

County Weld State Colorado

K.B.	4992'
D.F.	---
G.L.	4971'

[illegible]

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 5657 FT
Adjusted -14 FT to correlate with Liner Top
Gauge Ring/Junk Basket ran to 5835 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!!

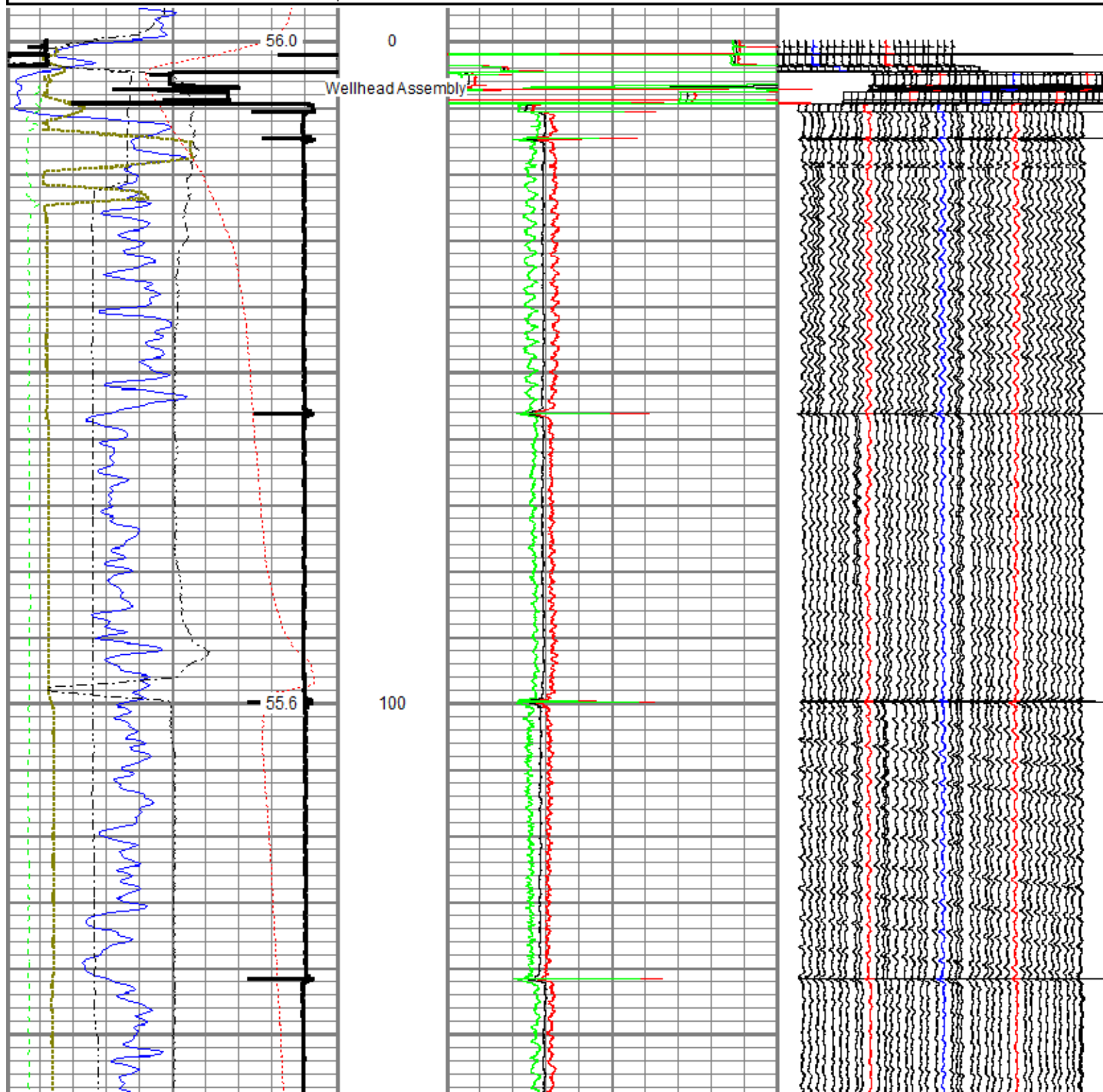
Main Pass

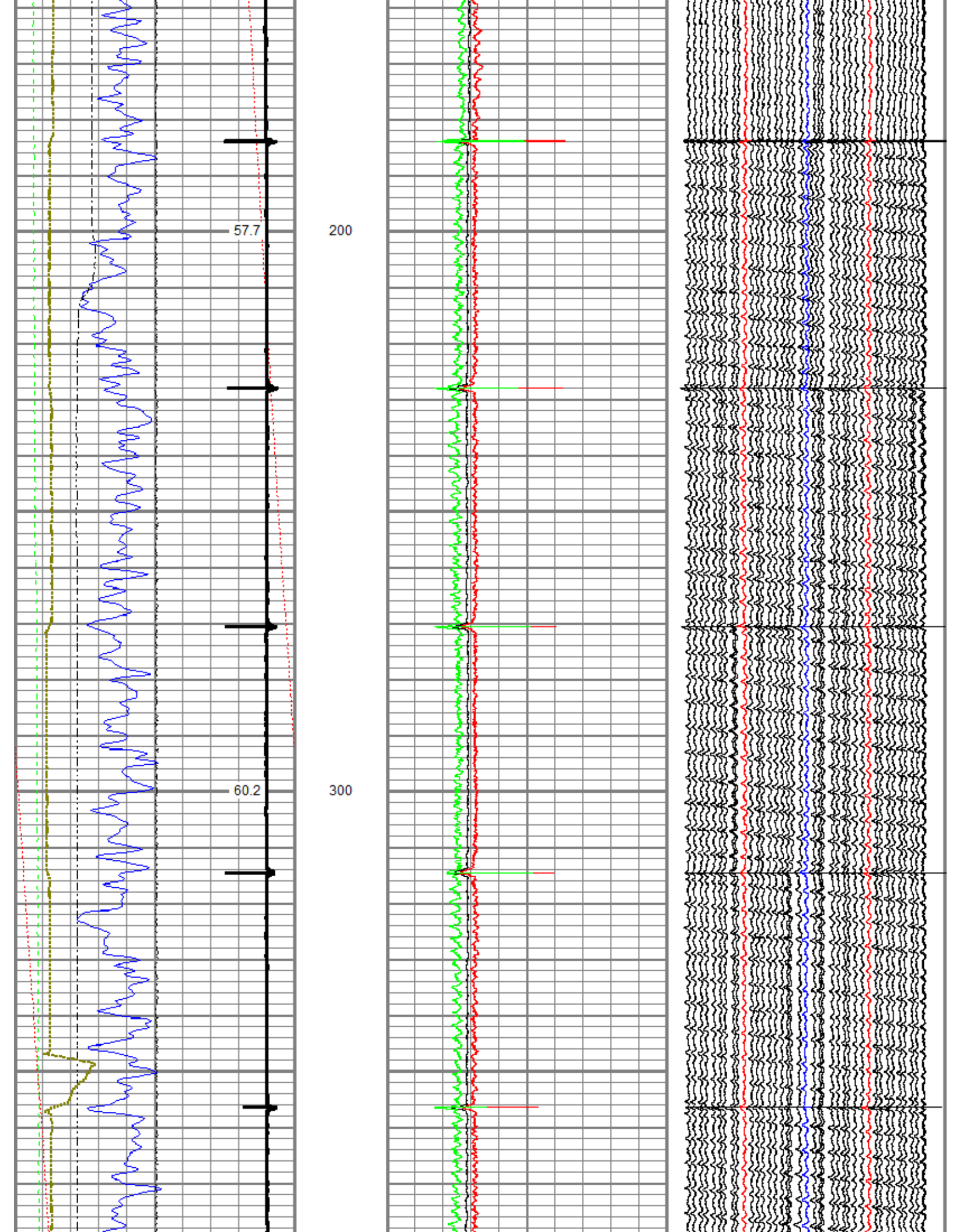


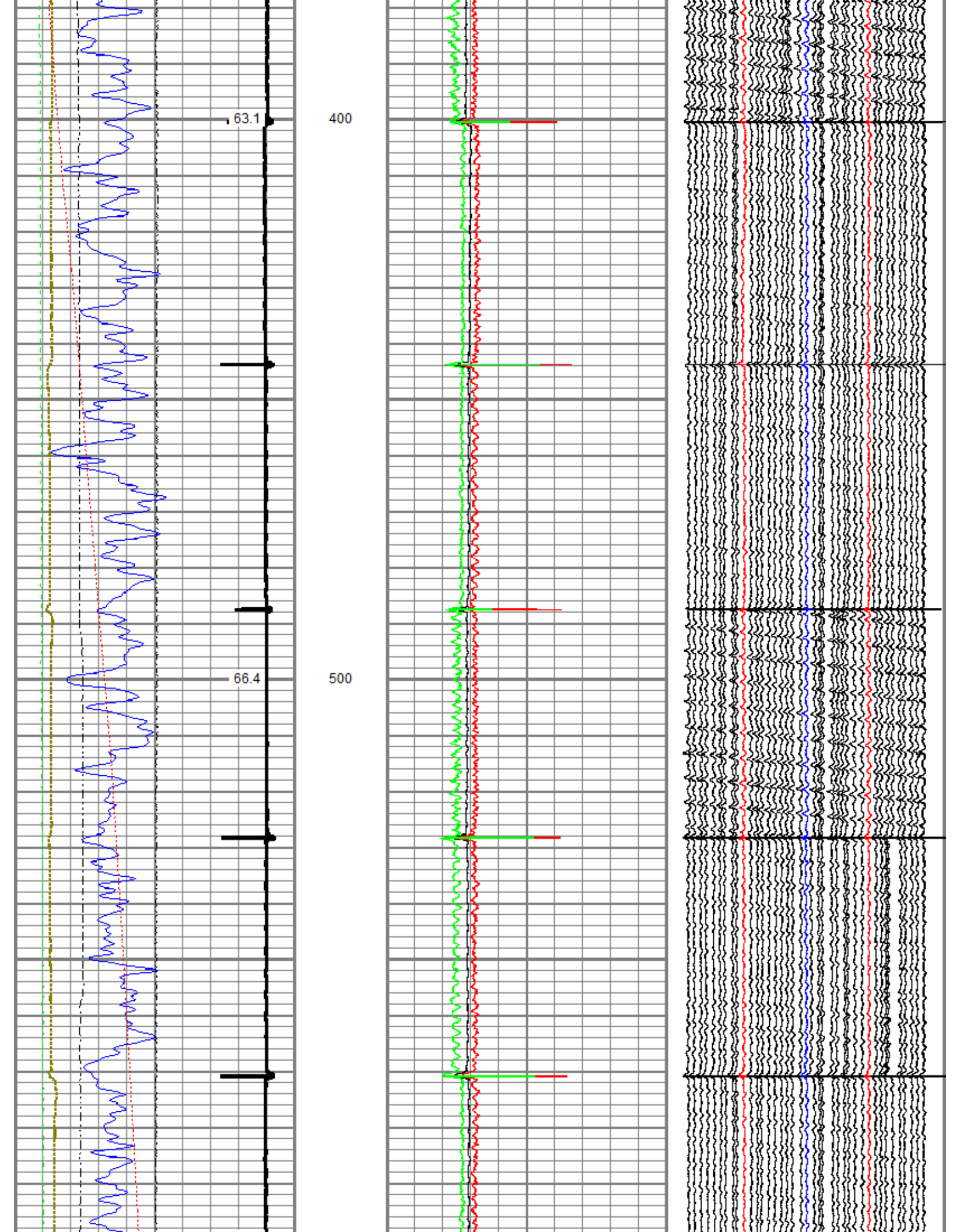
Database File	anadarko_wagner 1n-w10hz0512343476_anadarko_wagner 1n-w10hz_mit_12-09-17.db
Dataset Pathname	pass4
Presentation Format	ros_70mit40sx
Dataset Creation	Sat Dec 09 08:45:11 2017
Charted by	Depth in Feet scaled 1:240

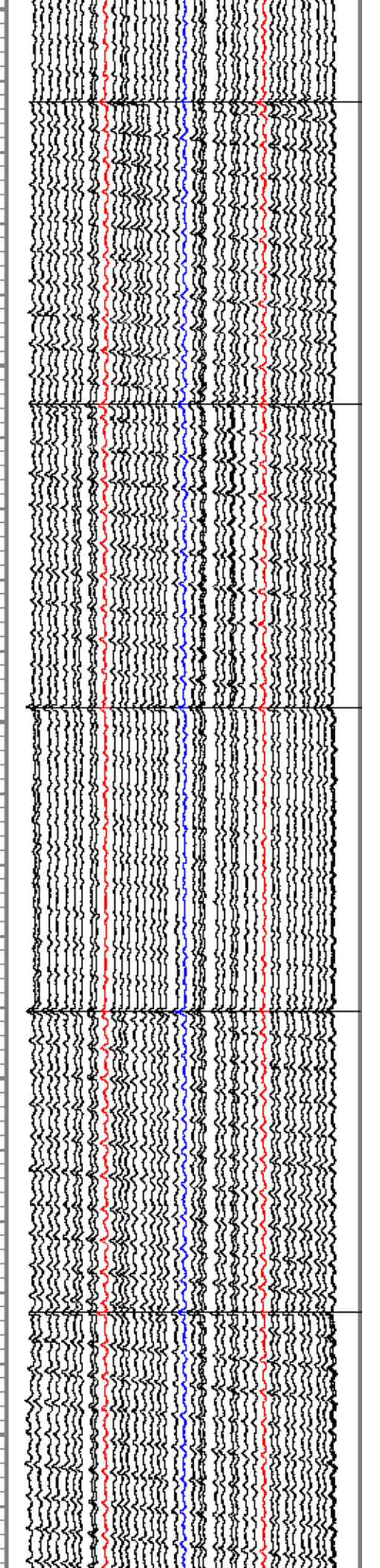
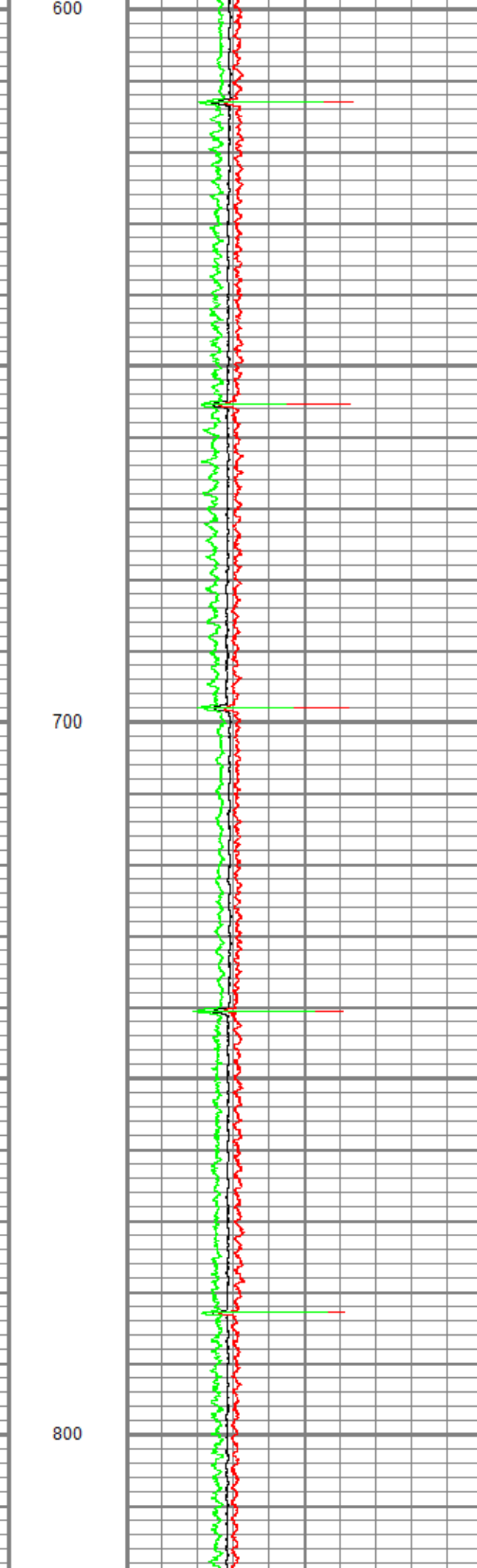
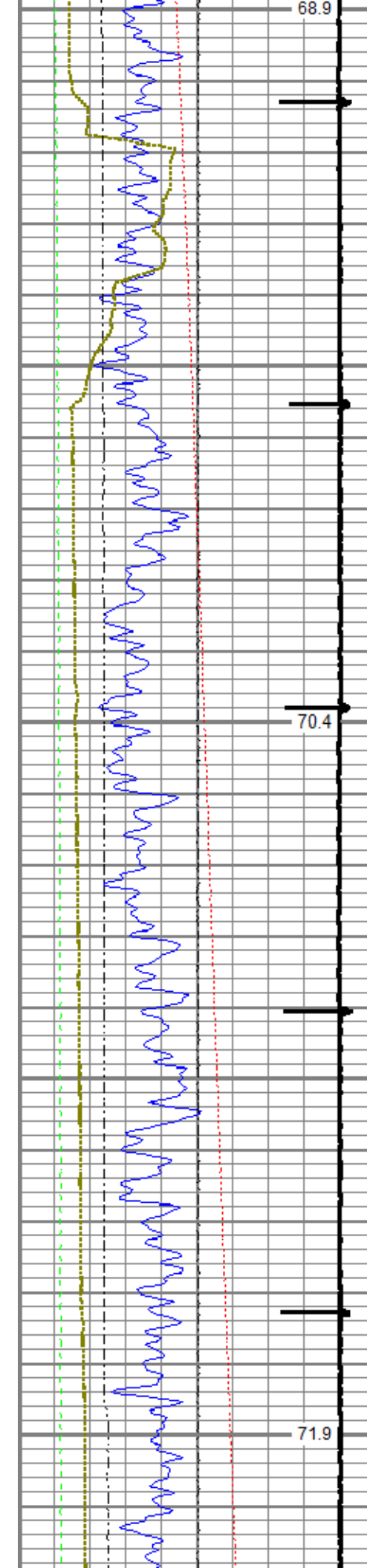
0	Gamma Ray (GAPI)	120
-100	Line Speed (ft/min)	100
-10	Deviation (deg)	90
0	Line Tension (lb)	2000
-2	Differential Temperature (degF)	2
0	Temperature (degF)	20
Casing Collar Locator		

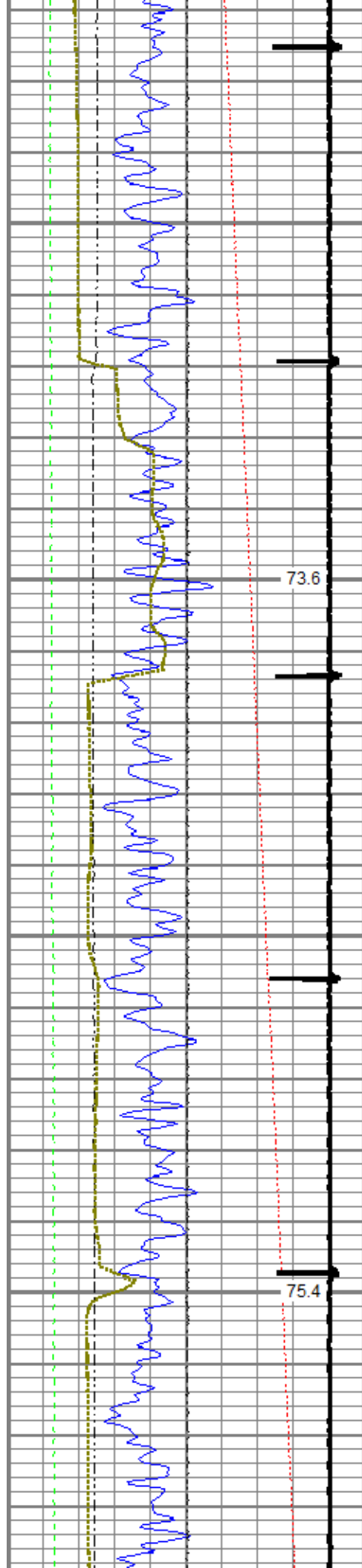
6	Average Diameter (in)	7	Caliper #10
6	Maximum Diameter (in)	7	Caliper #20
6	Minimum Diameter (in)	7	Caliper #30





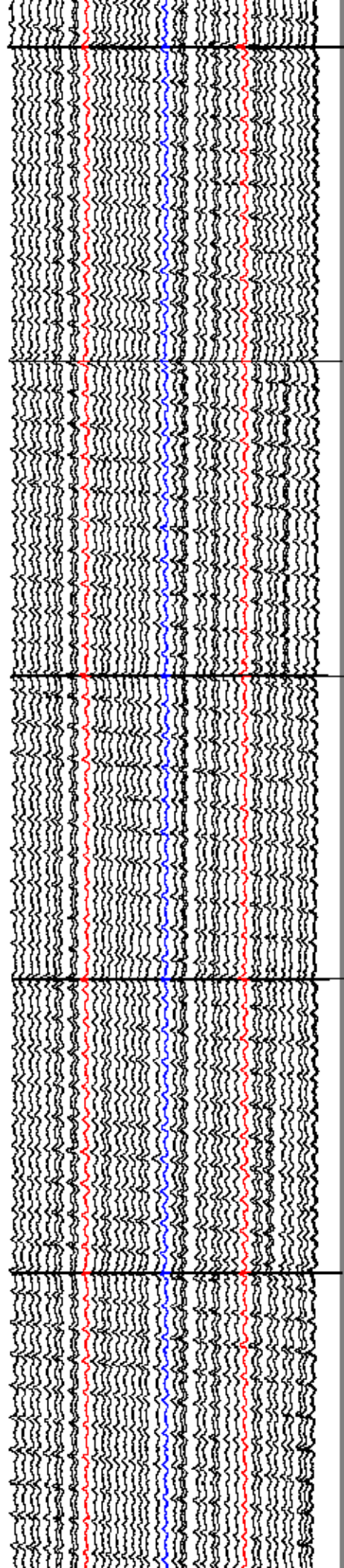
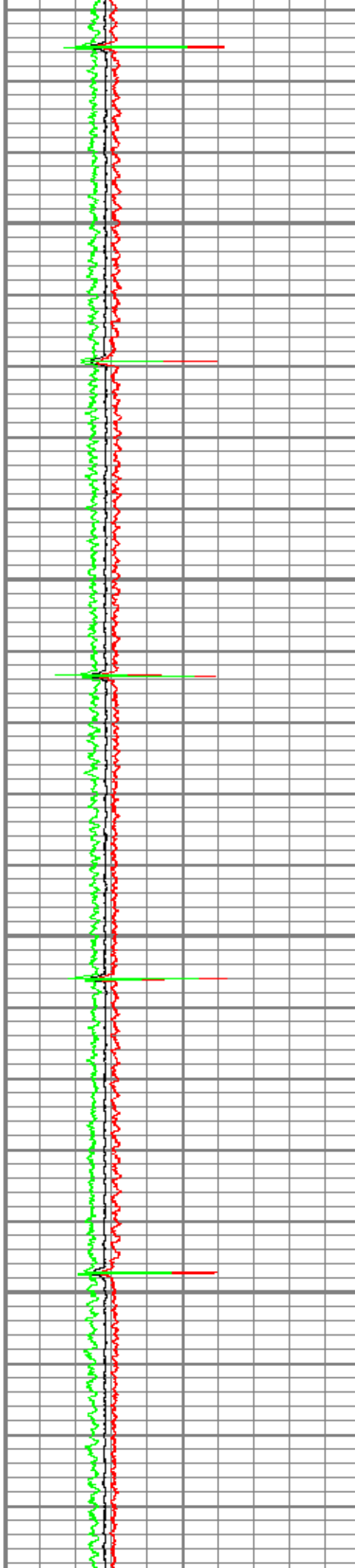


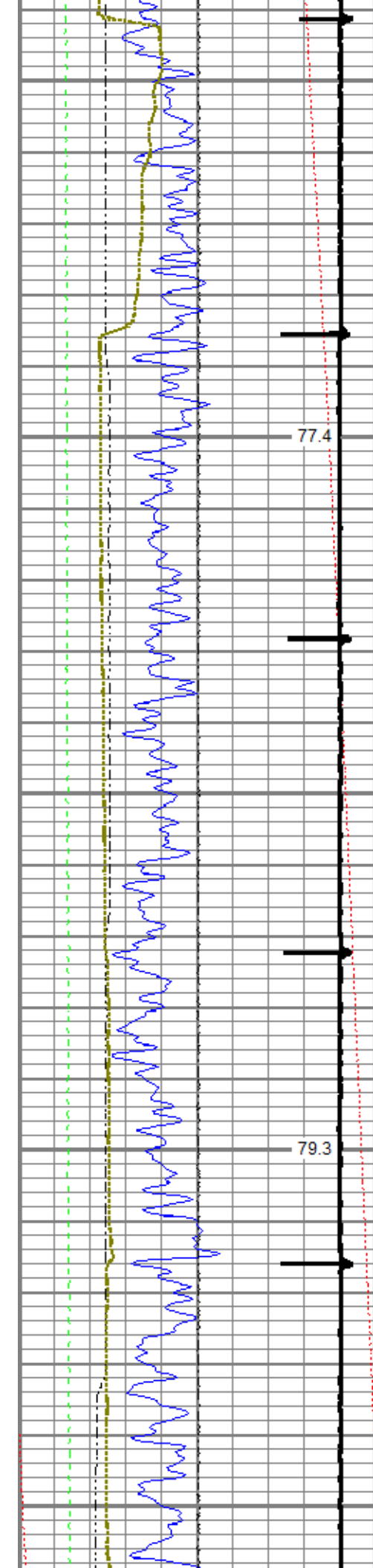




900

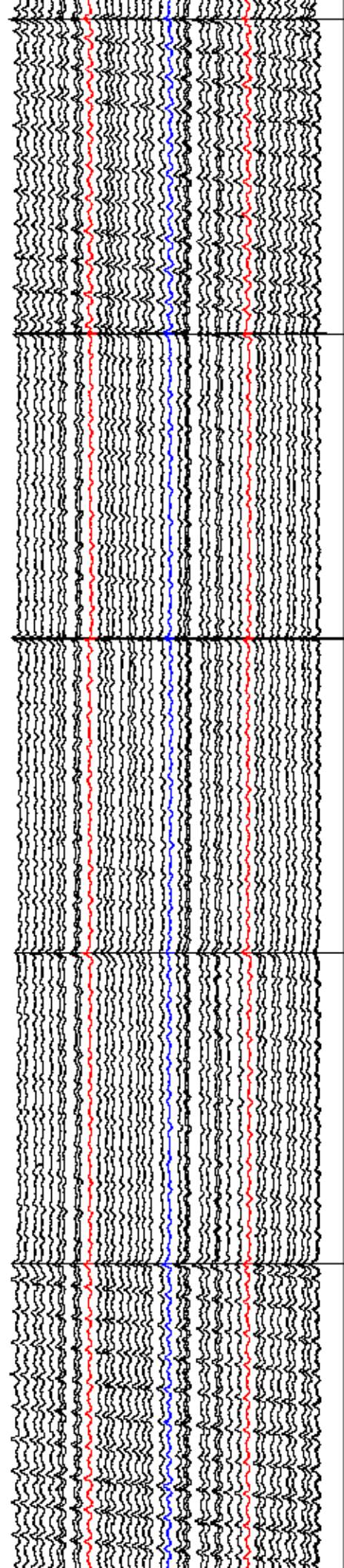
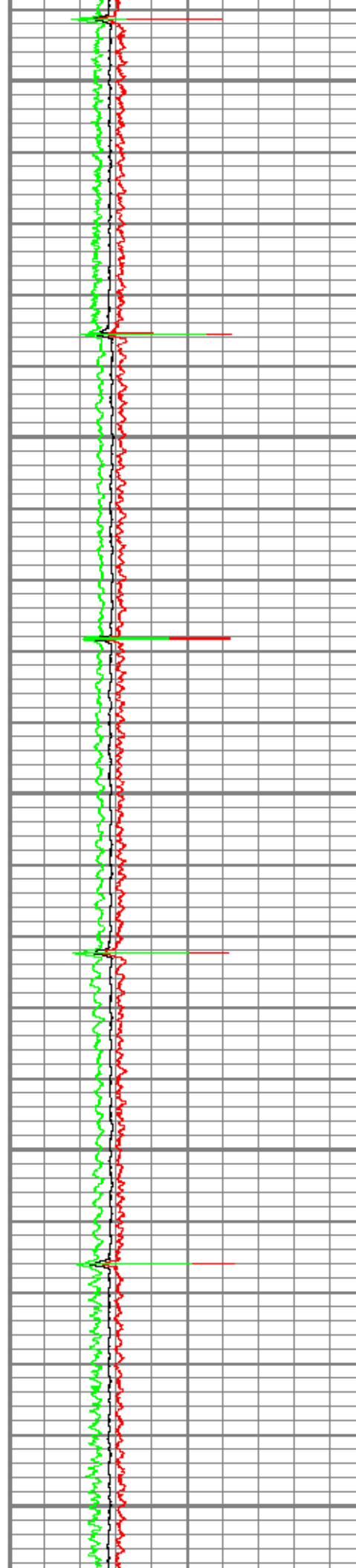
1000

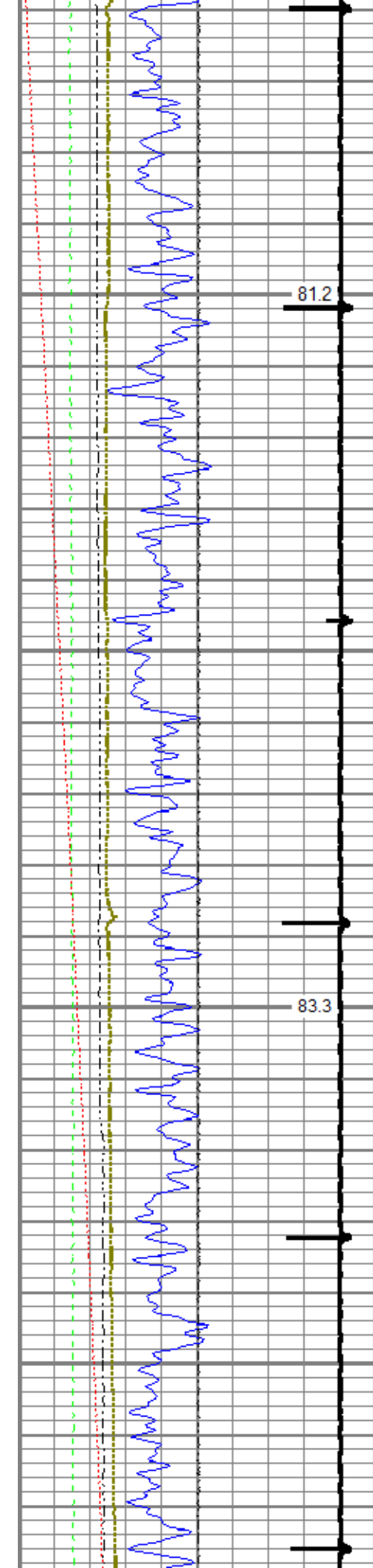




1100

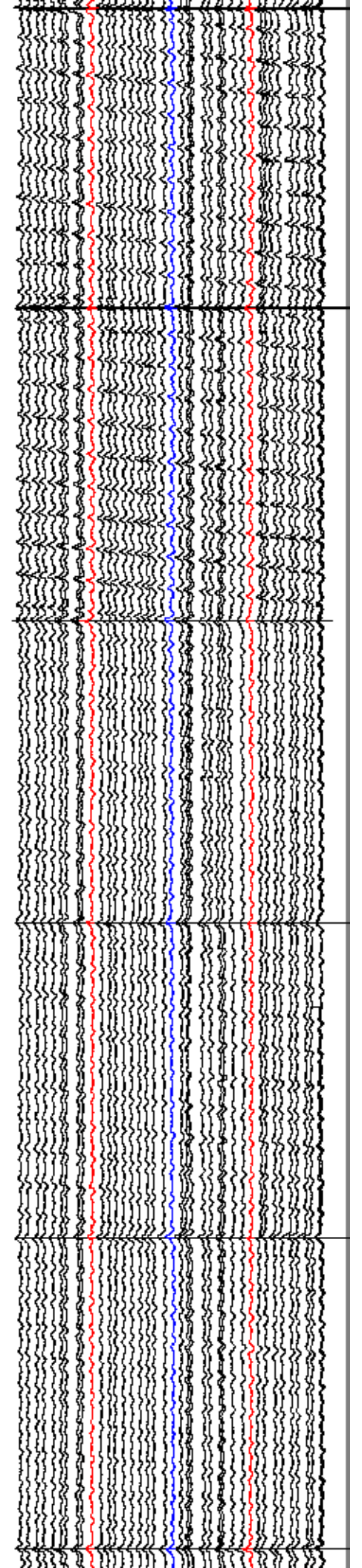
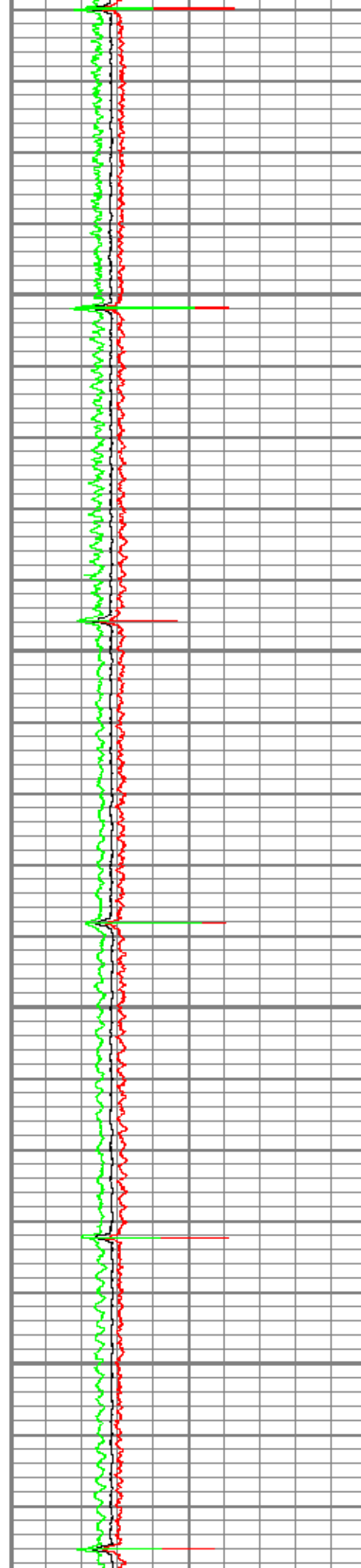
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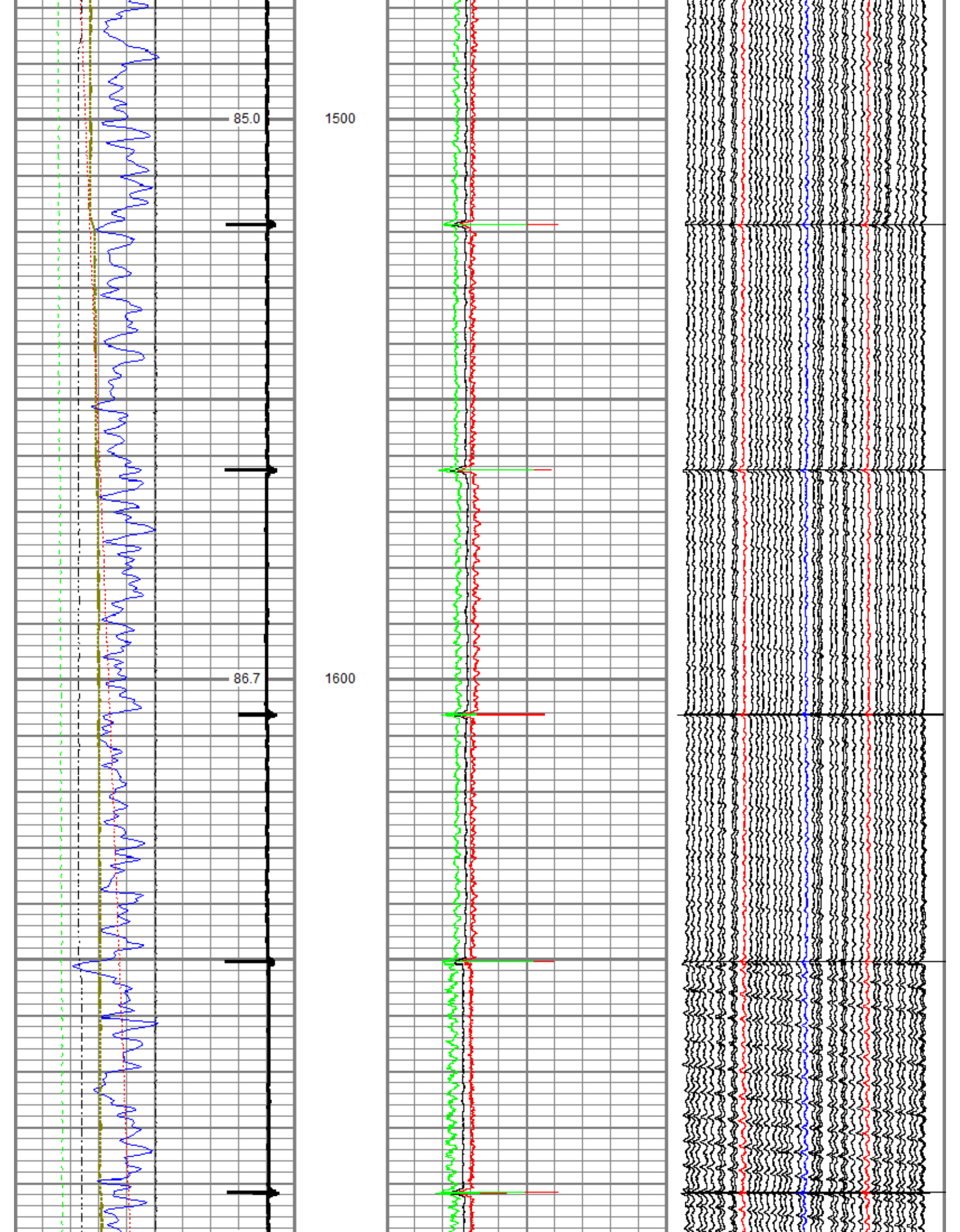


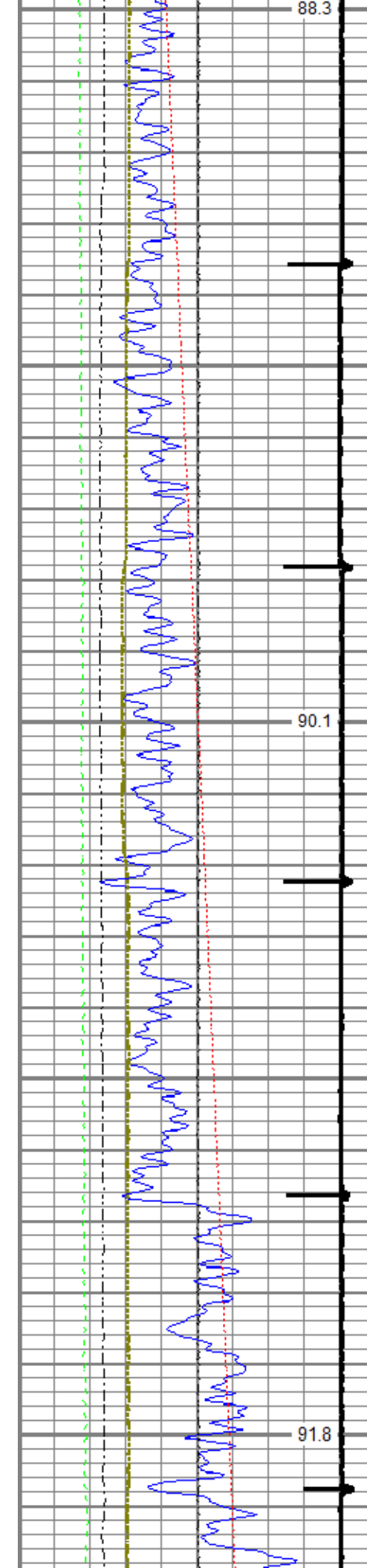


1300

1400



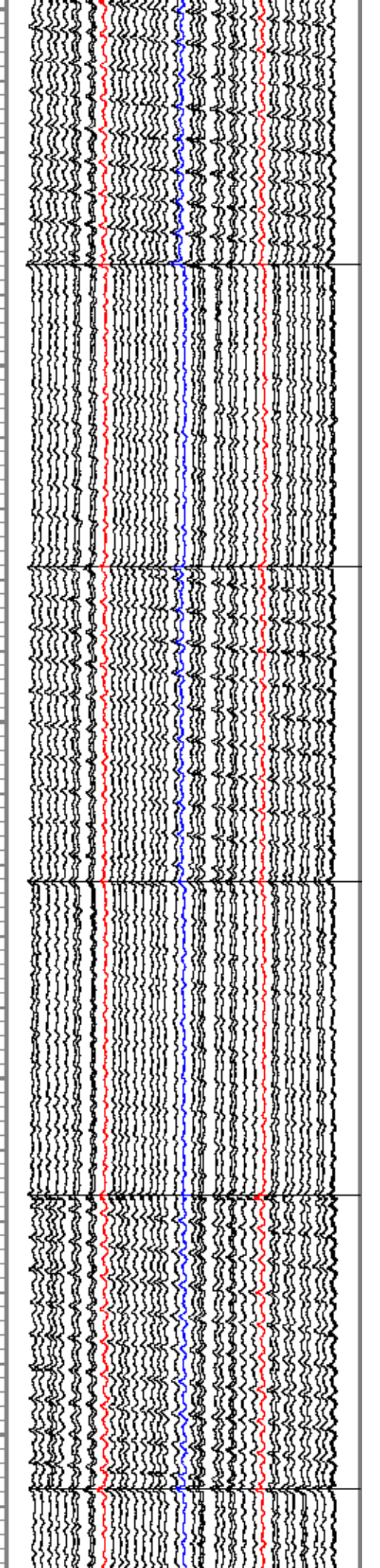
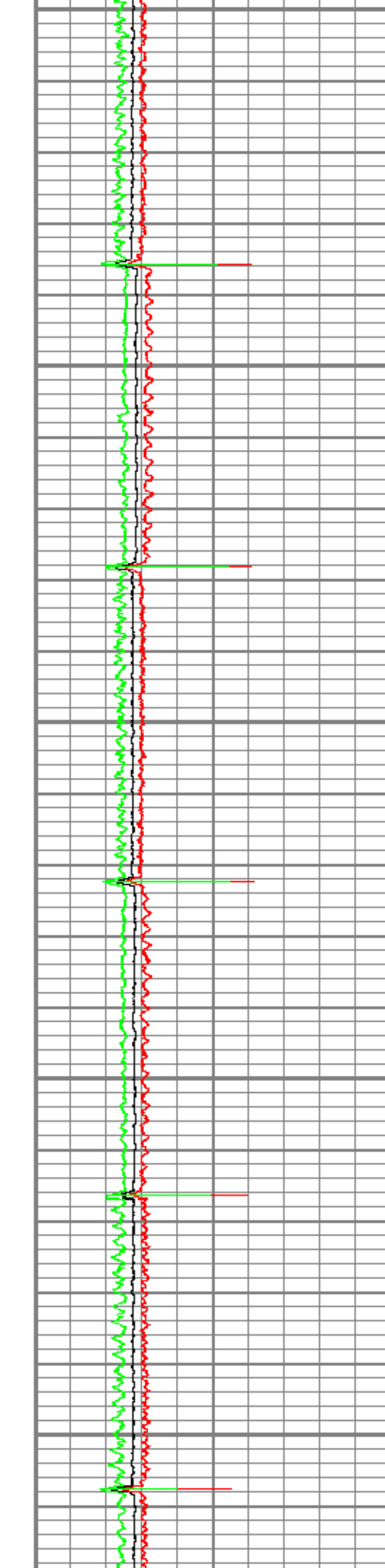


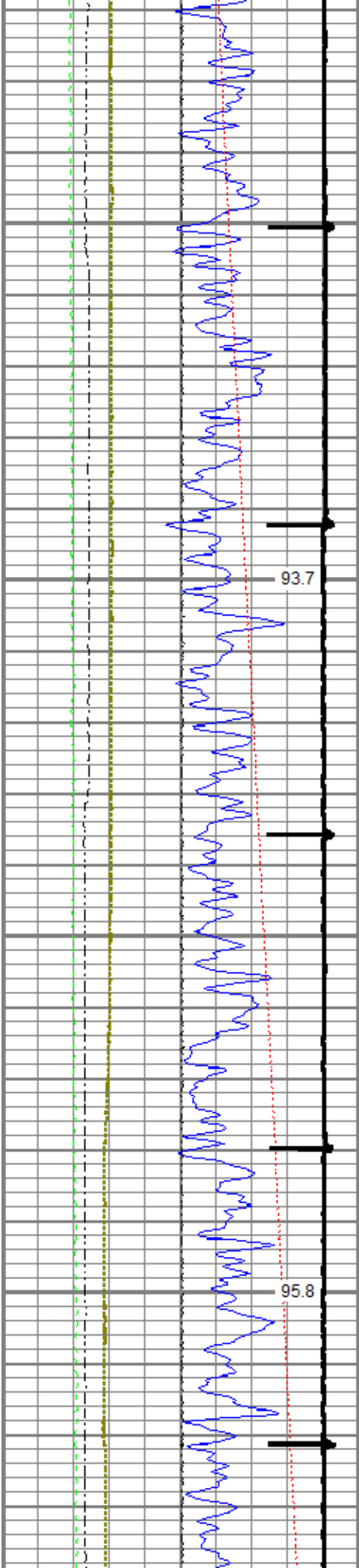


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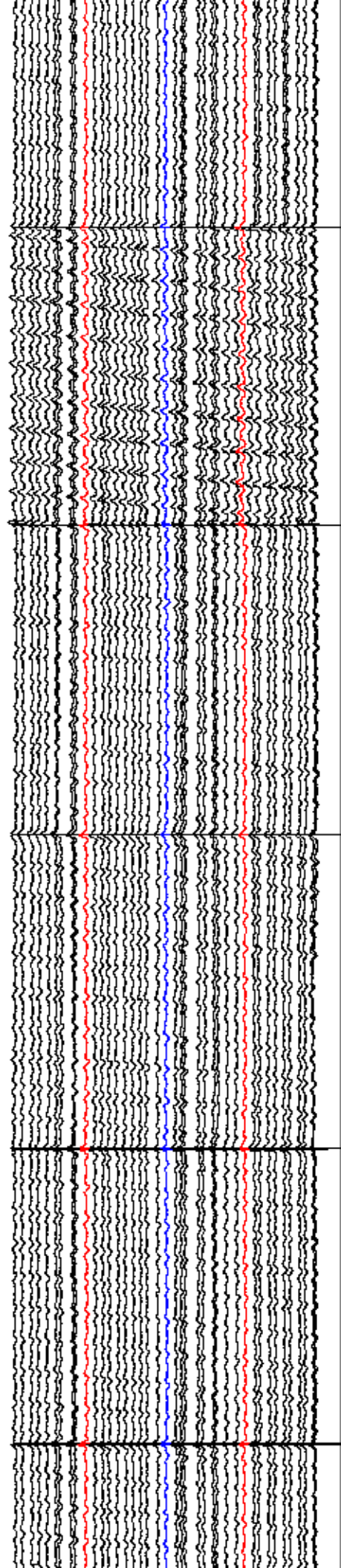
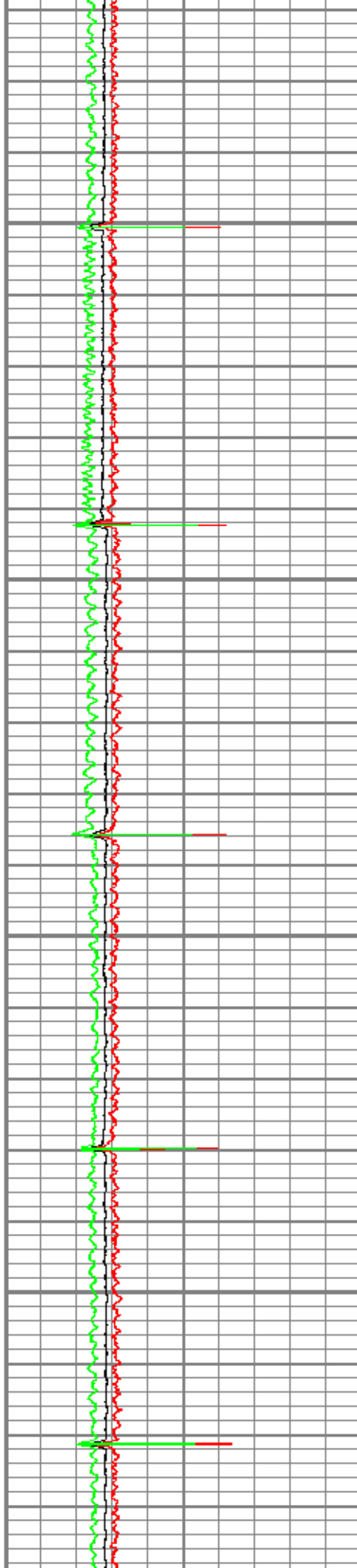
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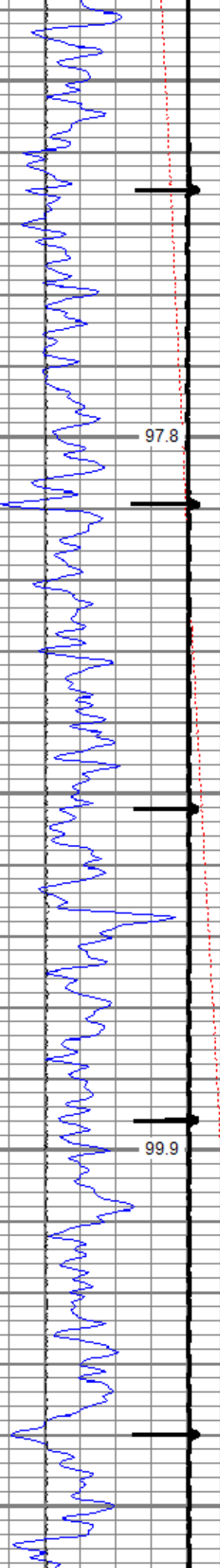




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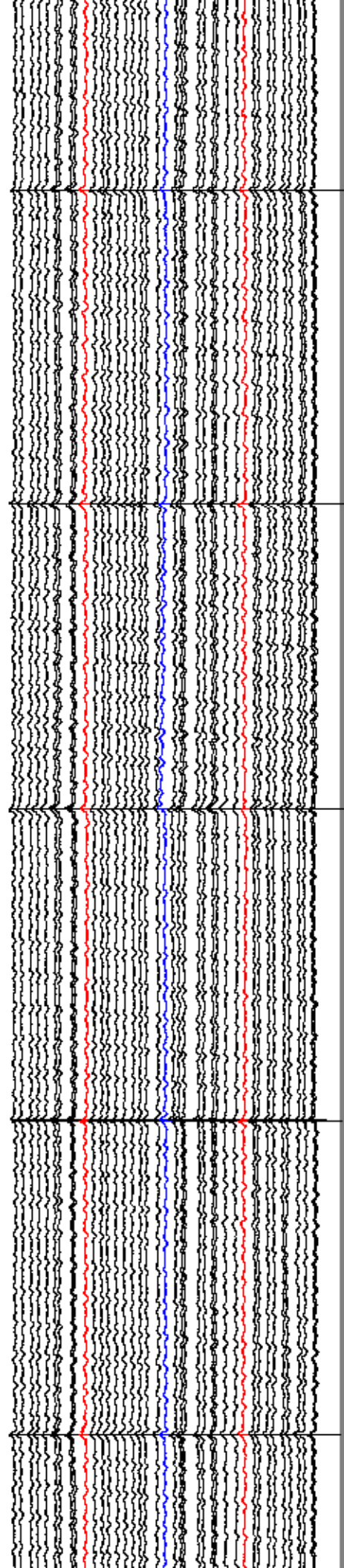
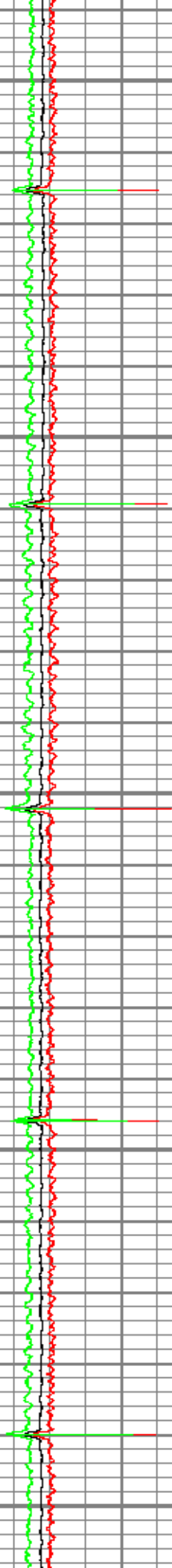
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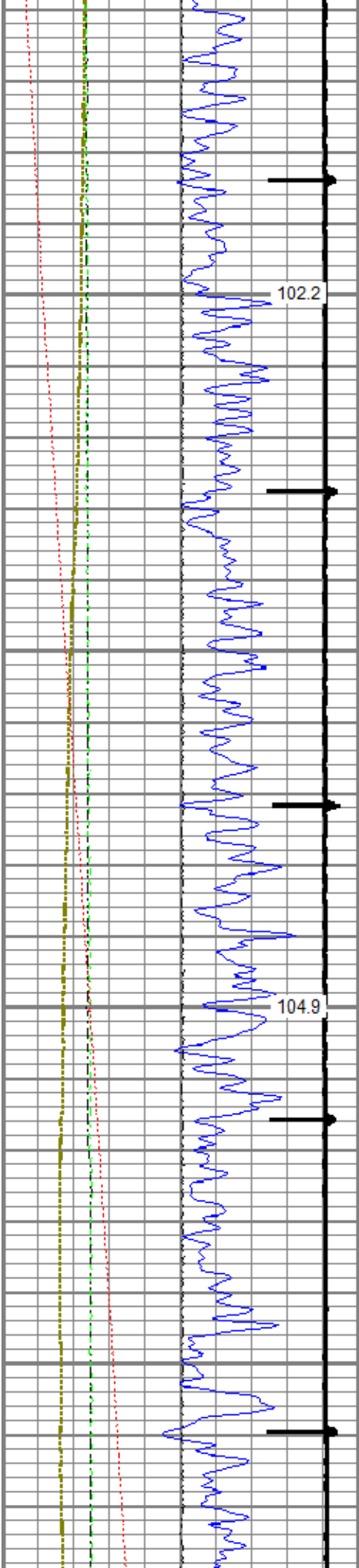




2200

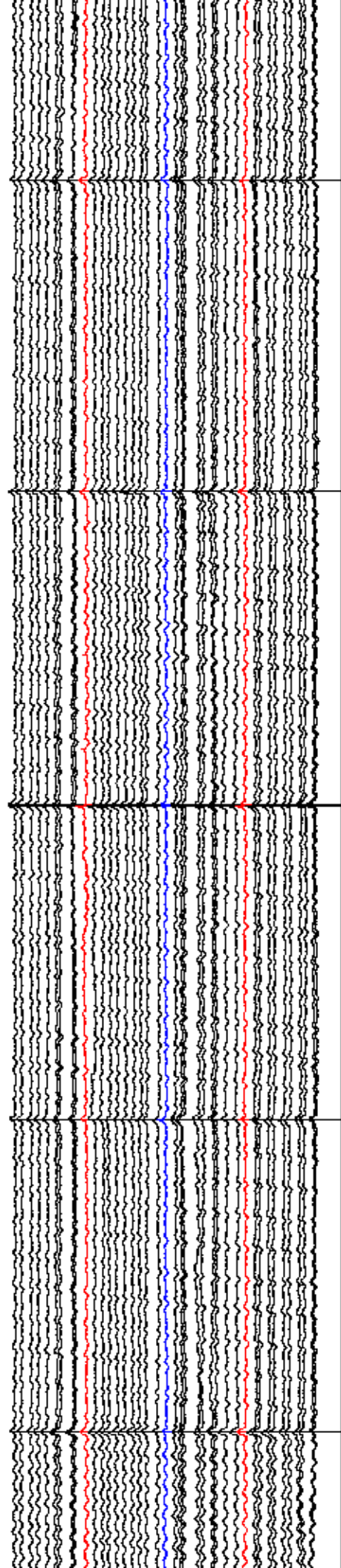
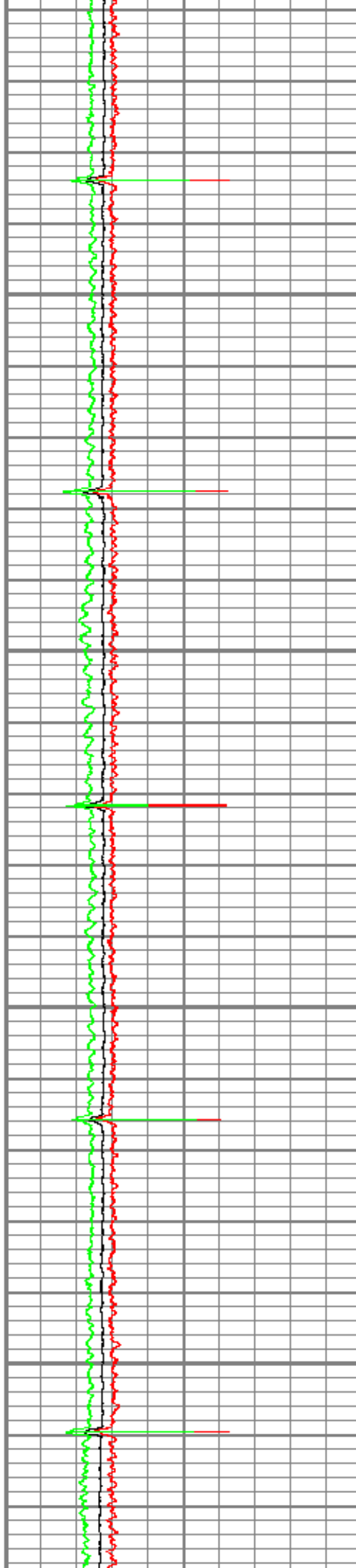
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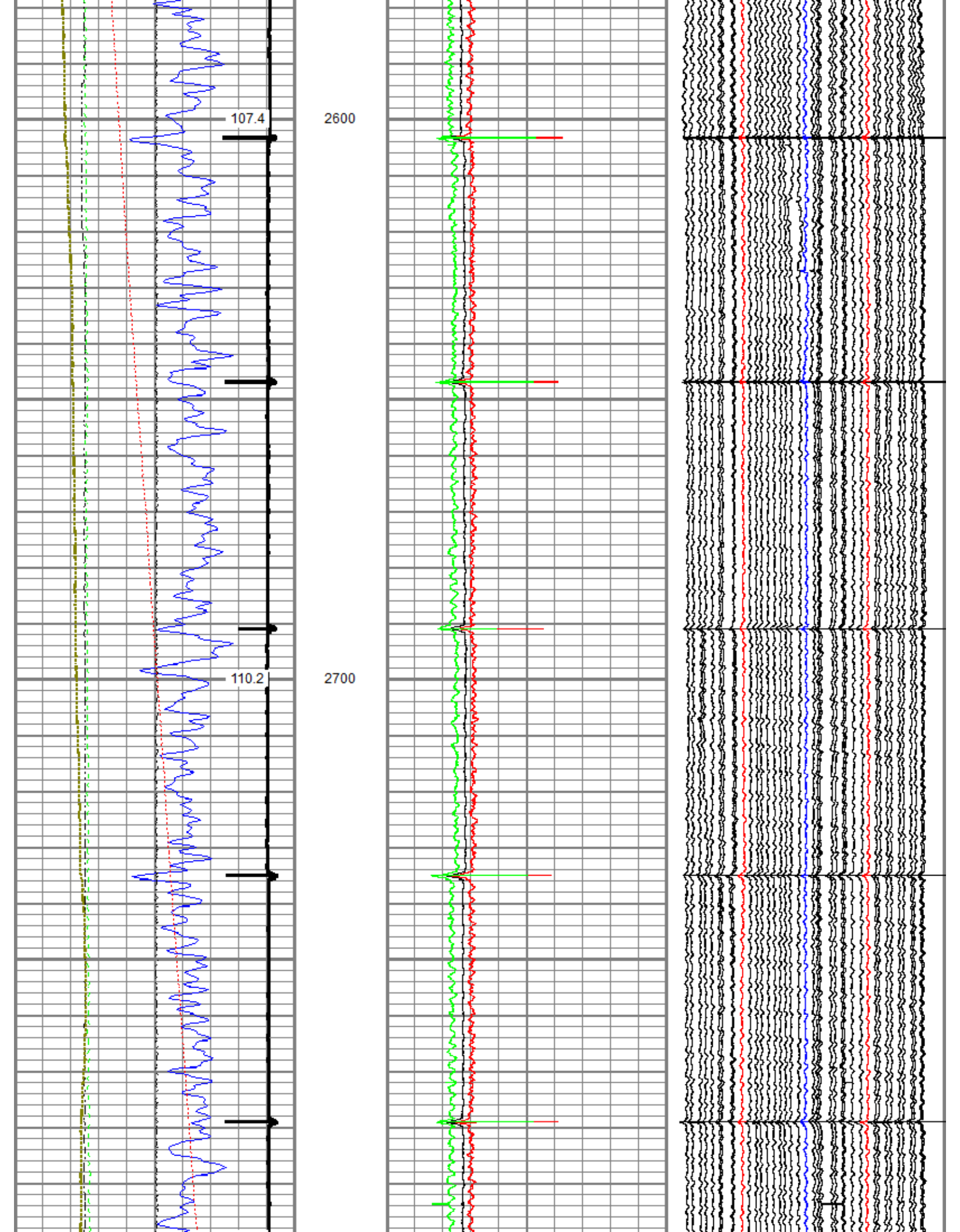


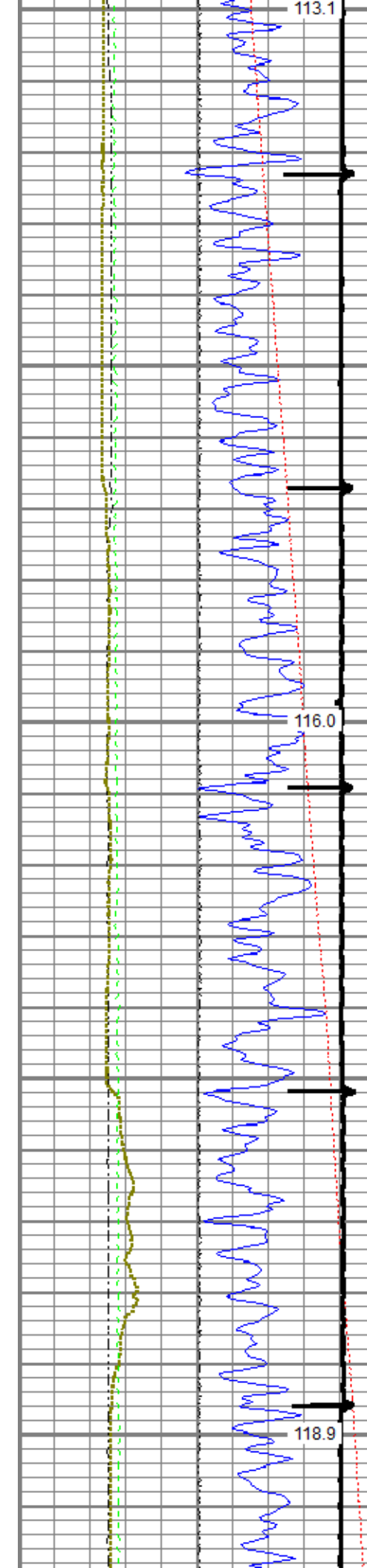


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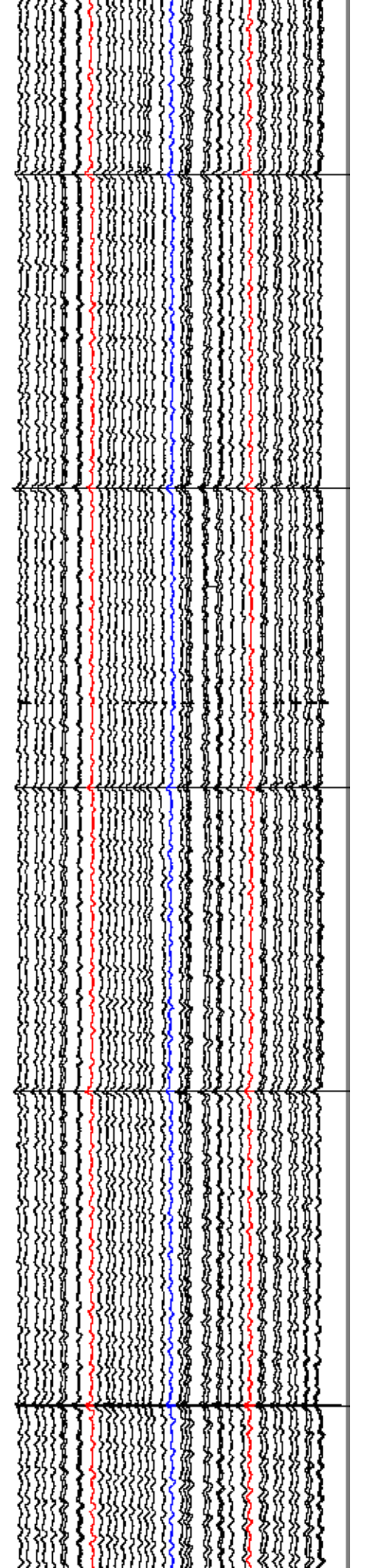
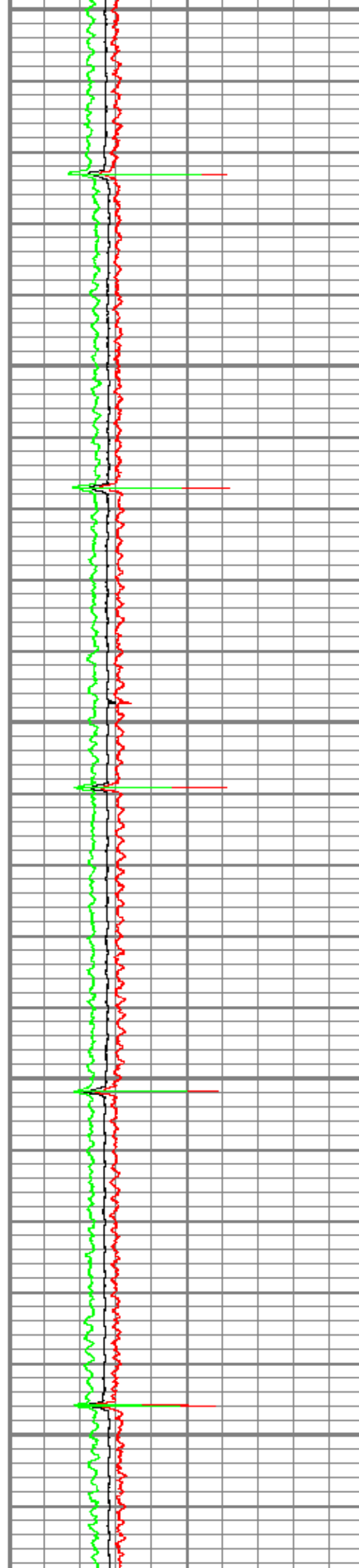


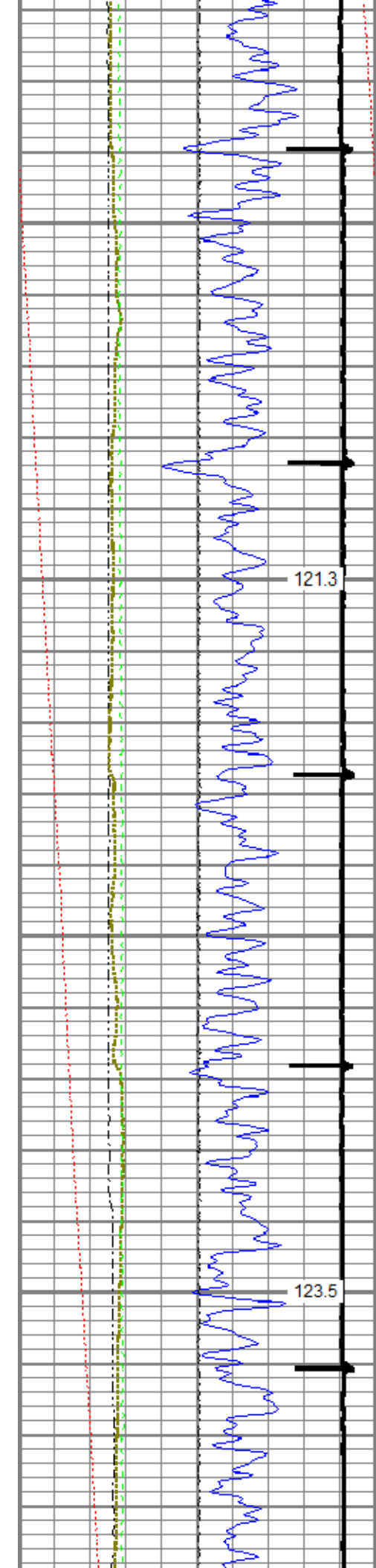


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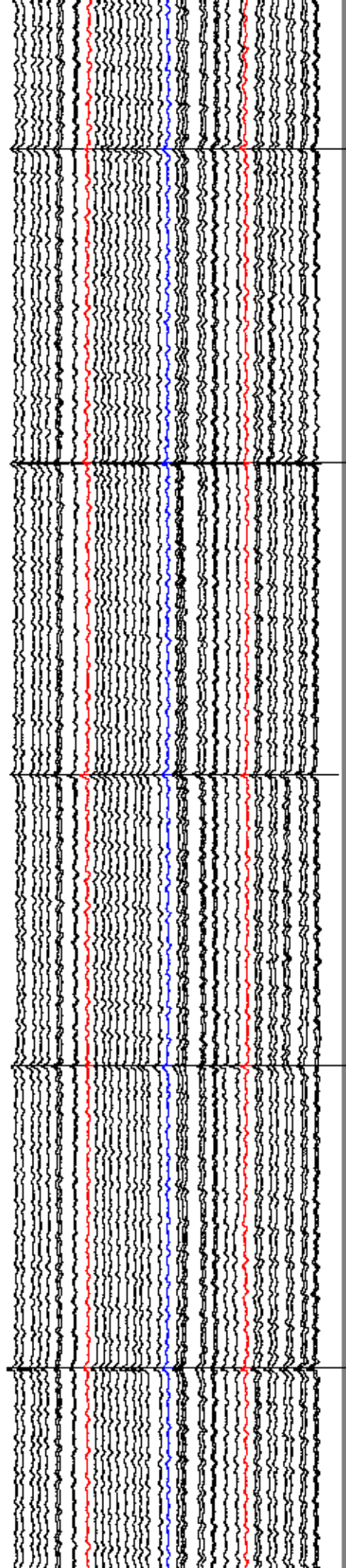
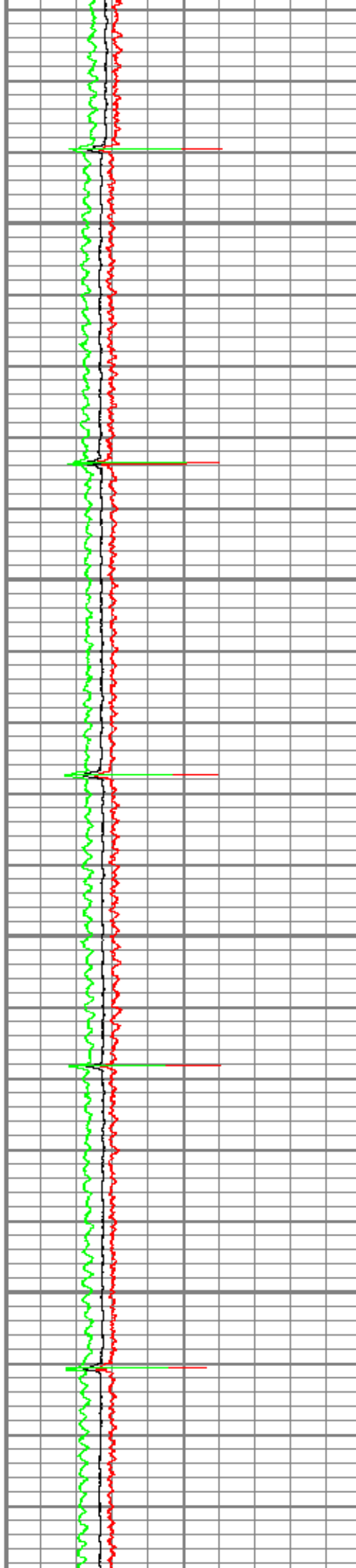
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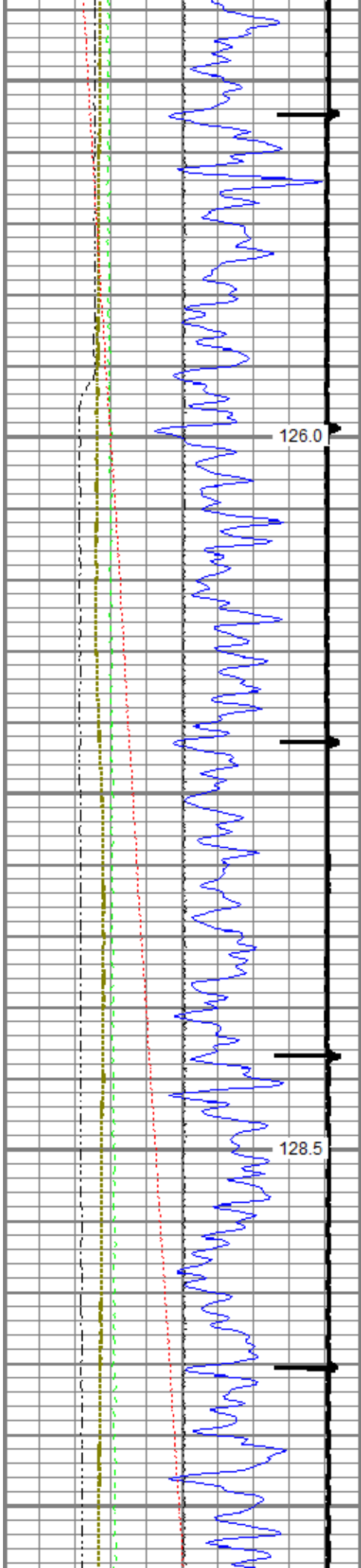




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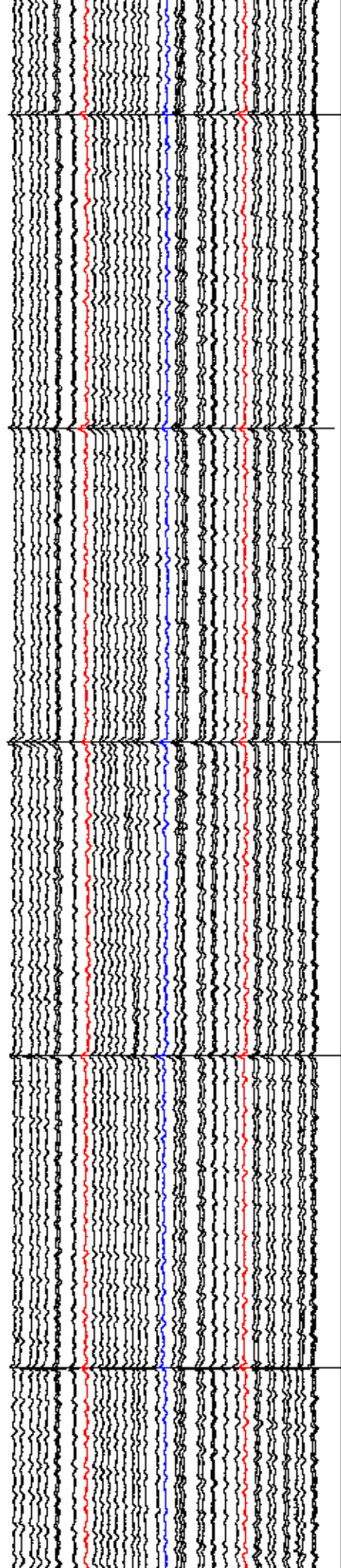
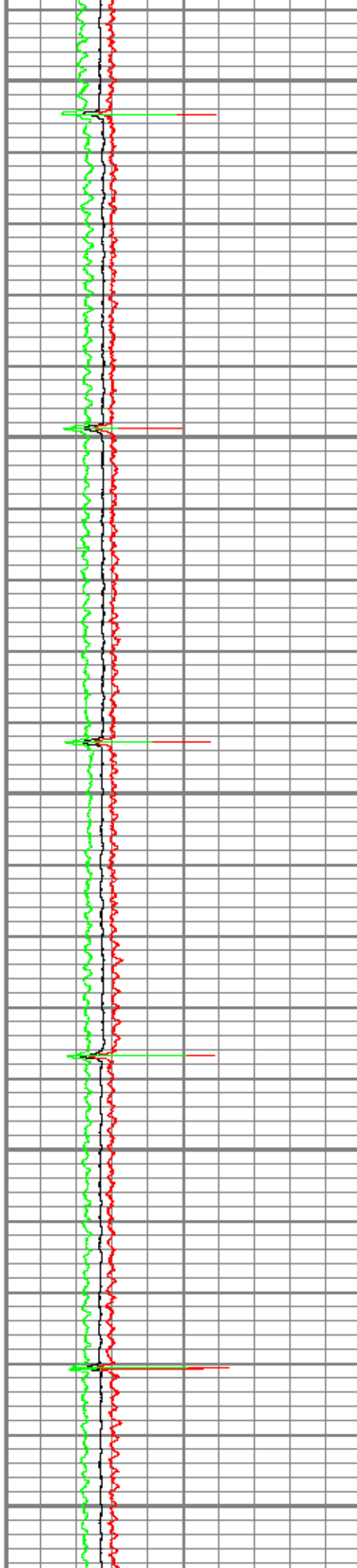
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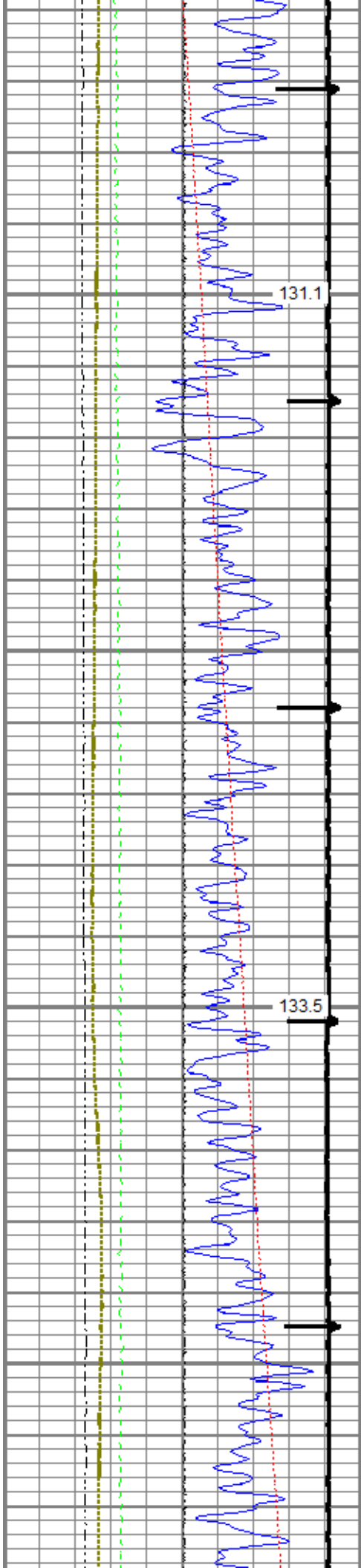




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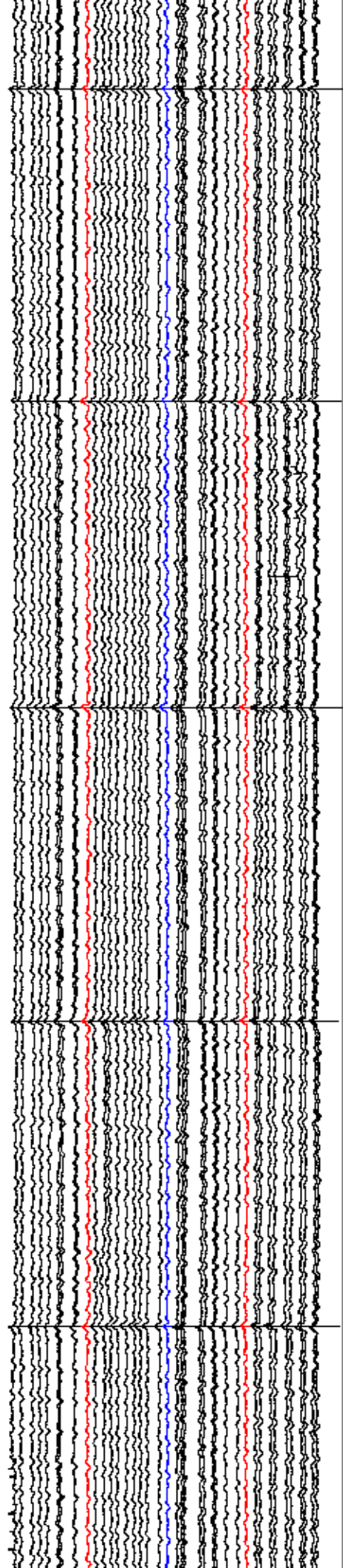
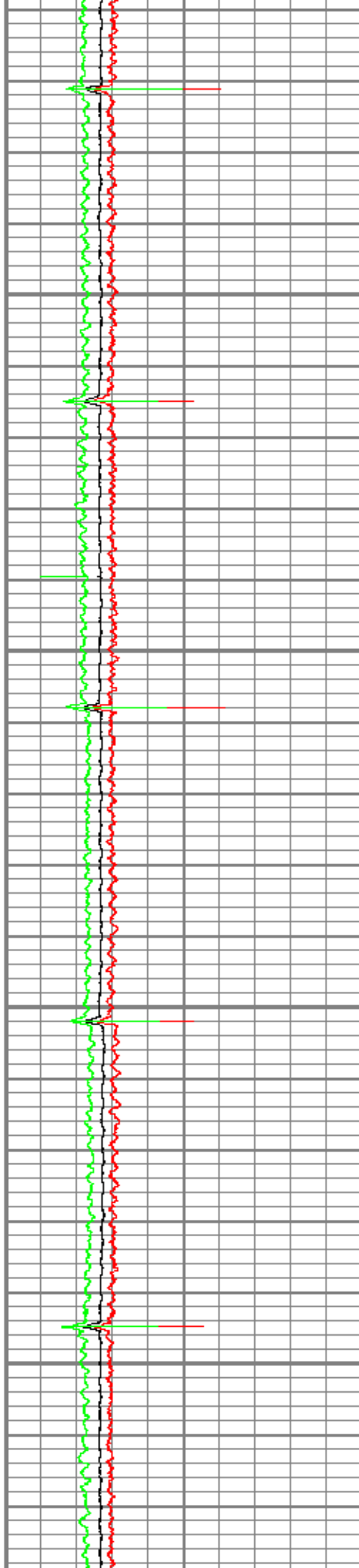
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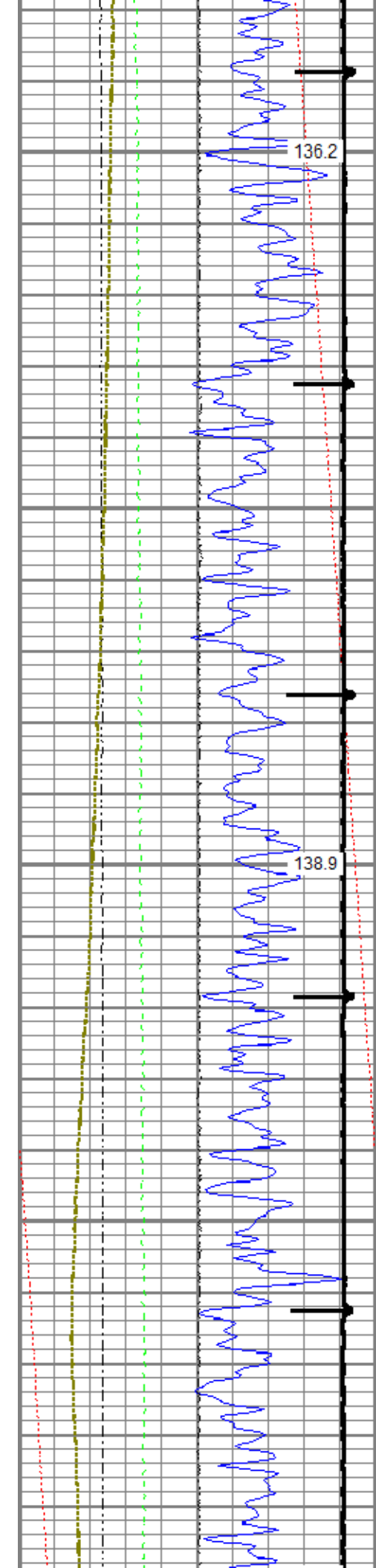




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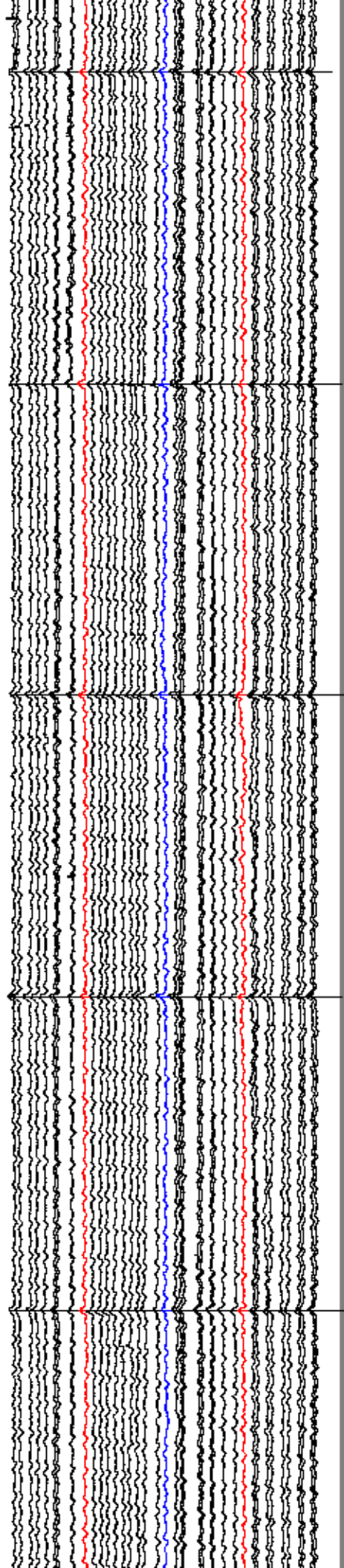
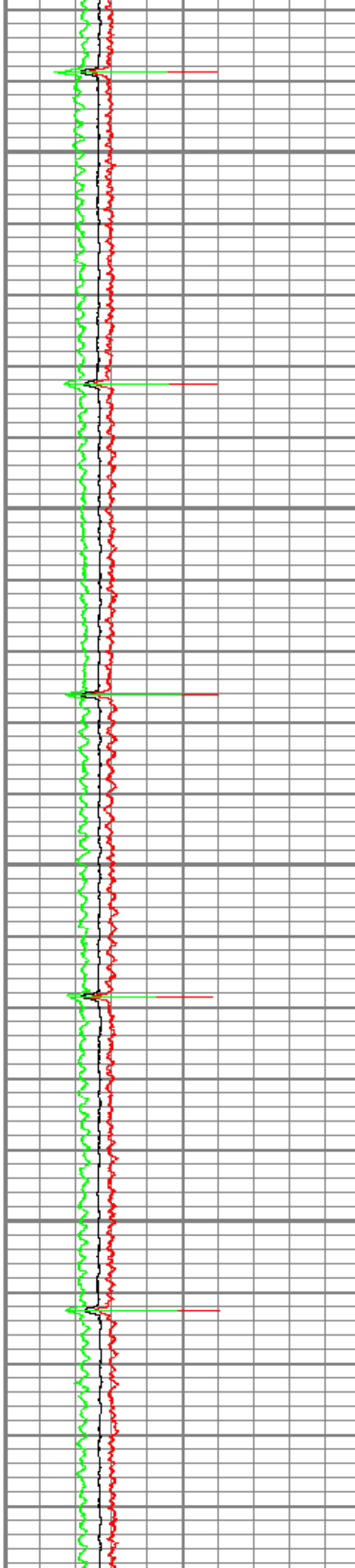
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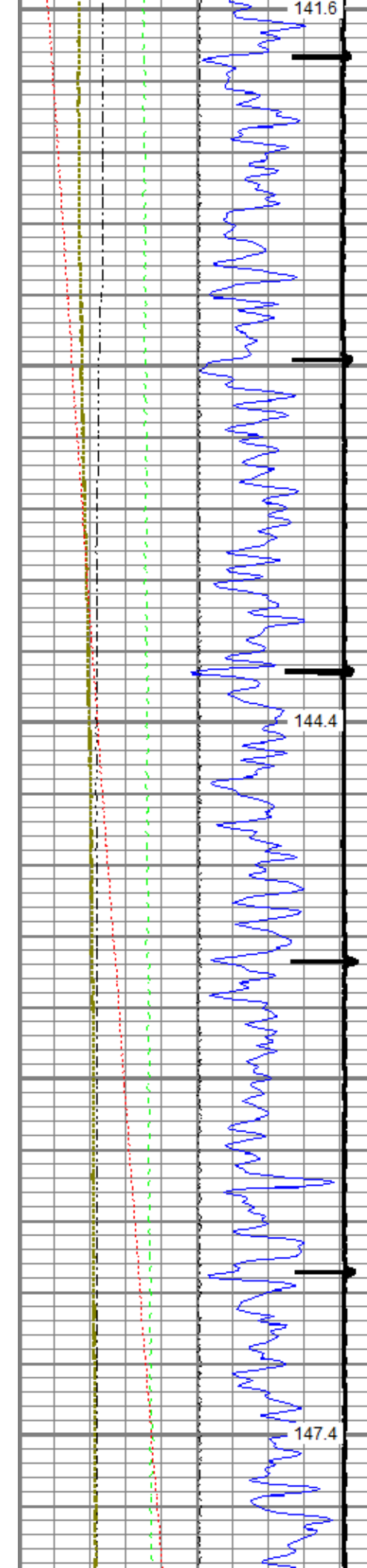




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3800

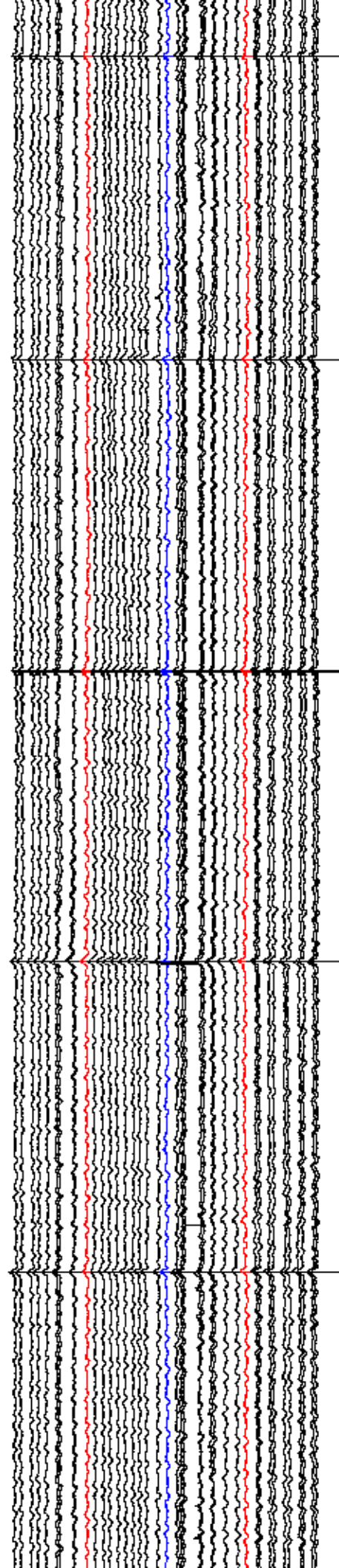
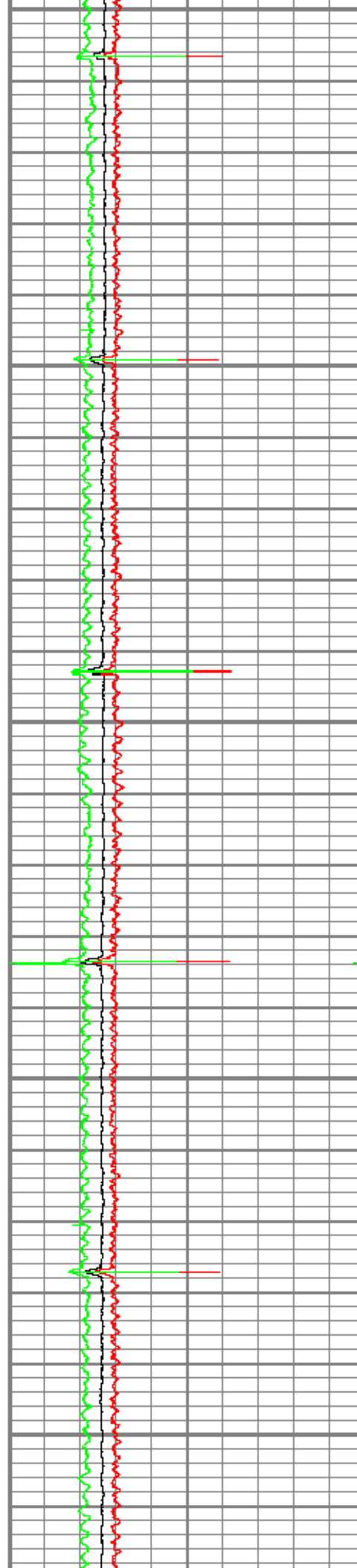


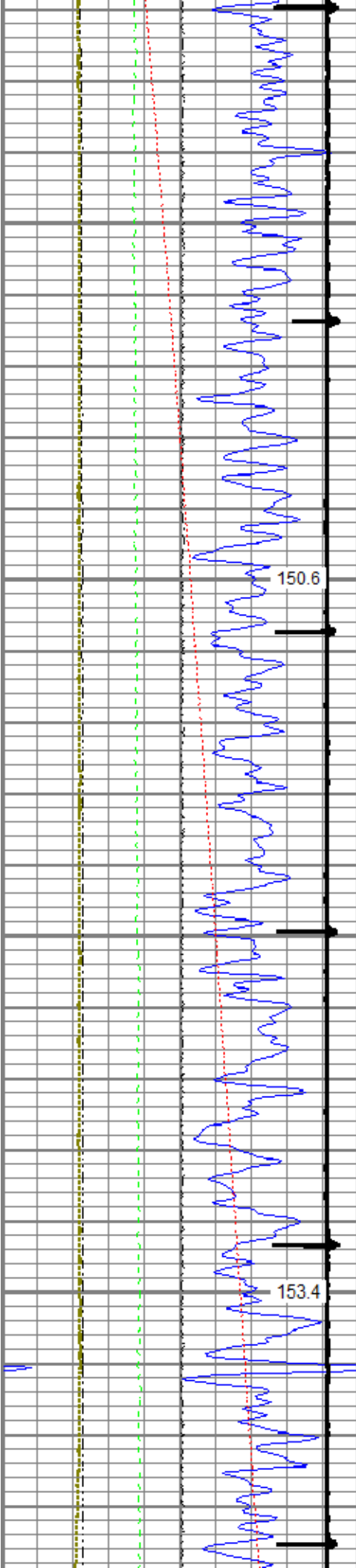


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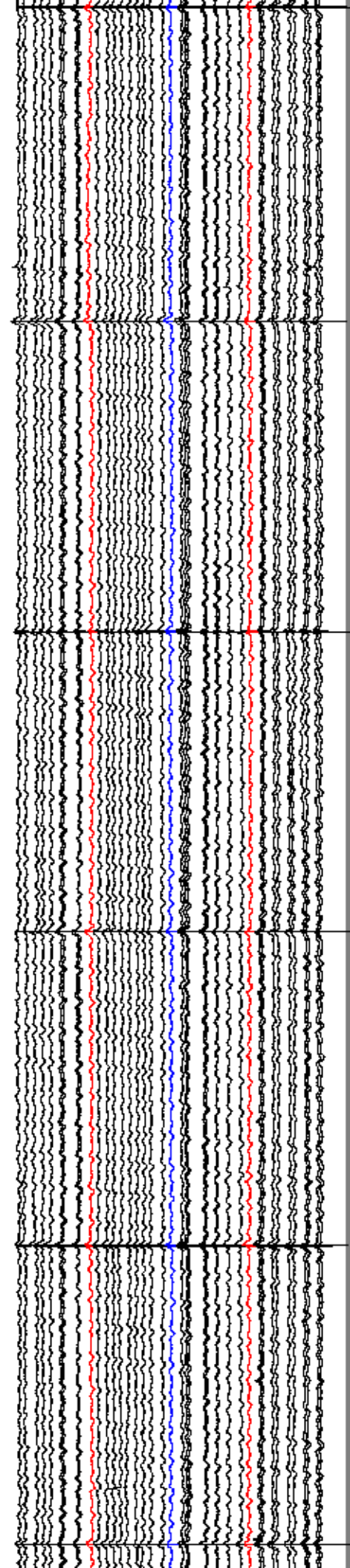
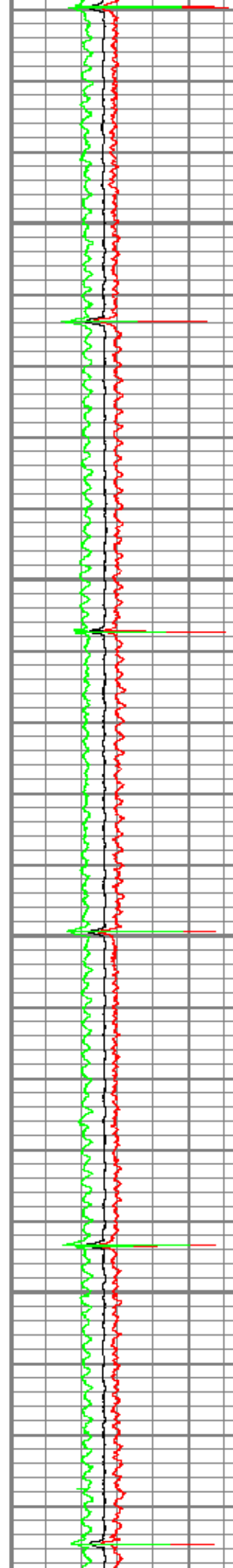
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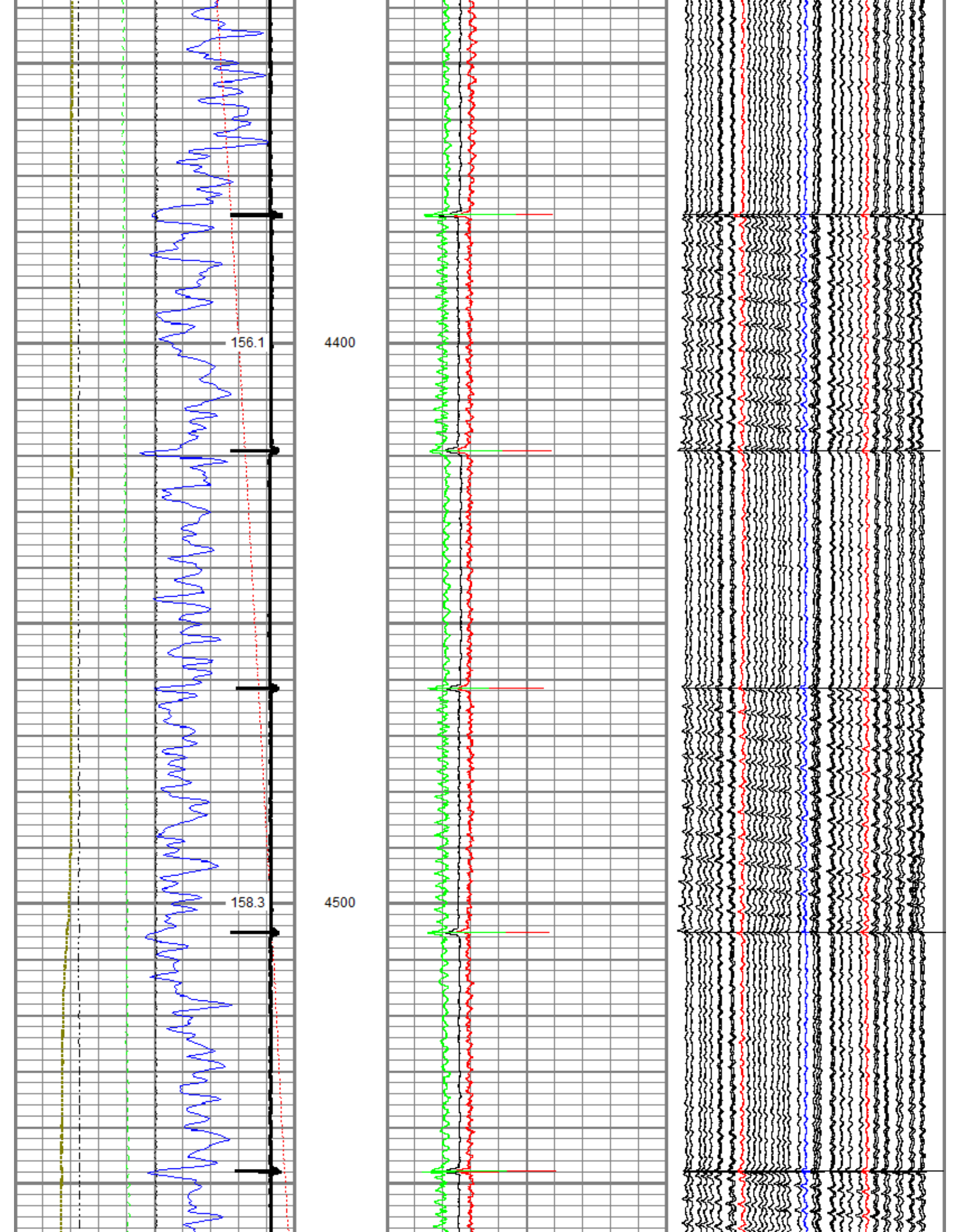


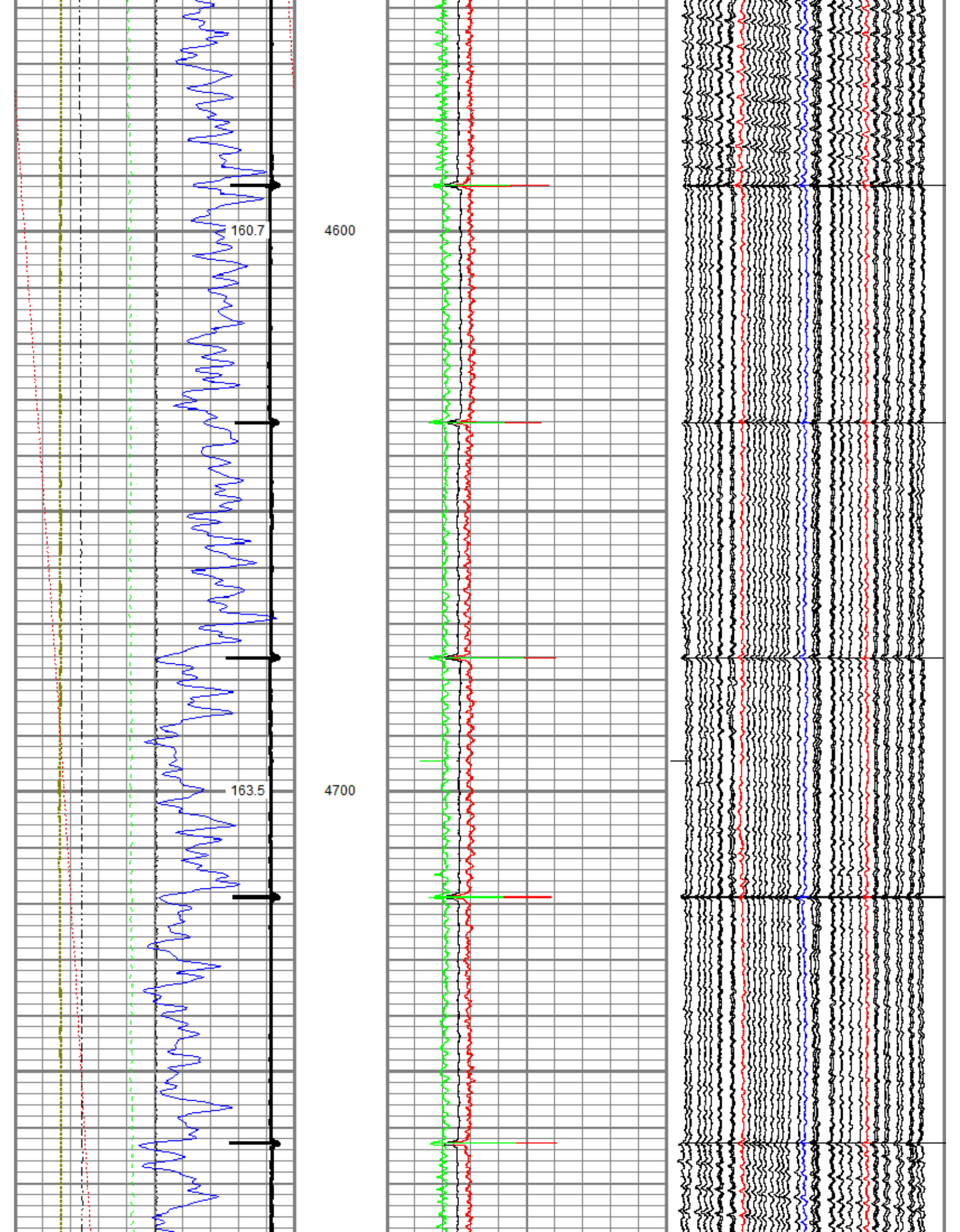


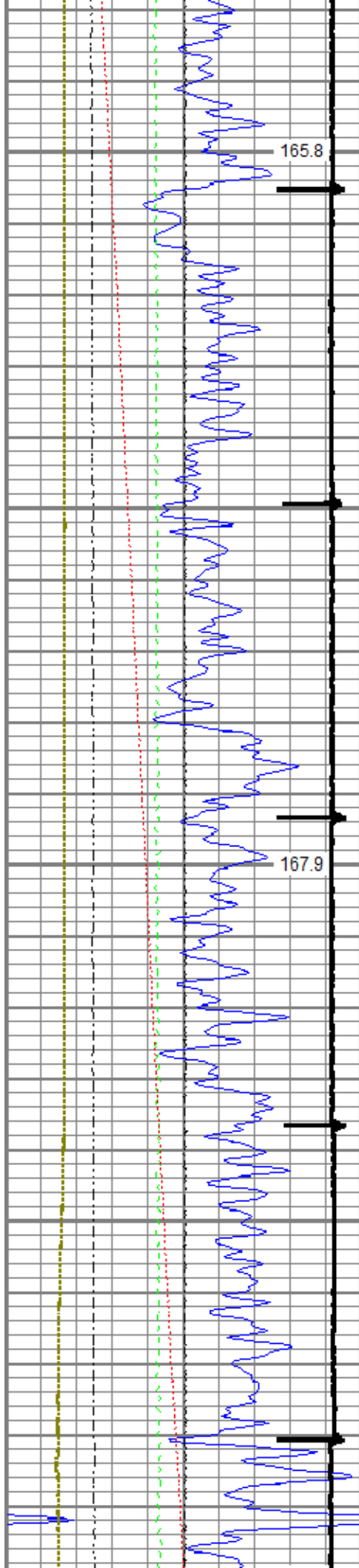
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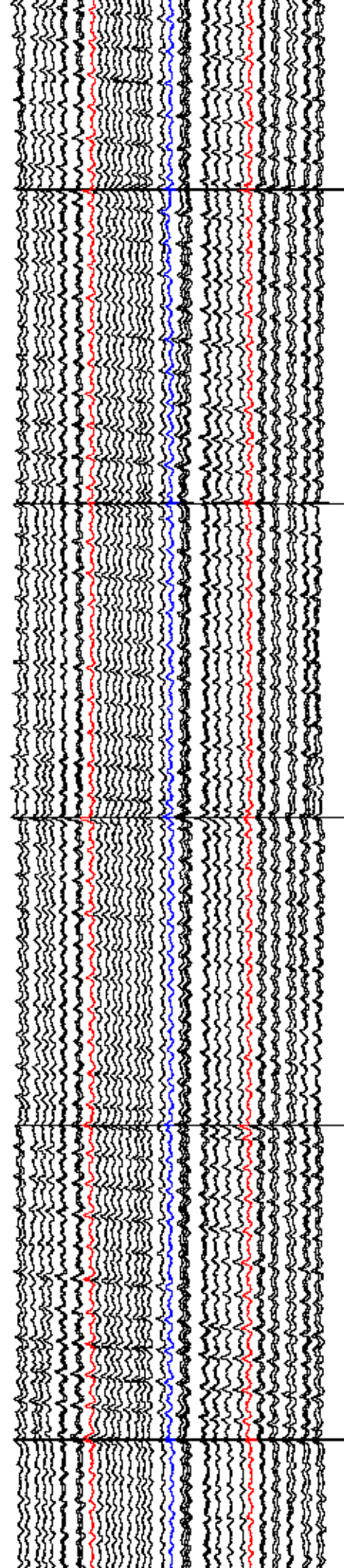
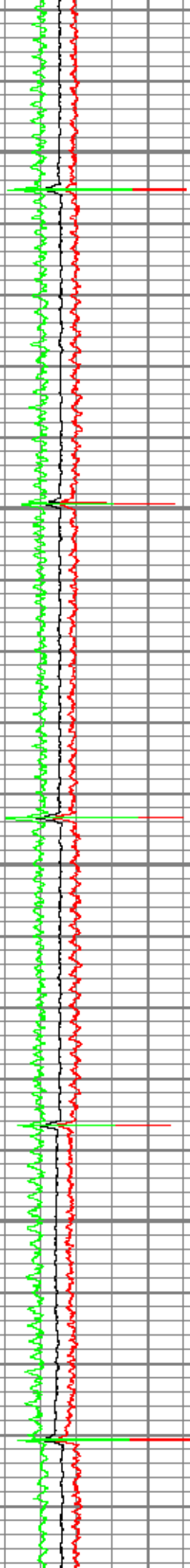


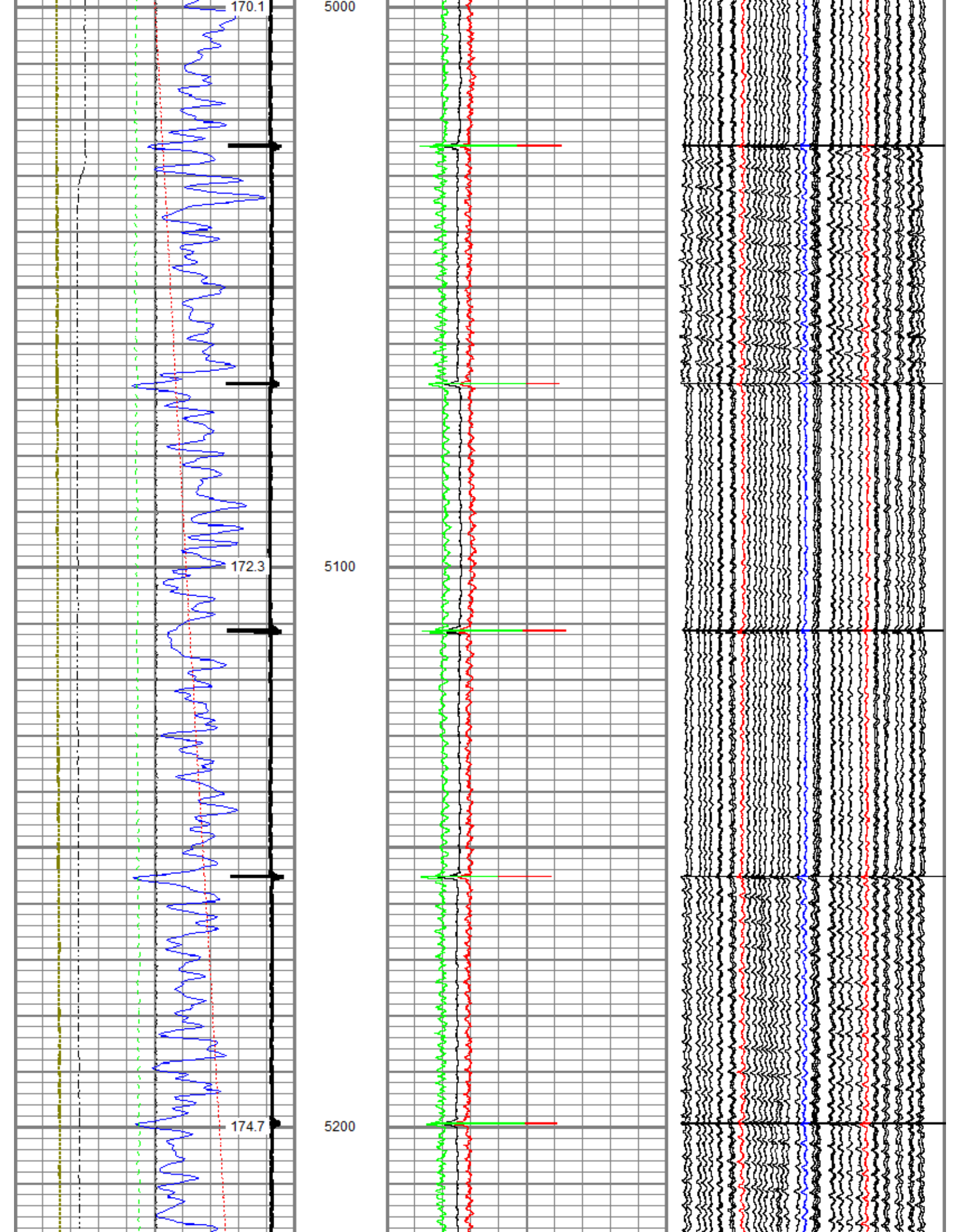


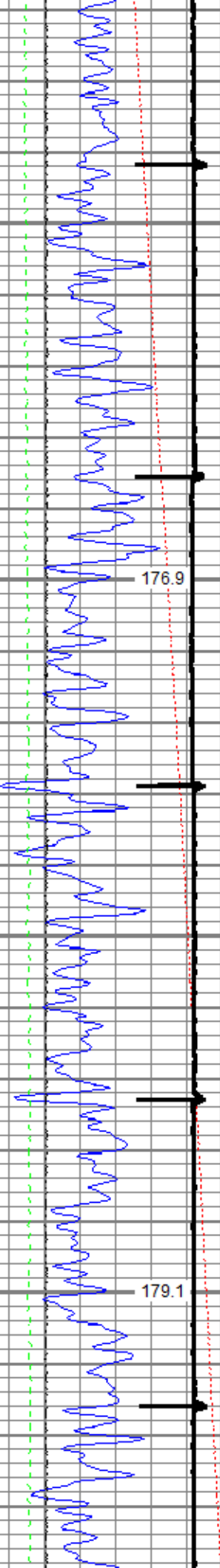


4800

4900





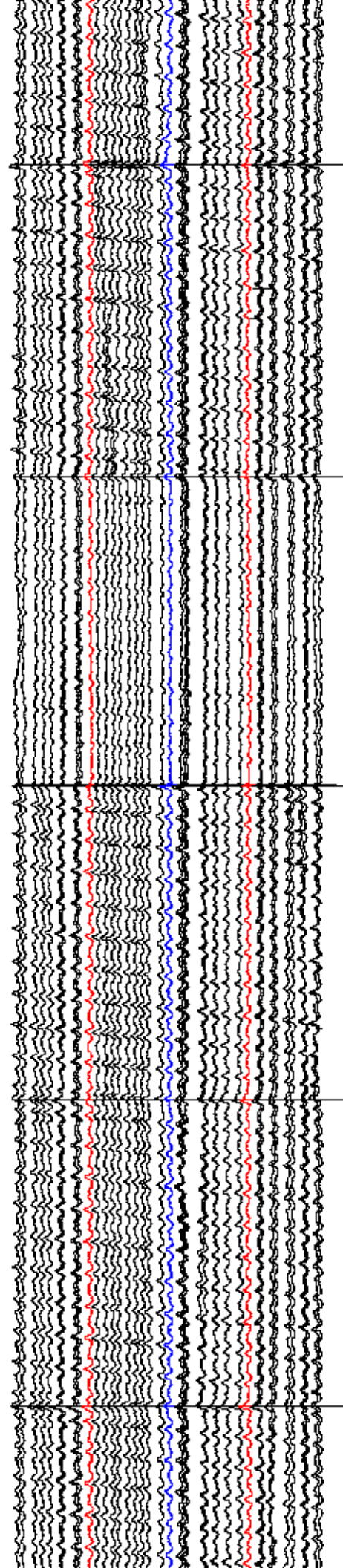
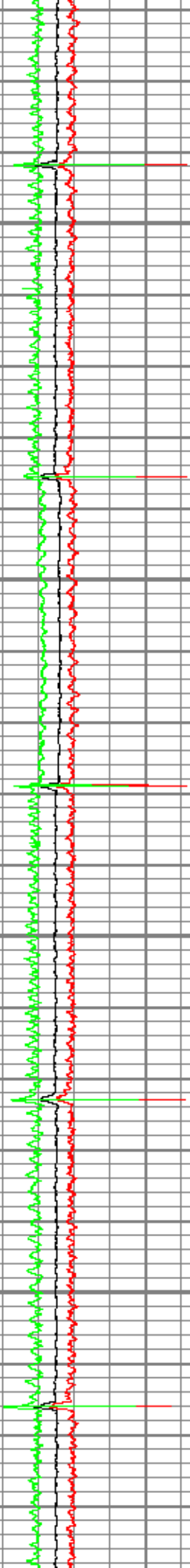


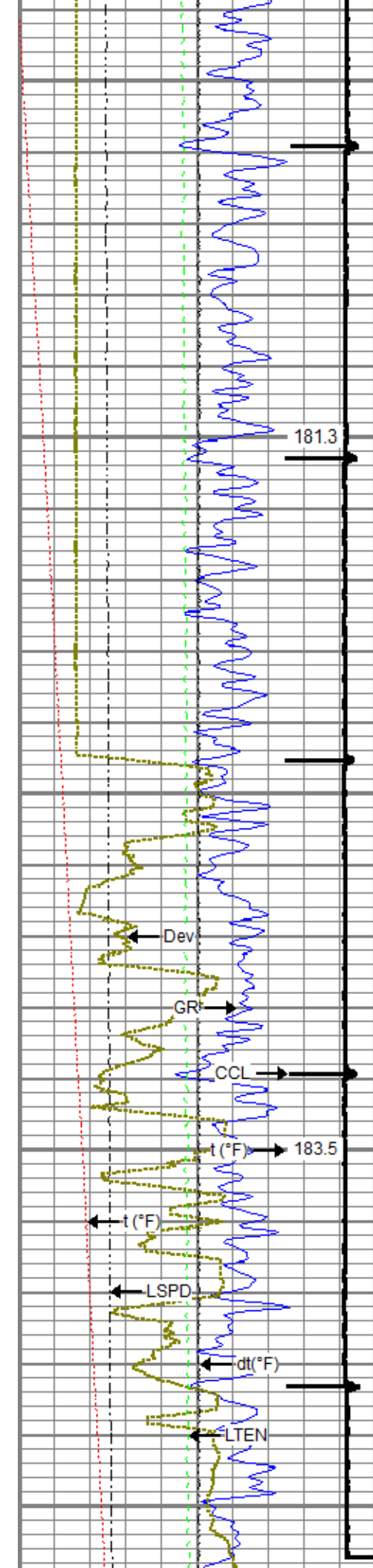
176.9

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179.1

5400

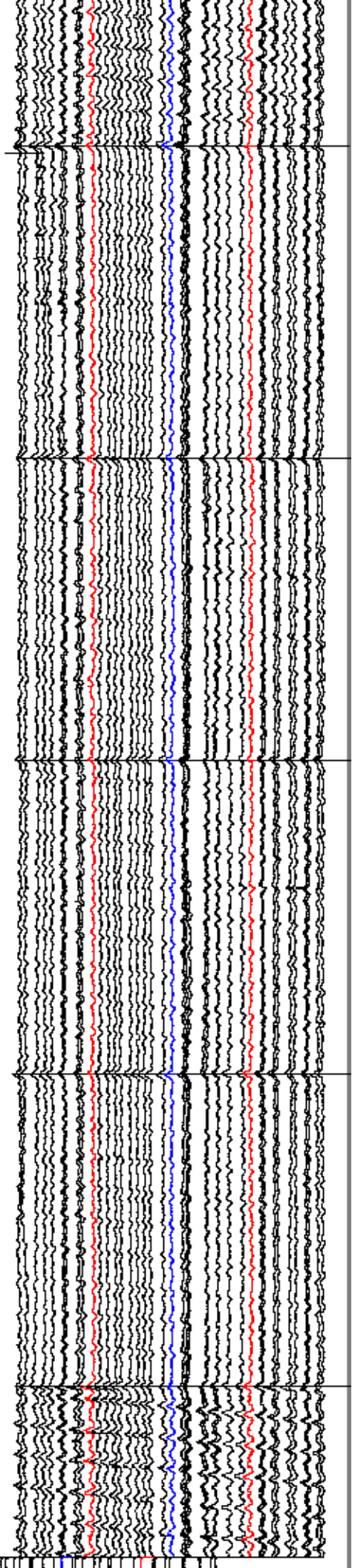
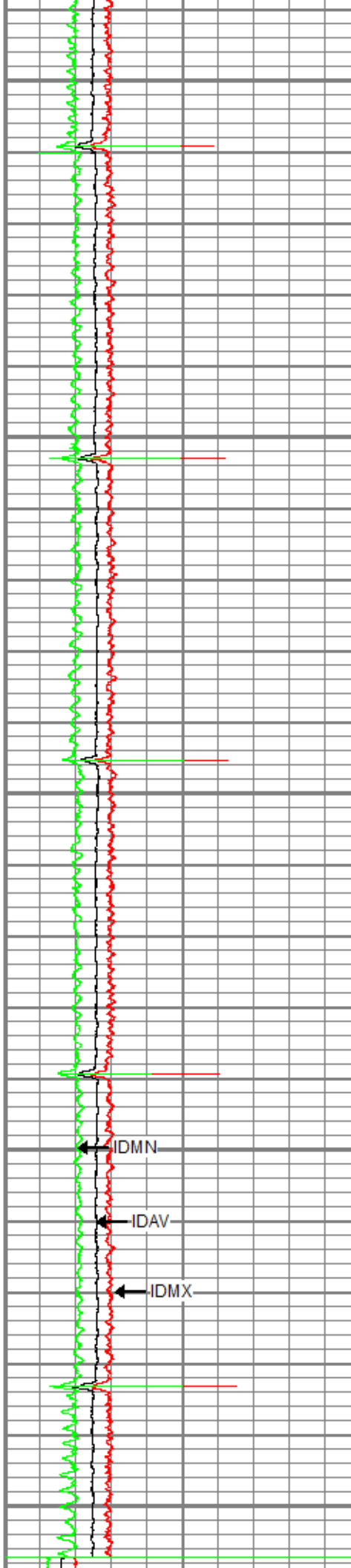


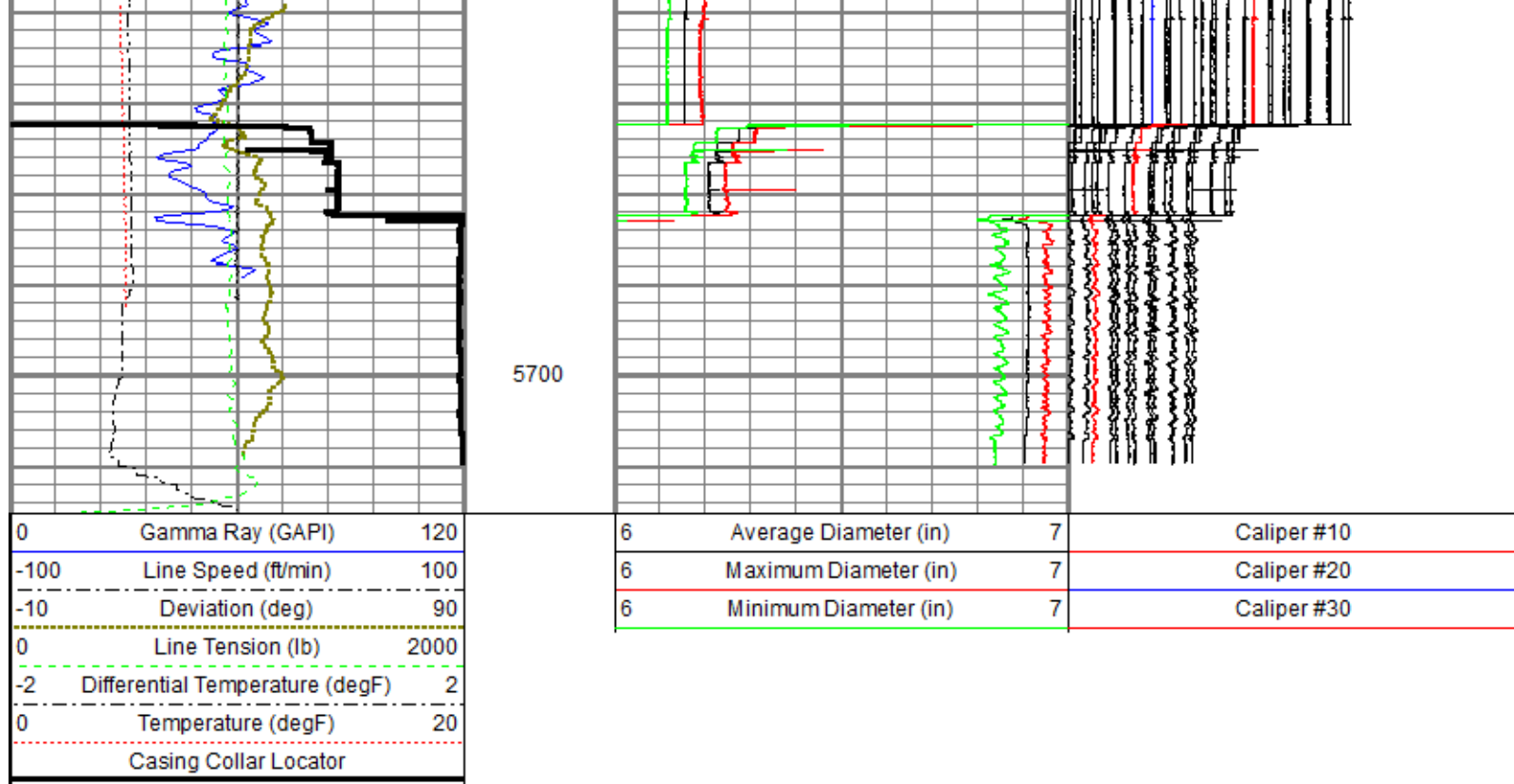


5500

5600

Liner Top

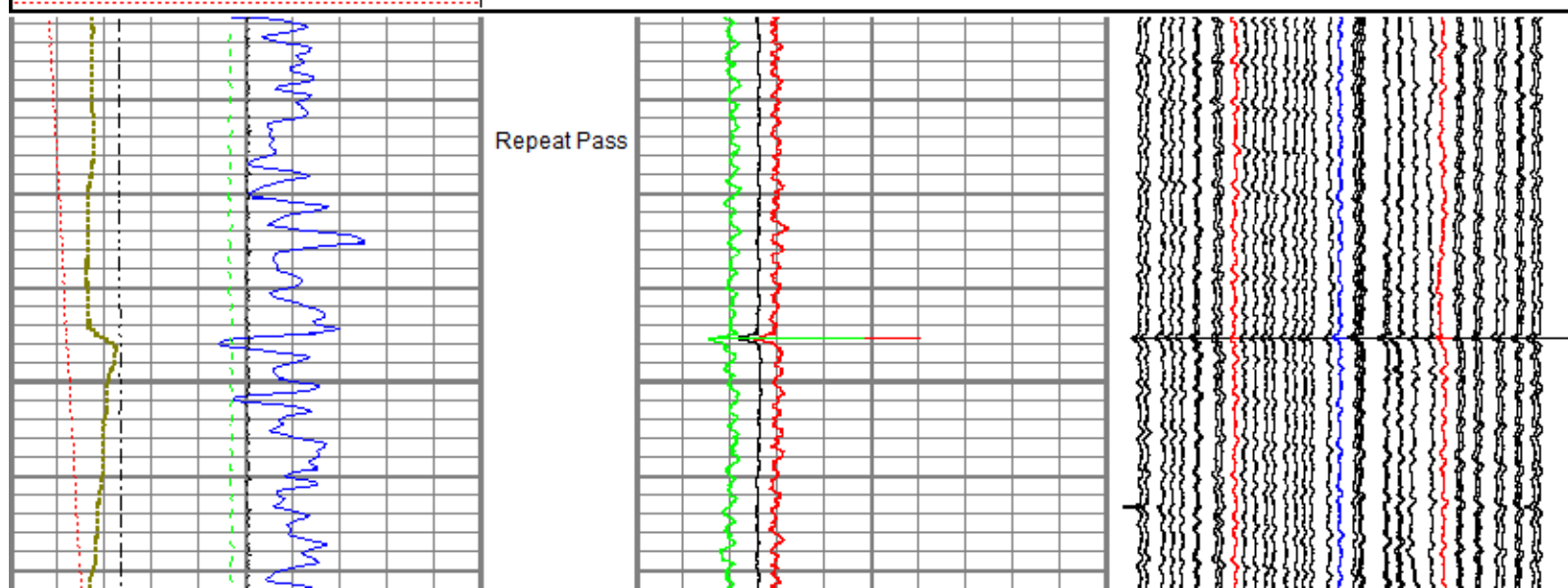
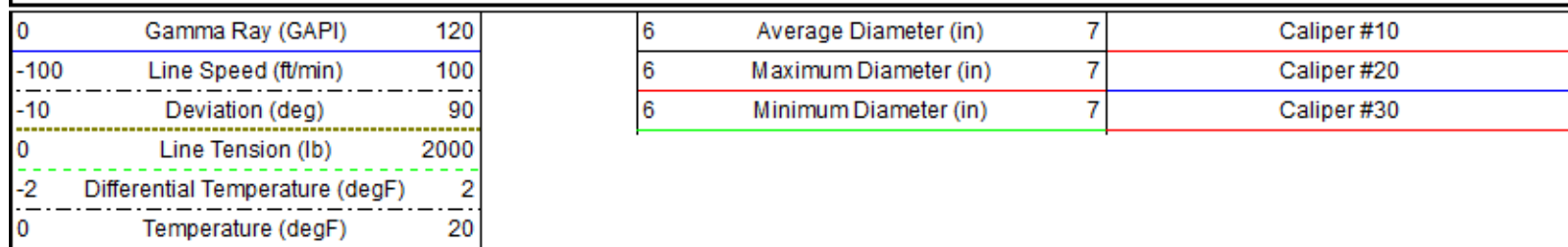


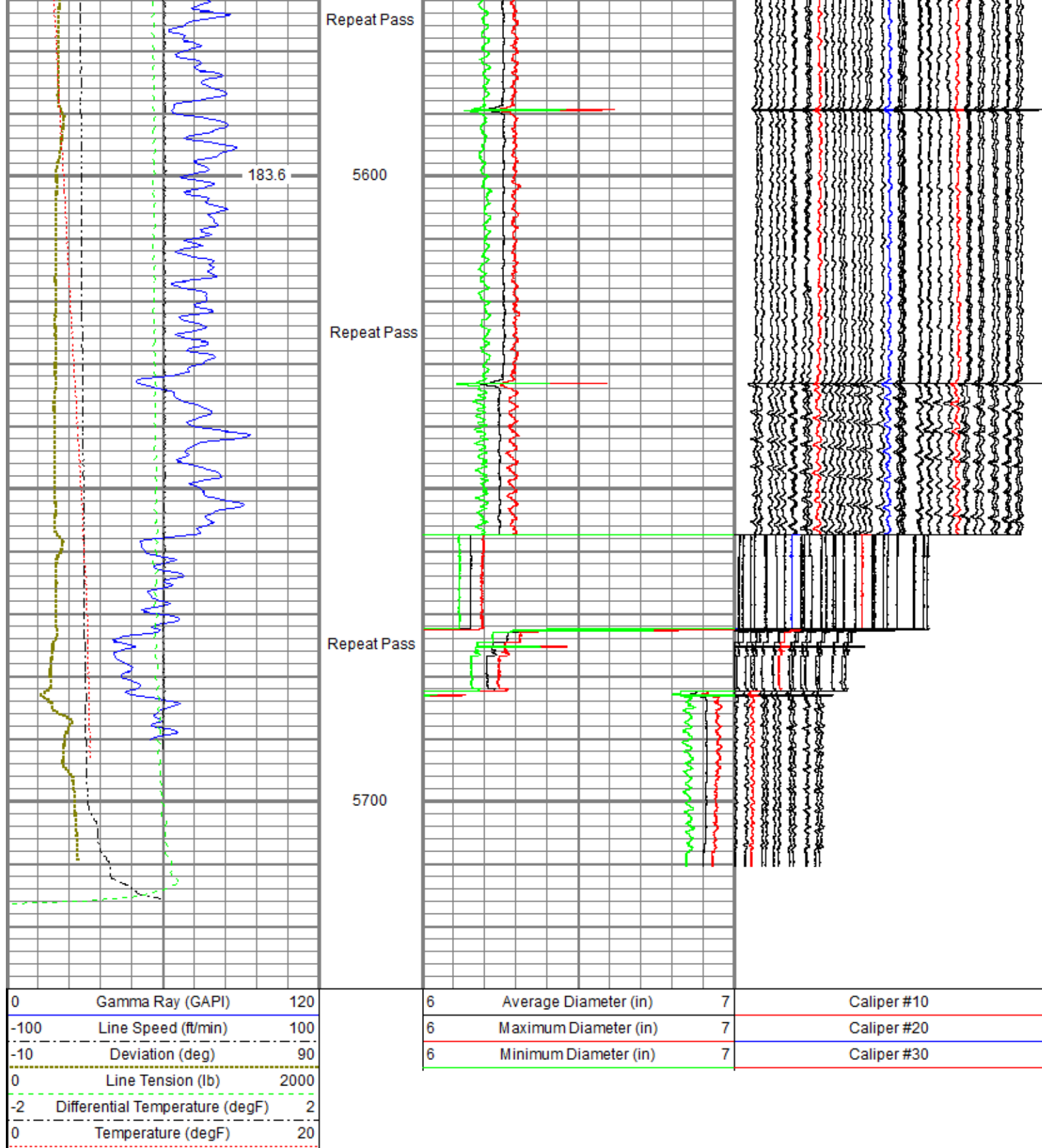



Repeat Pass

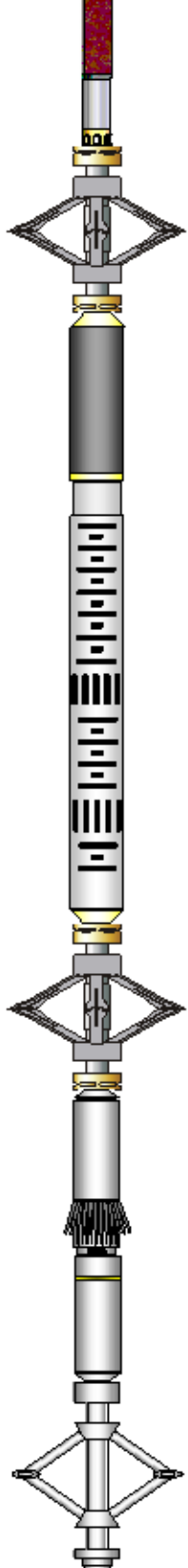
Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko_wagner 1n-w10hzl0512343476_anadarko_wagner 1n-w10hz_mit_12-09-17.db
 Dataset Pathname: pass2
 Presentation Format: ros_70mit40sx
 Dataset Creation: Sat Dec 09 08:37:15 2017
 Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan_Electric_Cable_Heads-Titan_1-11/16" Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
			UW_AGS-UW_AGS_001 (219135) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (051219) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50

GR	23.58		UW_PGR-UW_PGR_020 (10013902) Production Gamma Ray	1.92	1.69	9.50
TEMP	22.18		UW_PRT-PRT_016 (10024052) Platinum Resistance Thermometer	1.04	1.69	5.20
			UW_PRC-DSS_RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
CBLROT	15.15					
CBLTEMP	15.15		UW_RBT-UW_RBT_004 (1066) 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					
WVFS3	15.15					
WVFS2	15.15					
WVFS1	15.15					
WVF3FT	15.15					
WVF5FT	14.15		UW_PRC-DSS_RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
CBLTEMP	10.02					
MIT	5.27		UW_MIT-UW_MIT40_027 (218949) 40 Multifinger Imaging Tool	4.54	2.75	65.00
			UW_PRC-PRC_057 4 Arm 2-3/4" Production Roller Centralizer	2.71	2.75	32.00
TSTAMP	0.00		UW_BUL-UW_BUL_006 (031422) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: 0512343476_Anadarko_Wagner 1N-W10HZ_MIT_12-09-17.db: field/well/run1/pass1 Total length: 27.83 ft Total weight: 329.80 lb O.D.: 3.13 in						

Calibration Report	
Database File	C:\ProgramData\Warrior\Data\Anadarko_Wagner 1N-W10HZ\0512343476_Anadarko_Wagner 1N-W10HZ_MIT_12-09-17.db
Dataset Pathname	calreport
Dataset Creation	Sat Dec 09 10:50:31 2017

Multifinger Imaging Tool Calibration Report

Serial Number	218949
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Number of Fingers:		40	
Tool Model:		UW_MIT40_027	
Inclinometer Calibration Report			
Performed:		Mon, Oct, 06 14:03:04 2008	
Calibration Angle:		45	
		Inc X	Inc Y
Vertical:		1996	1984
Finger 1 up:		1780	1738
Finger 31 up:		2235	1756
Finger 21 up:		2216	2228
Finger 11 up:		1736	2196
Sensitivity ratio:		1.0062	
X-axis angle:		131.534	
Deviation const.:		331.322	

Finger Calibration Report							
Performed:				Sat Dec 09 07:24:41 2017			
Ring size:	4	5	6	7			
(in)							
	Sens	Sens	Sens				
Finger 01:	1391	275.0	1666	299.0	1965	309.0	2274
Finger 02:	1475	263.0	1738	288.0	2026	298.0	2324
Finger 03:	1660	268.0	1928	281.0	2209	287.0	2496
Finger 04:	1657	268.0	1925	280.0	2205	274.0	2479
Finger 05:	1559	254.0	1813	268.0	2081	281.0	2362
Finger 06:	1543	245.0	1788	262.0	2050	271.0	2321
Finger 07:	1374	265.0	1639	288.0	1927	306.0	2233
Finger 08:	1554	246.0	1800	260.0	2060	276.0	2336
Finger 09:	1444	261.0	1705	281.0	1986	298.0	2284
Finger 10:	1499	258.0	1757	275.0	2032	284.0	2316
Finger 11:	1492	257.0	1749	266.0	2015	282.0	2297
Finger 12:	1324	276.0	1600	293.0	1893	314.0	2207
Finger 13:	1591	276.0	1867	287.0	2154	294.0	2448
Finger 14:	1423	284.0	1707	294.0	2001	312.0	2313
Finger 15:	1552	261.0	1813	269.0	2082	285.0	2367
Finger 16:	1401	284.0	1685	293.0	1978	313.0	2291
Finger 17:	1627	274.0	1901	276.0	2177	285.0	2462
Finger 18:	1385	294.0	1679	308.0	1987	324.0	2311
Finger 19:	1642	264.0	1906	257.0	2163	264.0	2427
Finger 20:	1511	269.0	1780	274.0	2054	290.0	2344
Finger 21:	1597	255.0	1852	255.0	2107	267.0	2374
Finger 22:	1528	280.0	1808	283.0	2091	294.0	2385
Finger 23:	1344	288.0	1632	297.0	1929	299.0	2228
Finger 24:	1670	268.0	1938	270.0	2208	275.0	2483
Finger 25:	1364	297.0	1661	311.0	1972	321.0	2293
Finger 26:	1530	292.0	1822	300.0	2122	306.0	2428
Finger 27:	1456	267.0	1723	273.0	1996	278.0	2274
Finger 28:	1644	282.0	1926	287.0	2213	287.0	2500
Finger 29:	1467	278.0	1745	293.0	2038	296.0	2334
Finger 30:	1412	275.0	1687	290.0	1977	301.0	2278
Finger 31:	1521	268.0	1789	280.0	2069	284.0	2353
Finger 32:	1342	265.0	1607	283.0	1890	290.0	2180
Finger 33:	1627	301.0	1928	313.0	2241	314.0	2555
Finger 34:	1545	269.0	1814	281.0	2095	282.0	2377
Finger 35:	1446	265.0	1711	286.0	1997	290.0	2287
Finger 36:	1597	282.0	1879	288.0	2167	293.0	2460
Finger 37:	1606	273.0	1879	284.0	2163	293.0	2456
Finger 38:	1507	269.0	1776	288.0	2064	299.0	2363
Finger 39:	1465	277.0	1742	295.0	2037	307.0	2344
Finger 40:	1604	281.0	1885	298.0	2183	304.0	2487

Post Survey Calibration Check								
Performed:				Sat Dec 09 10:48:52 2017				
Ring size:	4	Nom.	5	Nom.	6	Nom.	7	Nom.
(in)		wear		wear		wear		wear
Finger 01:	3.999	-0.001	4.995	-0.002	5.985	-0.007	6.985	-0.007
Finger 02:	3.963	-0.018	4.974	-0.013	5.982	-0.009	6.991	-0.004
Finger 03:	3.979	-0.011	4.988	-0.006	5.983	-0.009	6.994	-0.003
Finger 04:	3.988	-0.006	4.975	-0.013	5.973	-0.014	7.019	0.009
Finger 05:	3.976	-0.012	4.971	-0.014	5.992	-0.004	6.982	-0.009


Finger 06:	3.979	-0.010	4.987	-0.006	5.984	-0.008	6.992	-0.004
Finger 07:	3.980	-0.010	4.975	-0.013	6.002	0.001	7.038	0.019
Finger 08:	3.979	-0.010	4.986	-0.007	5.992	-0.004	6.990	-0.005
Finger 09:	3.962	-0.019	4.964	-0.018	5.968	-0.016	6.960	-0.020
Finger 10:	3.975	-0.013	4.987	-0.006	5.967	-0.016	6.971	-0.015
Finger 11:	3.984	-0.008	4.985	-0.007	5.989	-0.006	6.991	-0.005
Finger 12:	3.991	-0.004	4.985	-0.007	5.986	-0.007	6.987	-0.006
Finger 13:	3.977	-0.012	4.980	-0.010	5.964	-0.018	6.985	-0.007
Finger 14:	3.988	-0.006	4.987	-0.007	5.983	-0.009	6.981	-0.009
Finger 15:	3.963	-0.019	4.972	-0.014	5.985	-0.008	7.035	0.017
Finger 16:	3.987	-0.007	4.988	-0.006	6.007	0.003	6.995	-0.002
Finger 17:	3.956	-0.022	4.970	-0.015	5.983	-0.008	6.998	-0.001
Finger 18:	3.988	-0.006	4.976	-0.012	5.978	-0.011	6.969	-0.016
Finger 19:	3.999	-0.001	4.994	-0.003	5.999	-0.000	7.004	0.002
Finger 20:	3.987	-0.007	4.981	-0.009	5.992	-0.004	6.999	-0.000
Finger 21:	3.983	-0.009	4.991	-0.004	5.998	-0.001	7.003	0.002
Finger 22:	3.990	-0.005	4.983	-0.008	5.988	-0.006	6.999	-0.001
Finger 23:	3.984	-0.008	4.975	-0.013	5.954	-0.023	6.958	-0.021
Finger 24:	3.986	-0.007	4.993	-0.004	5.995	-0.003	7.003	0.002
Finger 25:	3.979	-0.010	4.988	-0.006	5.987	-0.007	6.986	-0.007
Finger 26:	3.982	-0.009	4.990	-0.005	5.987	-0.006	6.993	-0.003
Finger 27:	3.953	-0.024	4.968	-0.016	5.967	-0.016	6.983	-0.008
Finger 28:	3.972	-0.014	4.968	-0.016	5.973	-0.013	6.992	-0.004
Finger 29:	3.977	-0.012	4.981	-0.010	5.975	-0.013	6.996	-0.002
Finger 30:	3.982	-0.009	4.975	-0.013	5.999	-0.001	7.001	0.000
Finger 31:	3.981	-0.010	4.986	-0.007	5.990	-0.005	7.009	0.005
Finger 32:	3.976	-0.012	4.976	-0.012	5.976	-0.012	6.993	-0.003
Finger 33:	3.984	-0.008	4.986	-0.007	5.990	-0.005	6.995	-0.003
Finger 34:	3.980	-0.010	4.979	-0.011	5.985	-0.007	6.985	-0.008
Finger 35:	3.976	-0.012	4.987	-0.006	5.991	-0.005	6.990	-0.005
Finger 36:	3.982	-0.009	4.971	-0.014	5.978	-0.011	6.988	-0.006
Finger 37:	3.989	-0.005	4.983	-0.008	5.989	-0.005	6.989	-0.006
Finger 38:	3.975	-0.012	4.981	-0.009	5.984	-0.008	6.980	-0.010
Finger 39:	3.991	-0.004	4.994	-0.003	5.994	-0.003	7.001	0.000
Finger 40:	3.981	-0.009	4.986	-0.007	5.981	-0.009	6.991	-0.004
Average:	3.980	-0.010	4.982	-0.009	5.984	-0.008	6.993	-0.004

Segmented Cement Bond Log Calibration Report						
Serial Number:		1066				
Tool Model:		UW_RBT_004				
Calibration Casing Diameter:		7.000	in			
Calibration Depth:		21.037	ft			
Master Calibration, performed Fri Dec 08 15:20:27 2017:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.002	0.580	0.800	62.165	106.226	0.546
5FT	-0.002	0.568	0.800	62.165	107.645	1.063
S1	0.002	0.567	0.000	100.000	177.194	-0.430
S2	0.001	0.588	0.000	100.000	170.284	-0.208
S3	0.002	0.582	0.000	100.000	172.246	-0.296
S4	0.001	0.592	0.000	100.000	169.288	-0.198
S5	0.002	0.586	0.000	100.000	171.292	-0.364
S6	0.001	0.586	0.000	100.000	170.941	-0.248
S7	0.002	0.592	0.000	100.000	169.610	-0.408
S8	0.003	0.573	0.000	100.000	175.223	-0.473

Temperature Calibration Report				
Serial Number:		10024052		
Tool Model:		PRT_016		
Performed:		Sun Oct 11 12:16:39 2015		
Point #	Reading	Reference		
1	12242.00	cps	68.00	degF

2	18329.00	cps	104.00	degF
3	29563.00	cps	176.00	degF
4	41222.00	cps	248.00	degF
5	52988.00	cps	320.00	degF
6	58824.00	cps	356.00	degF
7		cps		degF
8		cps		degF
9		cps		degF
10		cps		degF

Gamma Ray Calibration Report				
Serial Number:	10013902			
Tool Model:	UW_PGR_020			
Performed:	(Not Performed)			
Calibrator Value:	1.0	GAPI		
Background Reading:	0.0	cps		
Calibrator Reading:	1.0	cps		
Sensitivity:	1.0000	GAPI/cps		

	Company	Kerr-McGee Oil & Gas Onshore, L.P.
	Well	Wagner 1N-W10HZ
	Field	Wattenberg
	County	Weld
	State	Colorado