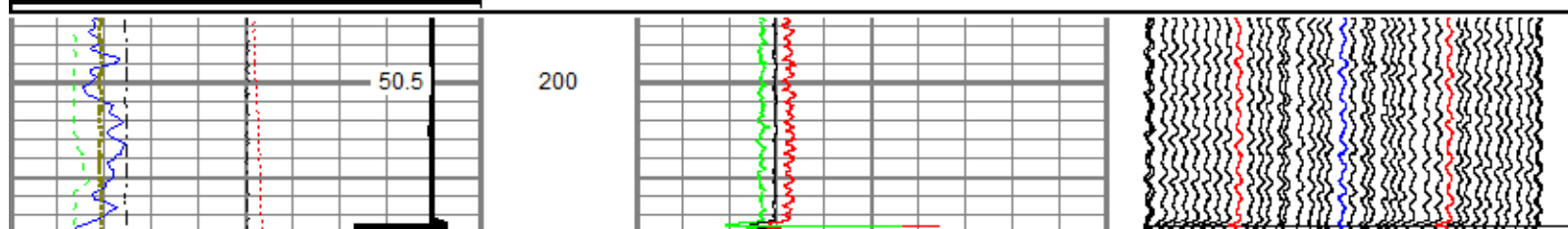
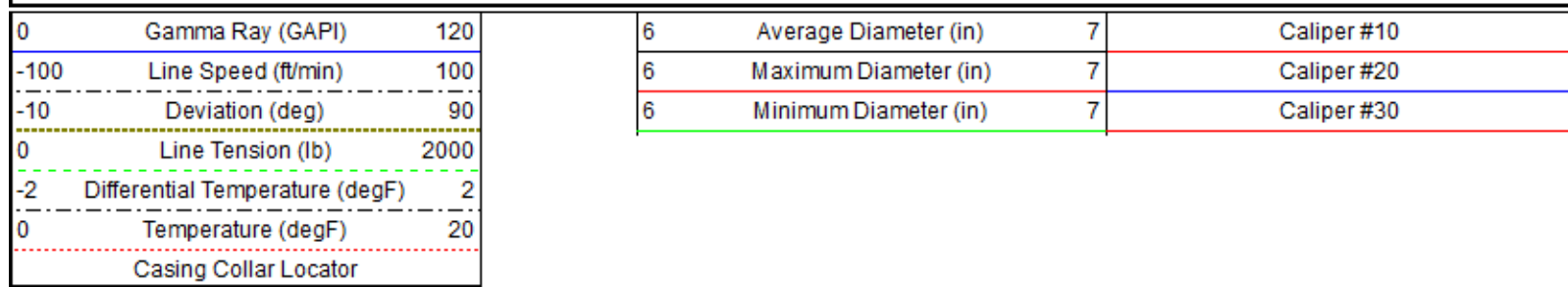


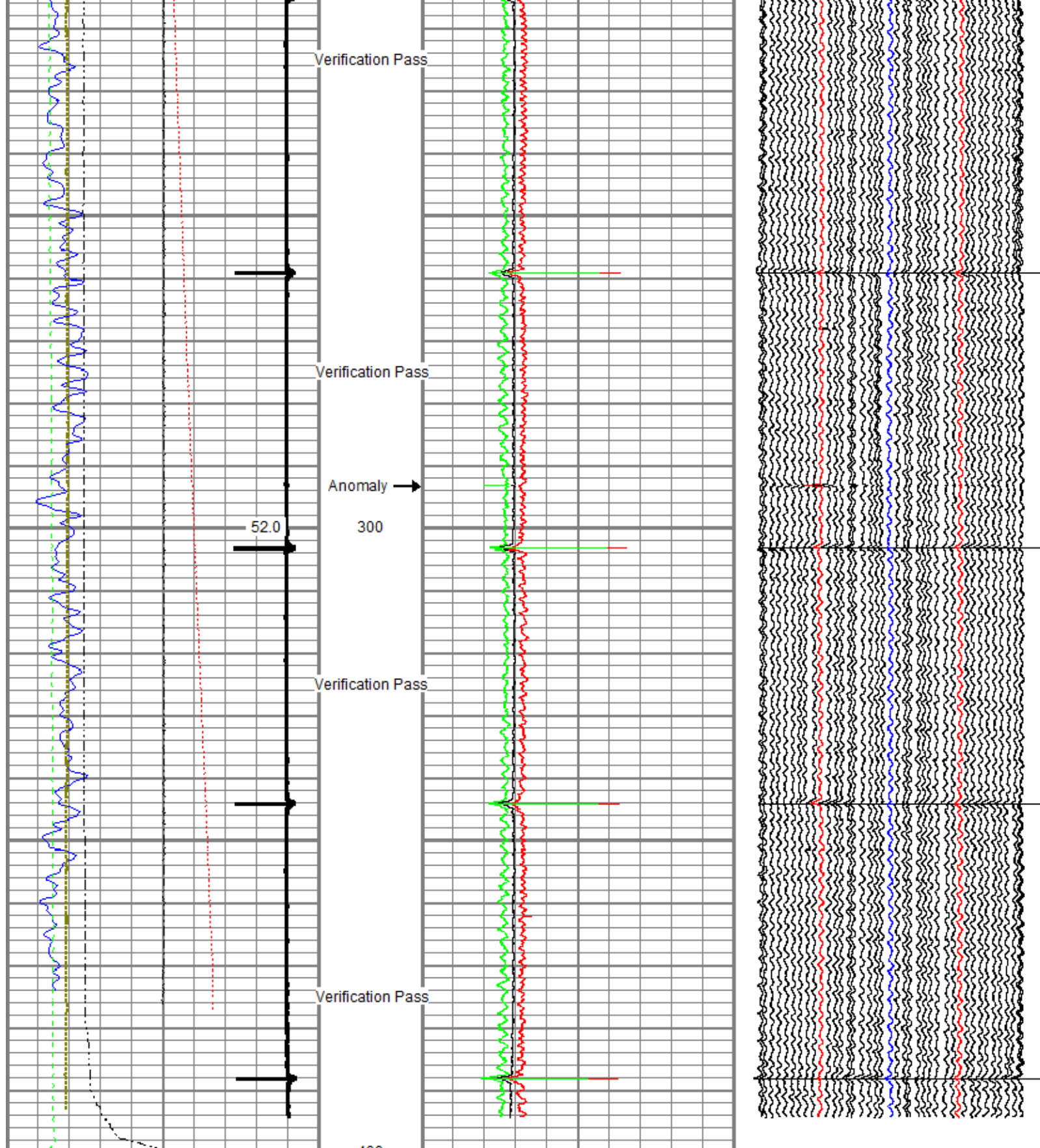


Verification Pass


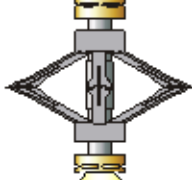
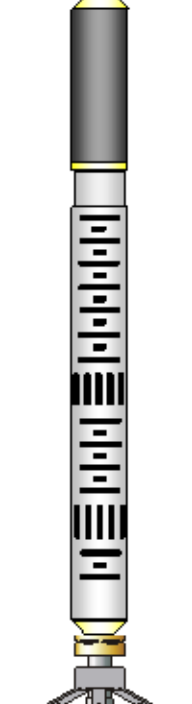
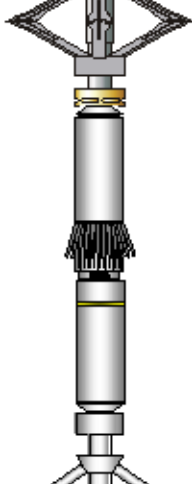
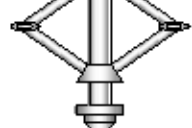
Recorded With 0 PSI Surface Induced Pressure

Database File: anadarko_yellowhammer 34c-17hz\0512345498_anadarko_yellowhammer 34c-17hz_mit_02-18-18.db
 Dataset Pathname: pass9
 Presentation Format: ros_70mit40sx
 Dataset Creation: Sun Feb 18 16:00:05 2018
 Charted by: Depth in Feet scaled 1:240





0	Gamma Ray (GAPI)	120	6	Average Diameter (in)	7	Caliper #10
-100	Line Speed (ft/min)	100	6	Maximum Diameter (in)	7	Caliper #20
-10	Deviation (deg)	90	6	Minimum Diameter (in)	7	Caliper #30
0	Line Tension (lb)	2000				
-2	Differential Temperature (degF)	2				
0	Temperature (degF)	20				
	Casing Collar Locator					

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
TEMP	22.18		UW PGR-020 (211727) Production Gamma Ray	1.92	1.69	9.50
			UW PRT-016 (10025100) Platinum Resistance Thermometer	1.04	1.69	5.20
CBLROT WVFS8 WVFS7 WVFS6 WVFS5 WVFS4 WVFS3 WVFS2 WVFS1 WVF3FT WVF5FT CBLTEMP	15.15 15.15 15.15 15.15 15.15 15.15 15.15 15.15 15.15 14.15 10.02		UW CENT-DSS RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
			UW RBT-004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.48	3.13	140.00
			MIT	5.27		UW MIT-40 027 (211111) 40 Multifinger Imaging Tool
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_MIT_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_MIT_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					
Vertical:		Inc X		Inc Y			
Finger 1 up:		1931		1952			
Finger 31 up:		1959		2266			
Finger 21 up:		1608		1962			
Finger 11 up:		1927		1623			
Sensitivity ratio:		2253		1930			
X-axis angle:		1.0031					
Deviation const.:		272.845					
		311.818					
Finger Calibration Report							
Performed:		Sun Feb 18 11:10:31 2018					
Ring size:	4	5	6	7			
(in)	Sens	Sens	Sens	Sens			
Finger 01:	962	387.0	1349	413.0	1762	430.0	2192
Finger 02:	1056	391.0	1447	403.0	1850	416.0	2266
Finger 03:	1091	382.0	1473	401.0	1874	406.0	2280
Finger 04:	1037	387.0	1424	405.0	1829	415.0	2244
Finger 05:	1060	386.0	1446	400.0	1846	405.0	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



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