



Casing Inspection Log

Company Kerr-McGee Oil & Gas Onshore, L.P.				Company Kerr-McGee Oil & Gas Onshore, L.P.				
Well Kunzman 4N-5HZ				Well Kunzman 4N-5HZ				
Field Wattenberg				Field Wattenberg				
County Weld				County Weld				
State Colorado				State Colorado				
Location:				API # : 05-123-37028				
SHL: 30' FNL 1822' FWL				Other Services				
Lat/Long: 40.159761/-104.804104				---				
SEC 8 TWP 2N RGE 66W				Elevation				
Permanent Datum		Ground Level		Elevation		4858'		
Log Measured From		Kelly Bushing		13 FT		K.B. 4871'		
Drilling Measured From		Kelly Bushing				D.F. ---		
						G.L. 4858'		
Date				Nov. 15, 2013				
Run Number				One				
Depth Driller				11913 FT				
Depth Logger				---				
Bottom Logged Interval				---				
Top Log Interval				Surface				
Open Hole Size				8.625"				
Type Fluid				Water				
Density / Viscosity				8.34 LB/GAL				
Max. Recorded Temp.				---				
Estimated Cement Top				60 FT				
Time Well Ready				ROA				
Time Logger on Bottom				---				
Equipment Number				HD-0311				
Location				Fort Lupton, CO				
Recorded By				Wayne Wacker				
Witnessed By				Trever Daniel				
Borehole Record				Tubing Record				
Run Number		Bit	From	To	Size	Weight	From	To
Casing Record		Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom		
Surface Casing		9 5/8	36		Surface	892 FT		
Intermediate #1		7	26		Surface	7663 FT		
Intermediate #2								
Liner		4 1/2	11.6		6706 FT	11895 FT		

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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

Correlated to Liner Top @ 6,706 FT

Thank You for Choosing FMC Technologies Completion Services, Inc.

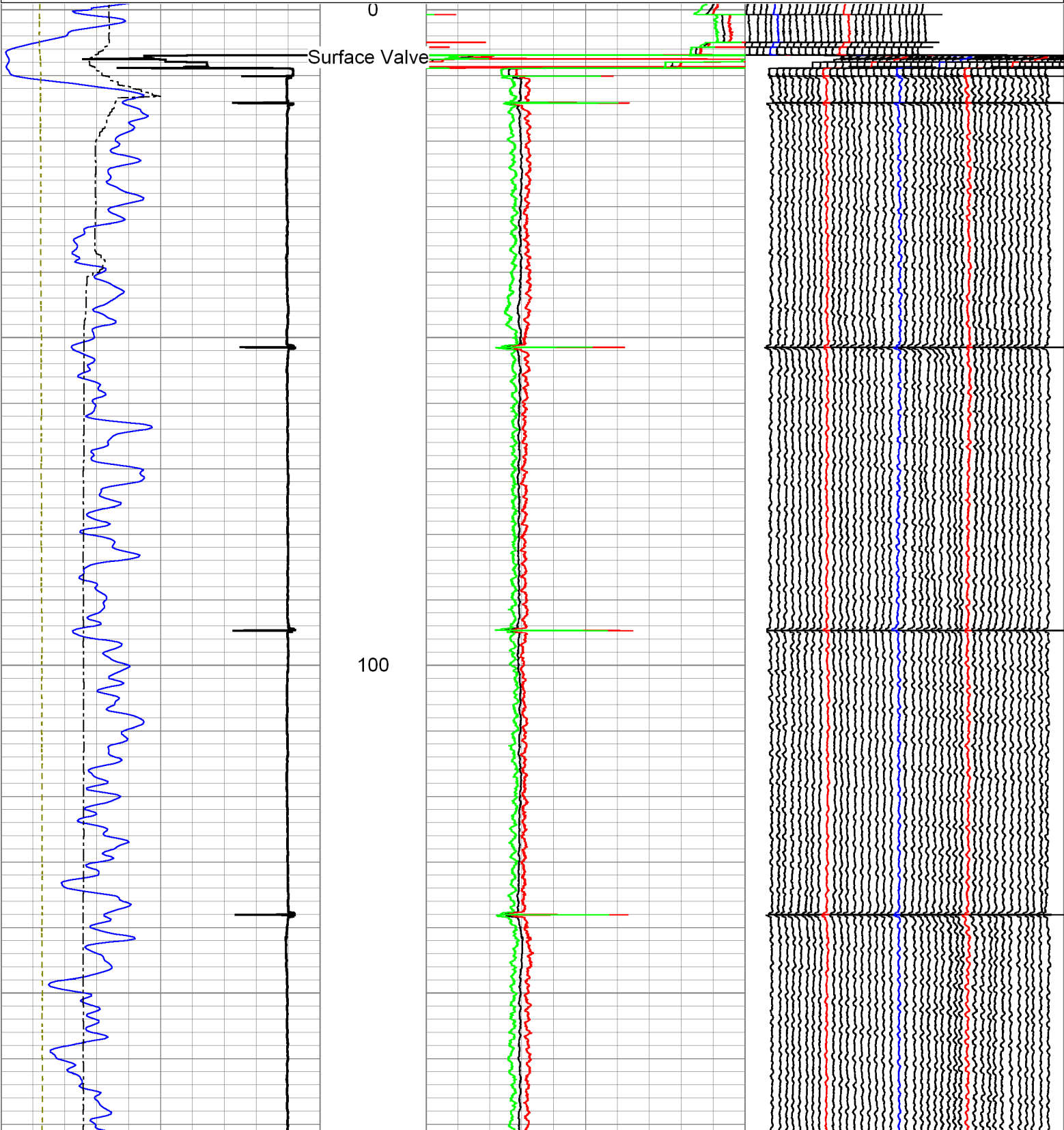


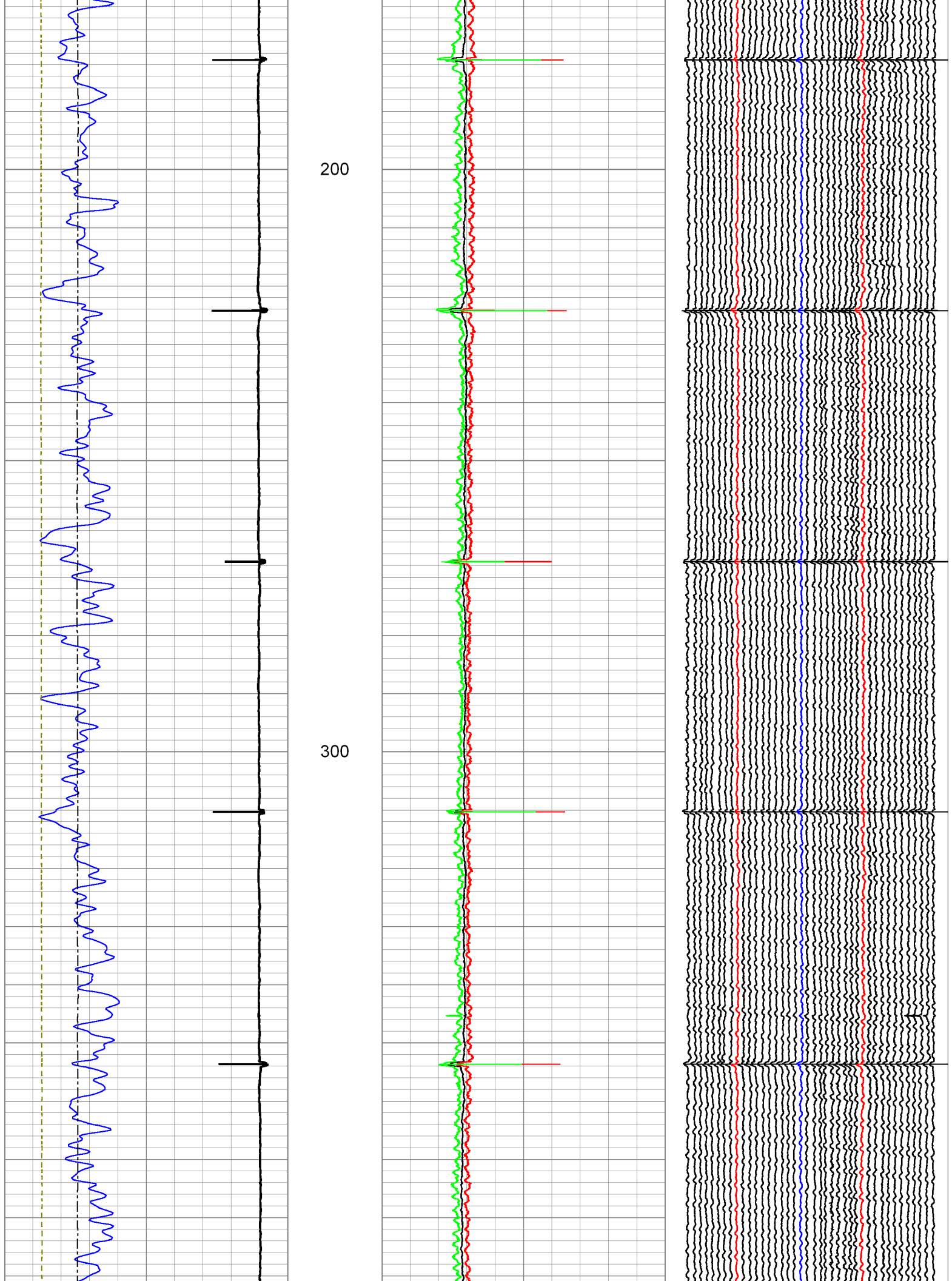
Main Pass

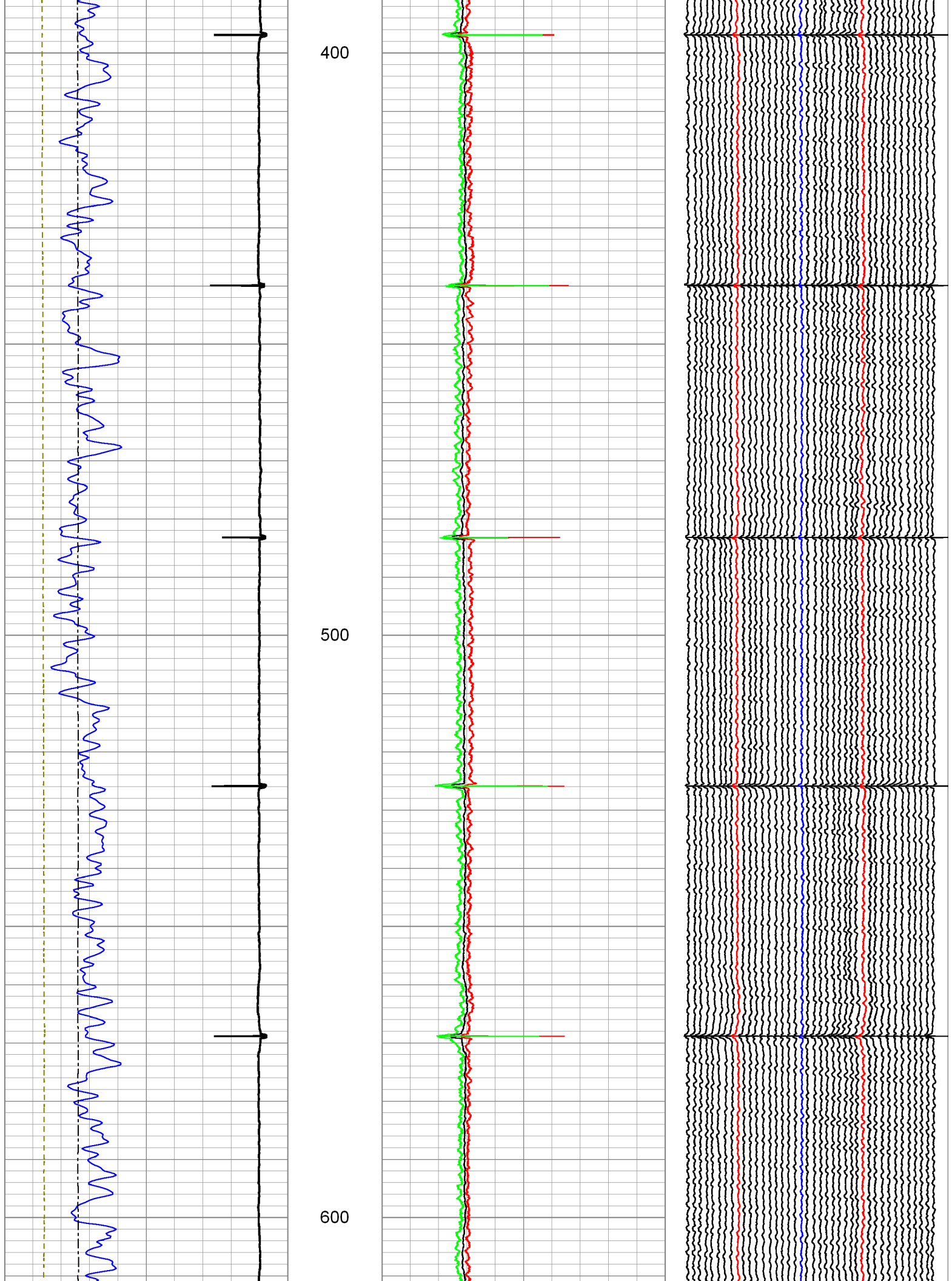
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Presentation Format: 7.0mit40
Dataset Creation: Fri Nov 15 13:24:07 2013 by Log Sondex V7.03
Charted by: Depth in Feet scaled 1:240

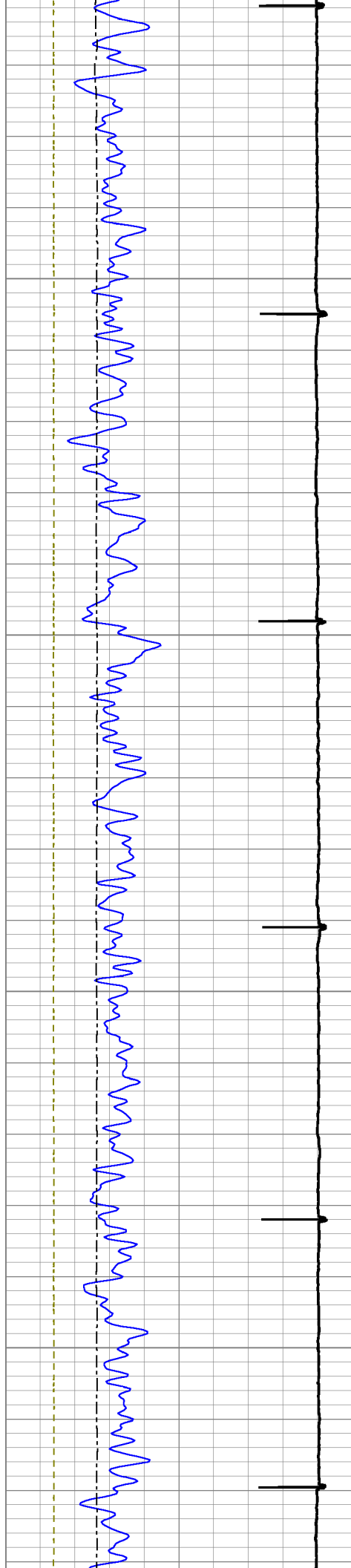
0	Gamma Ray (GAPI)	120
-100	Line Speed (ft/min)	100
-10	Deviation (°)	90
Casing Collar Locator		

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



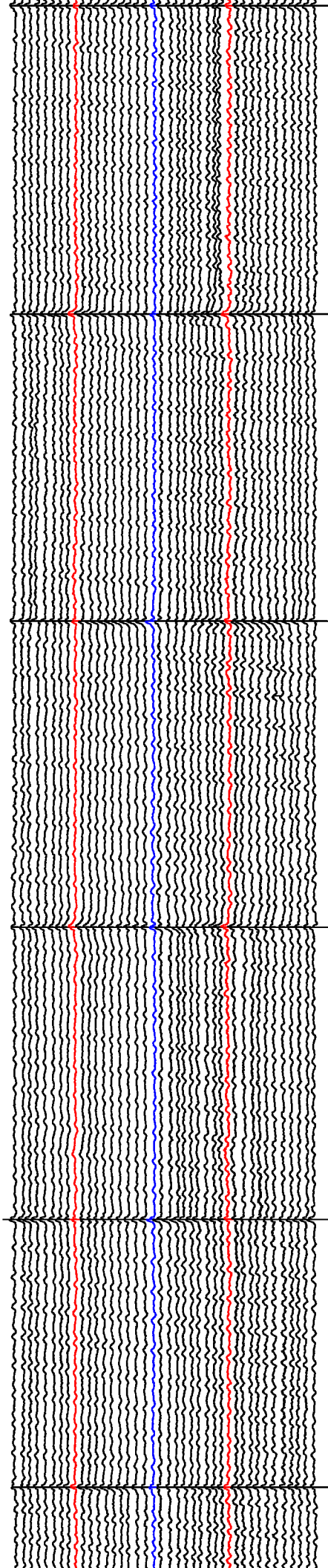
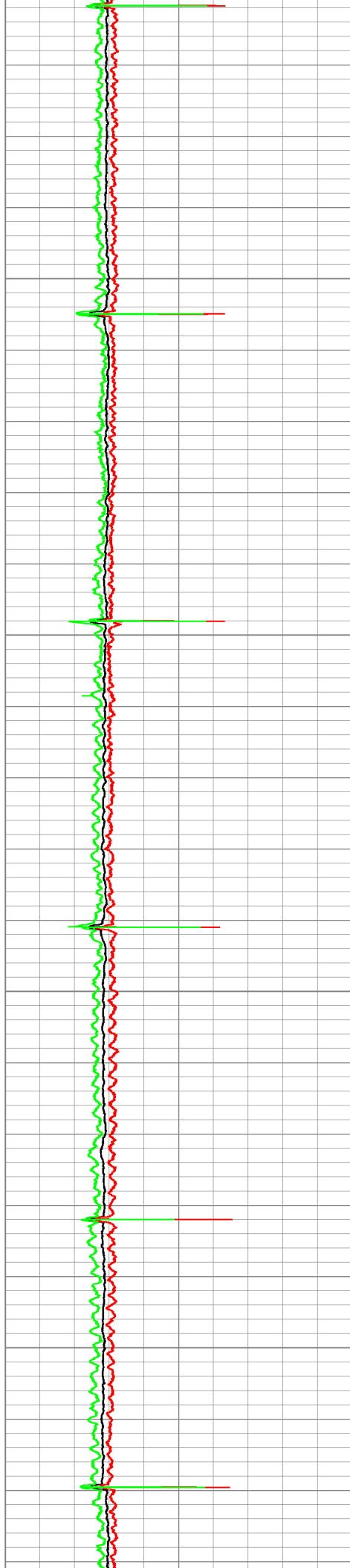


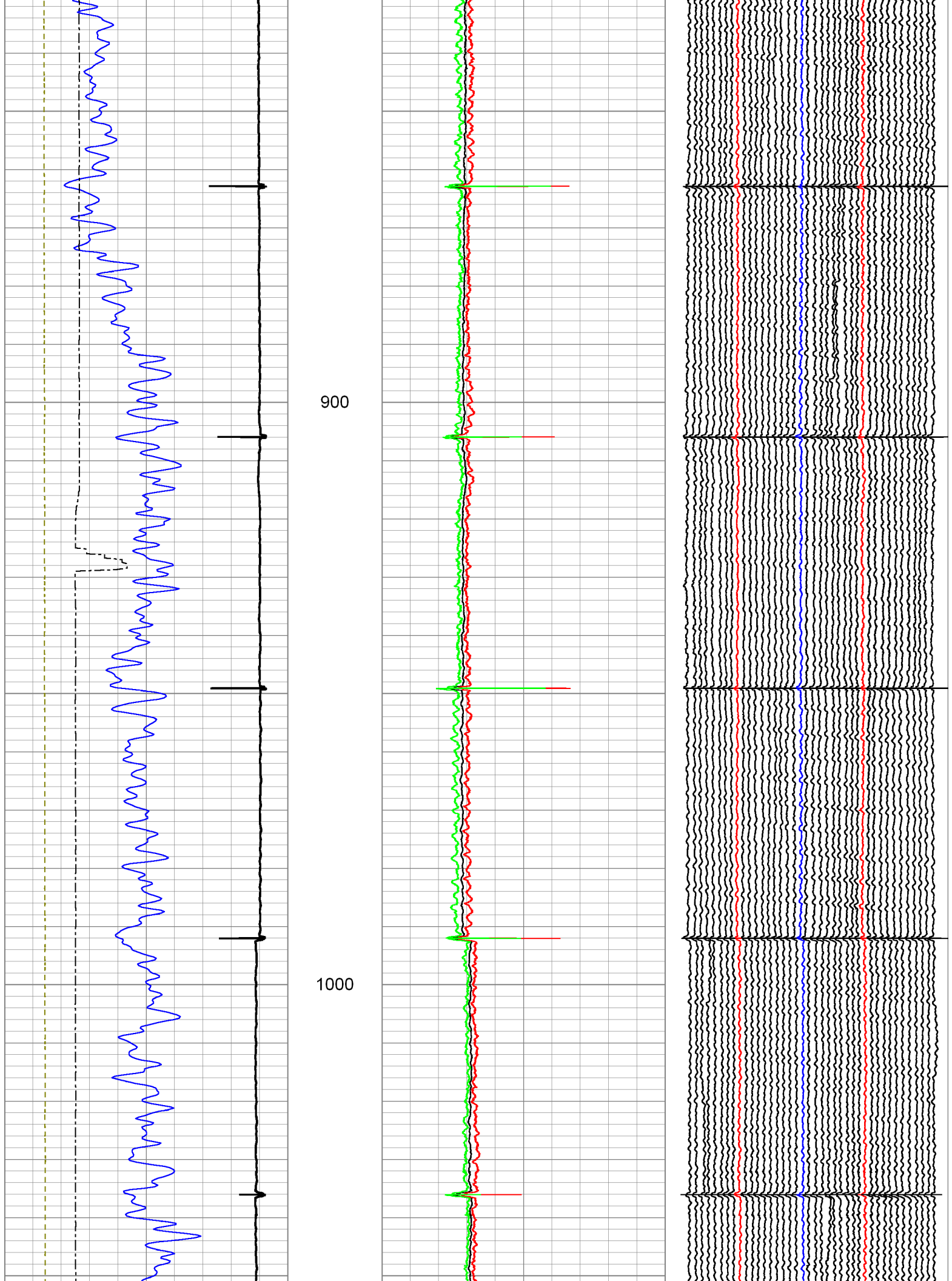


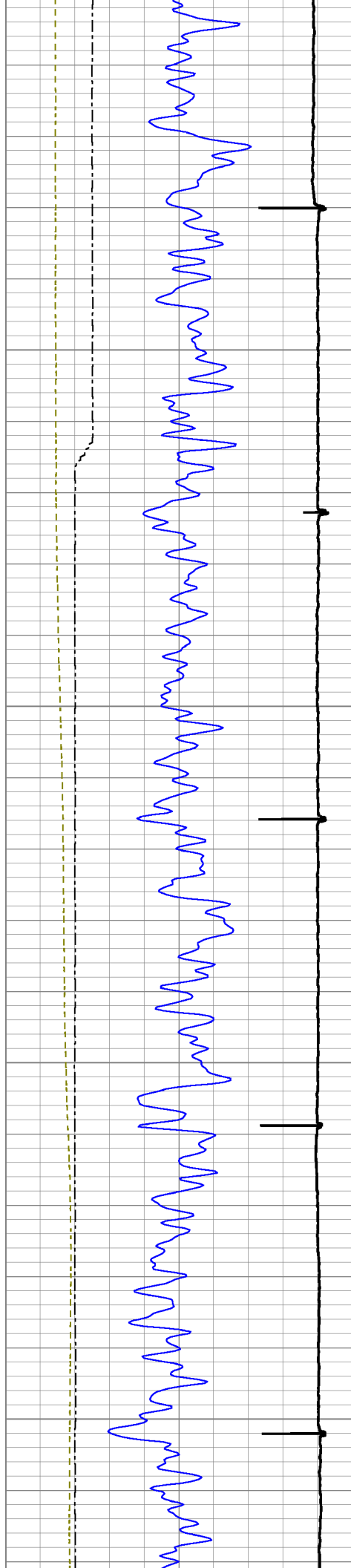


700

800

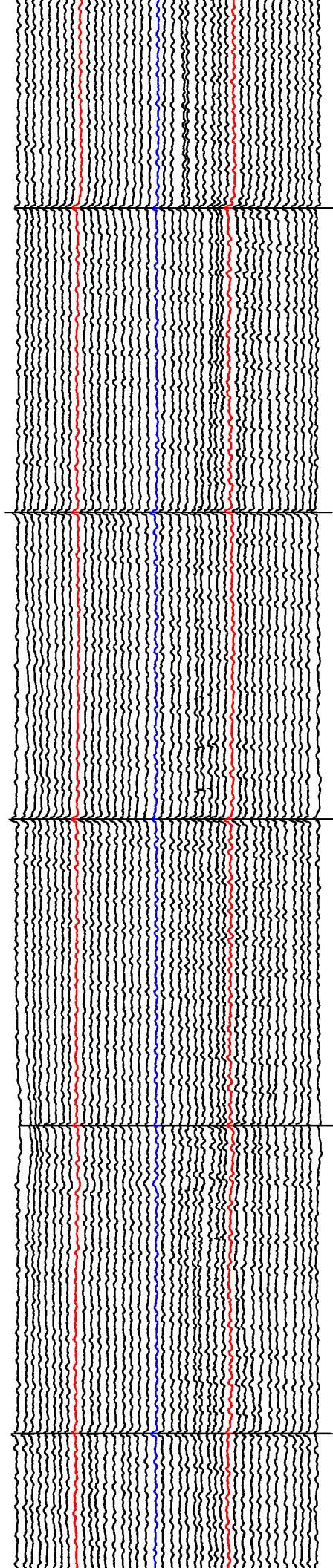
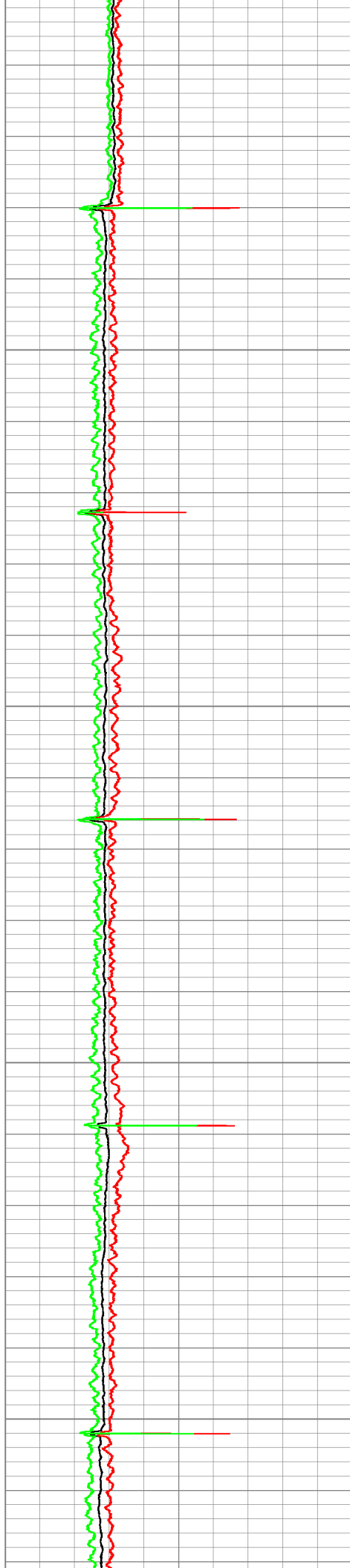


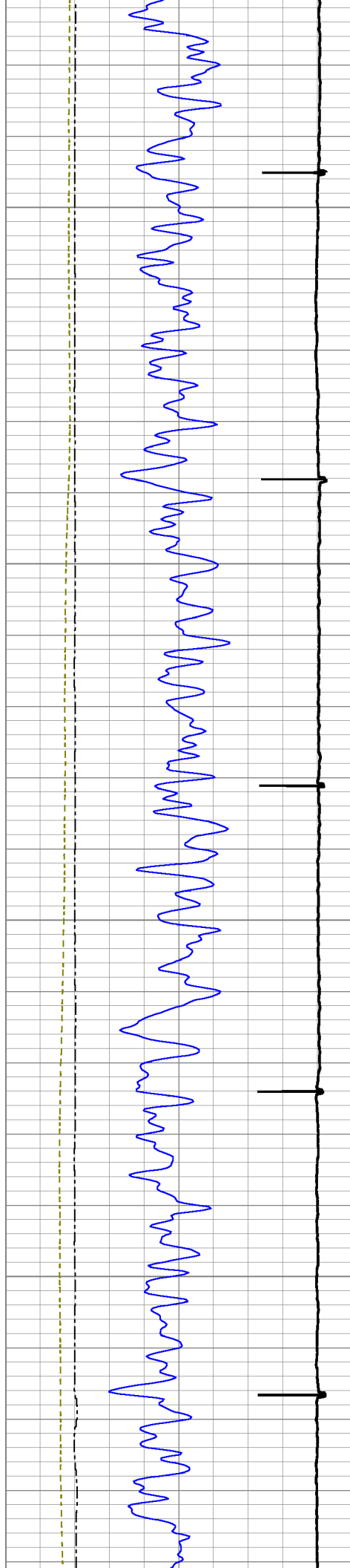




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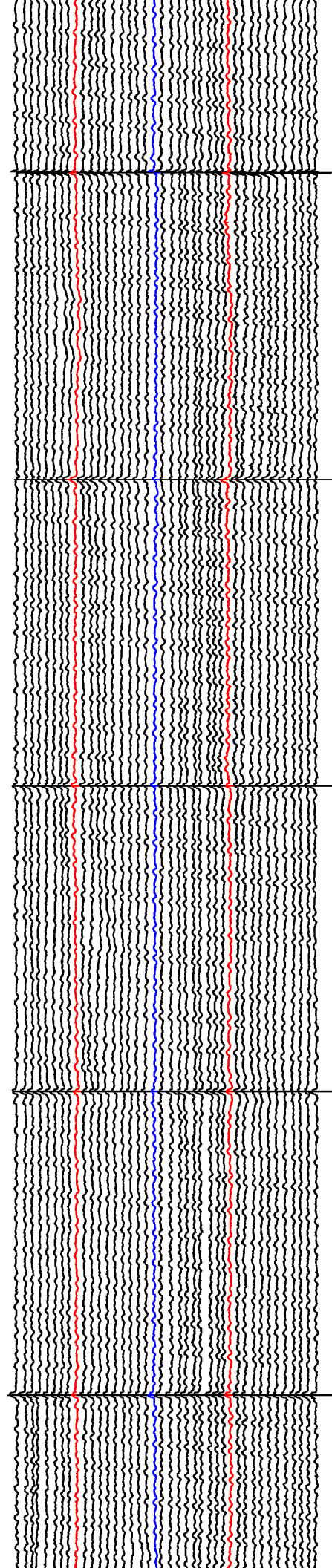
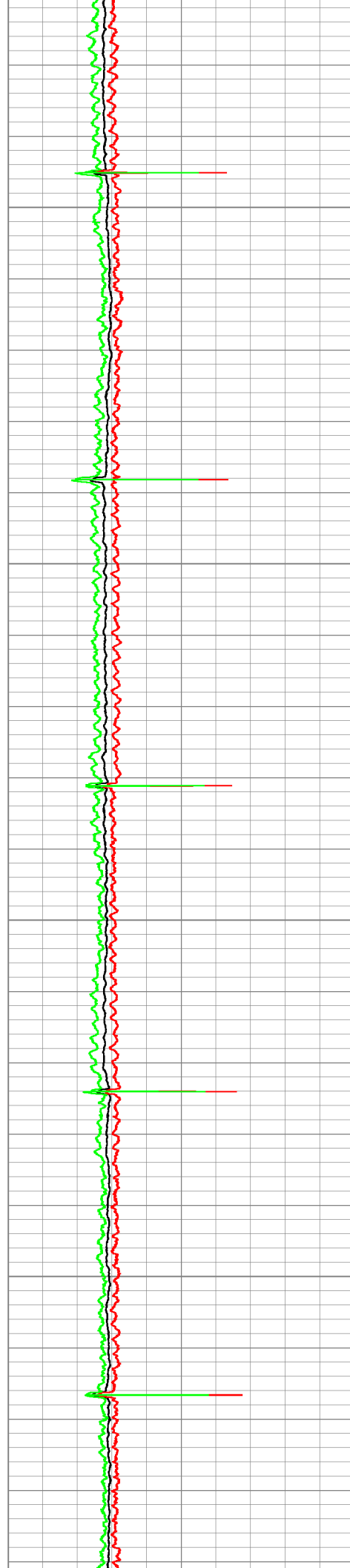
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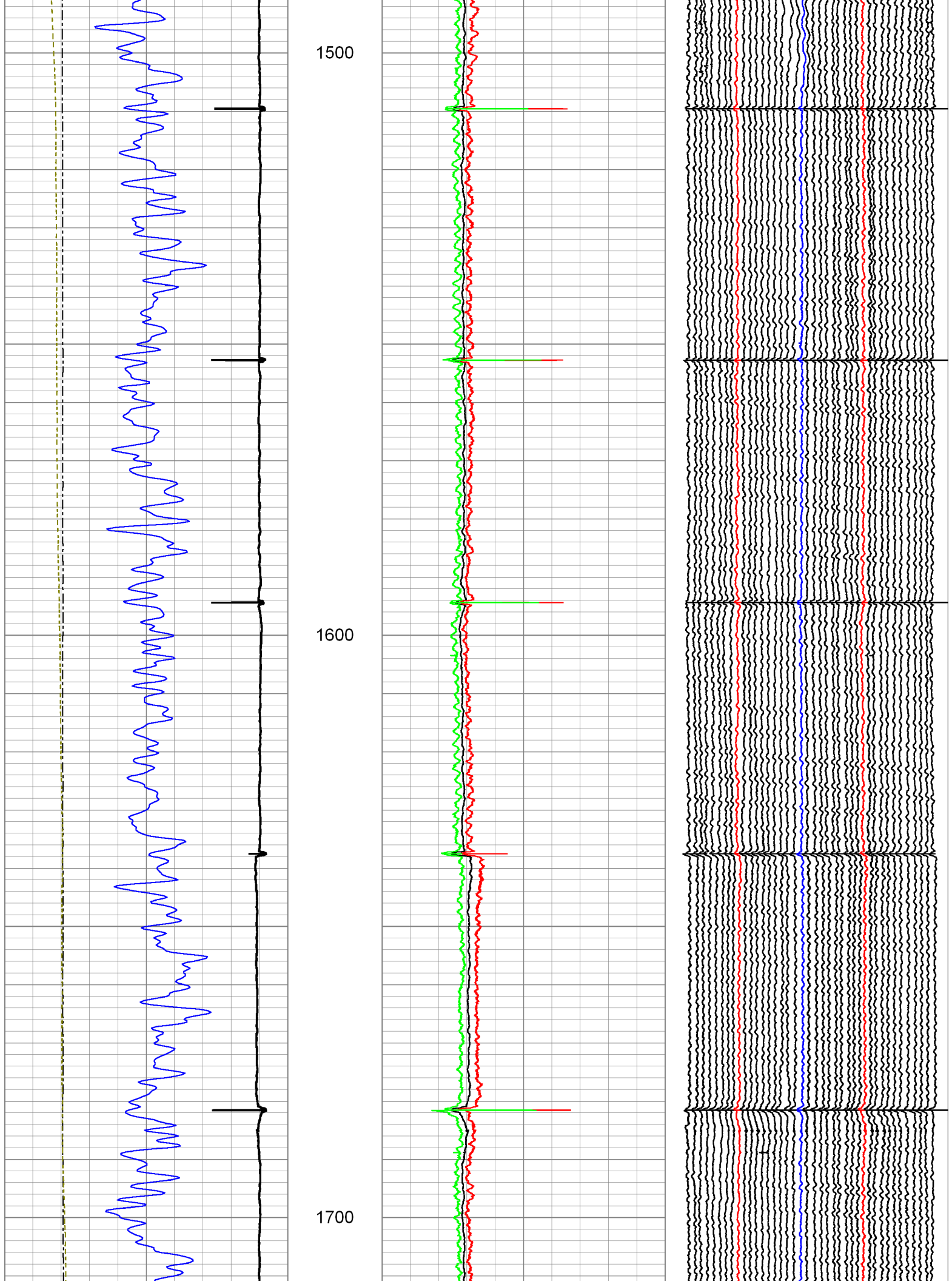


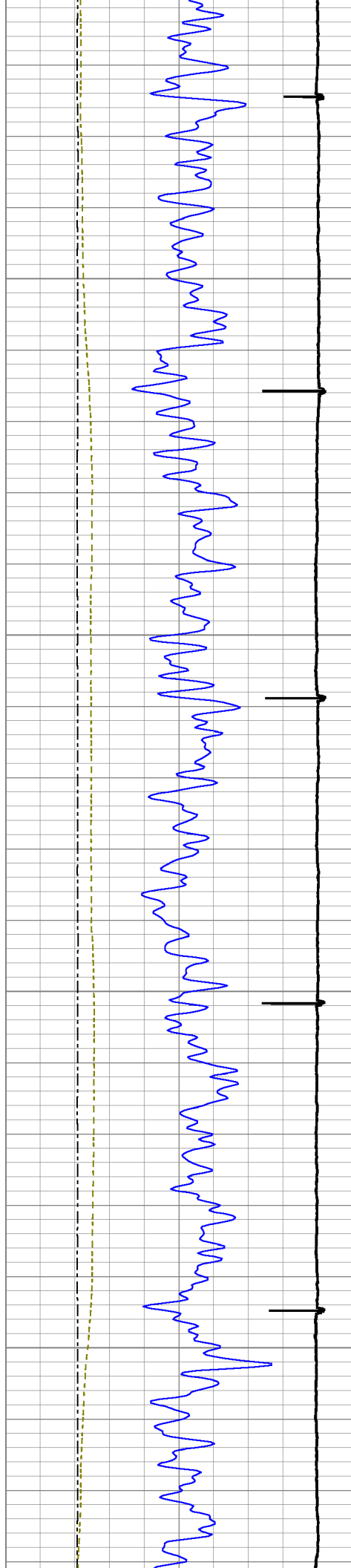


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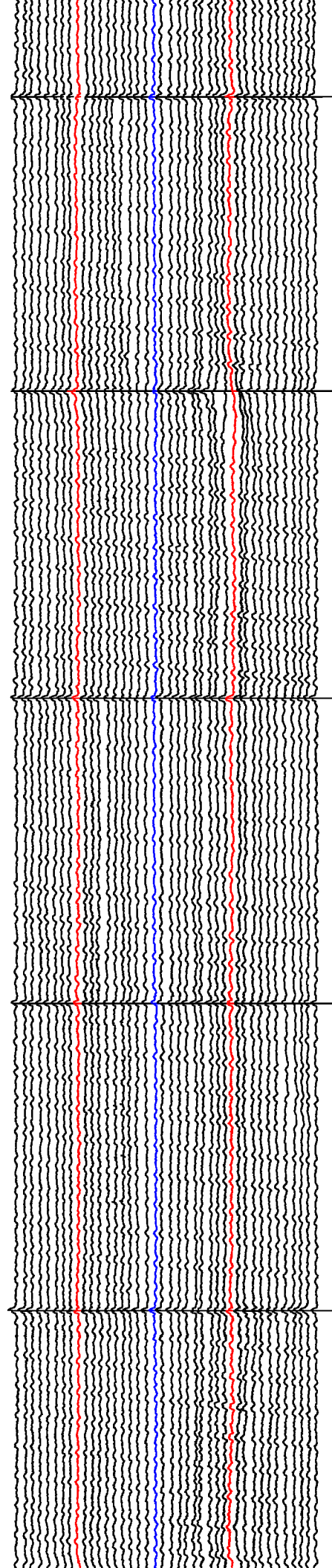
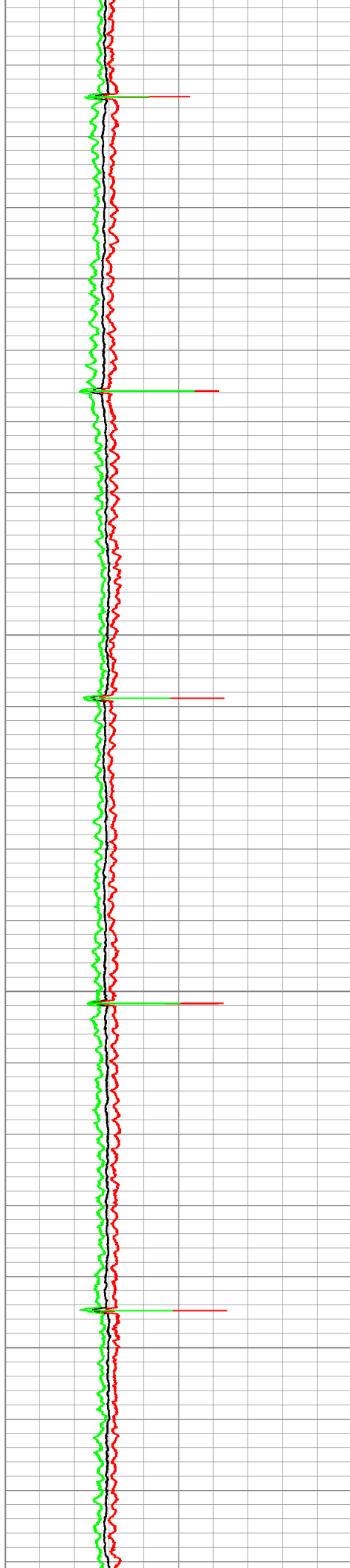


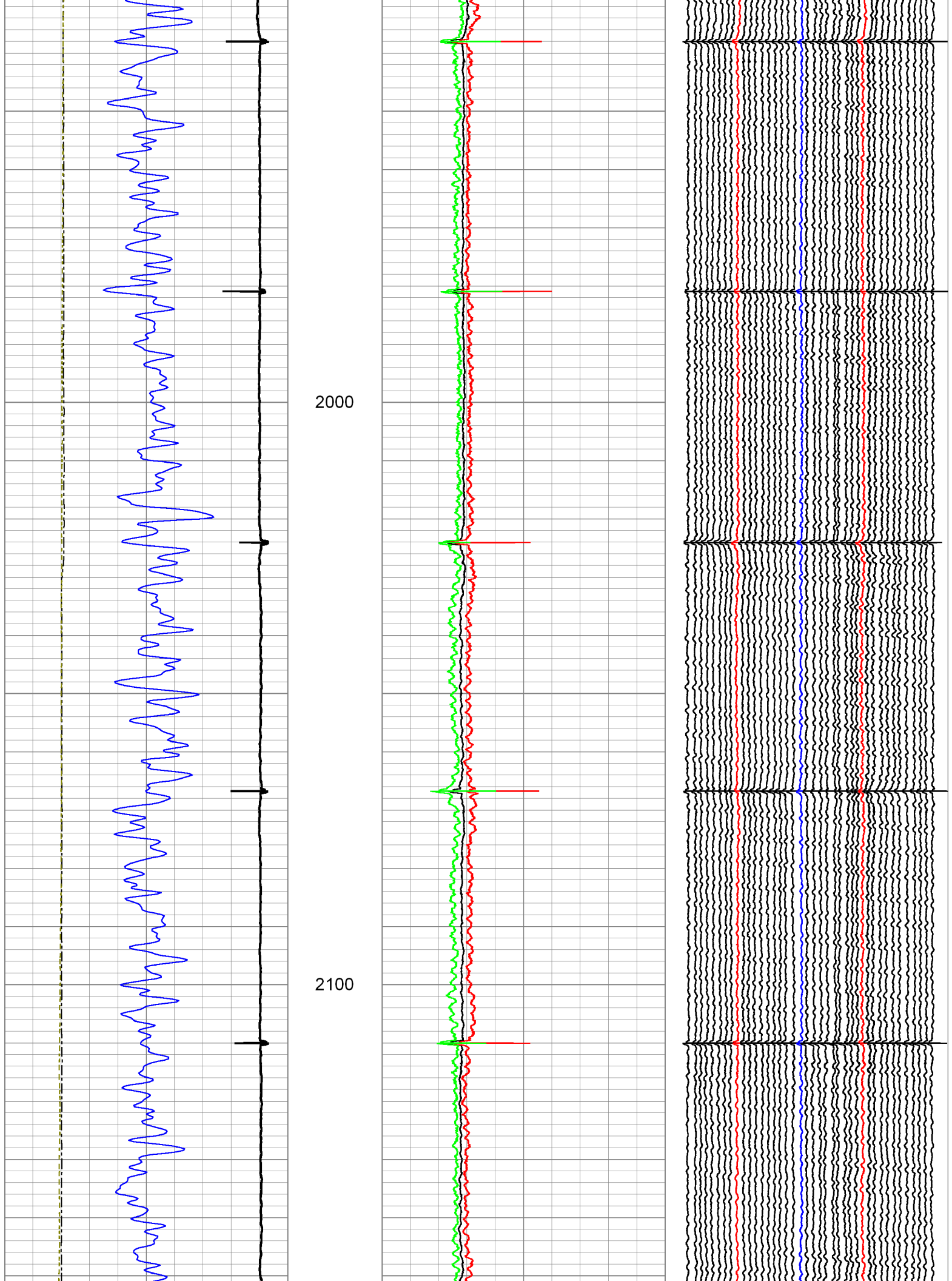


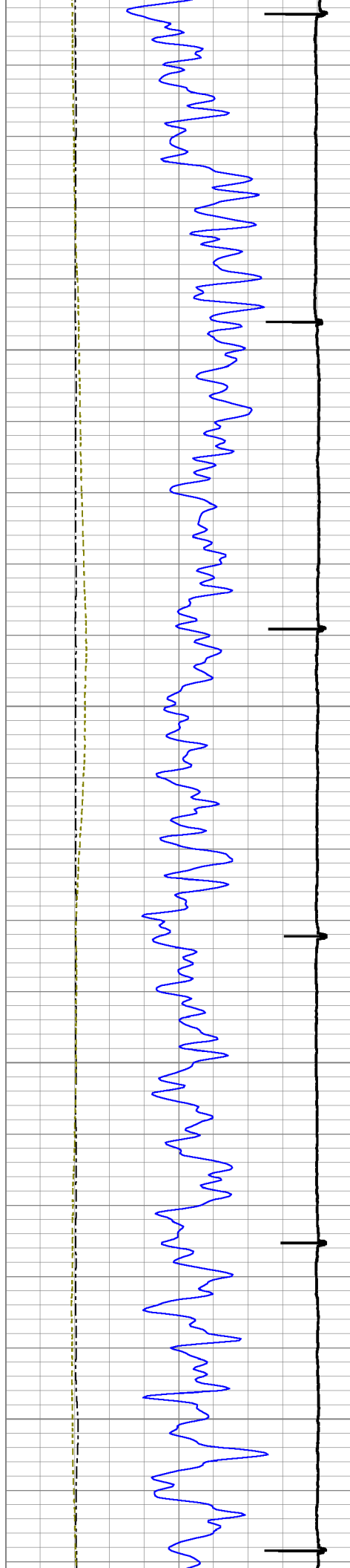


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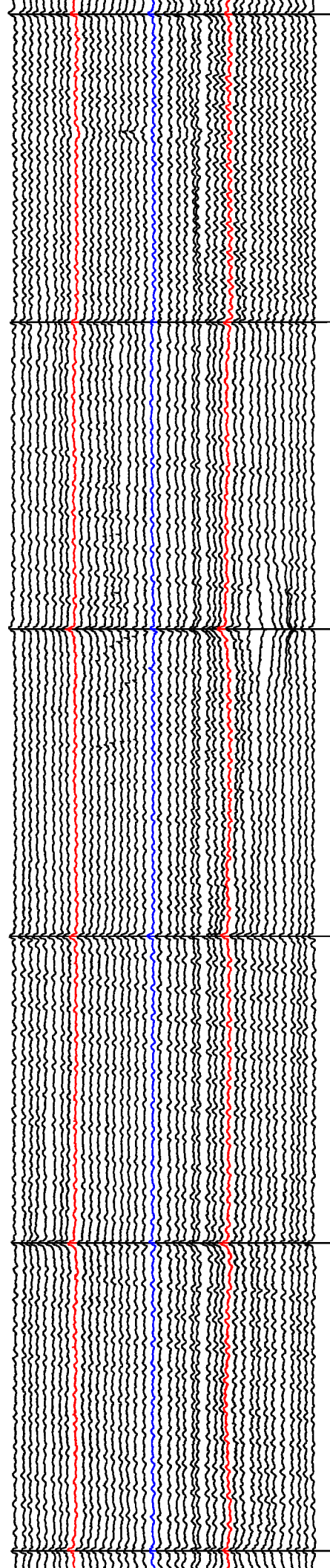
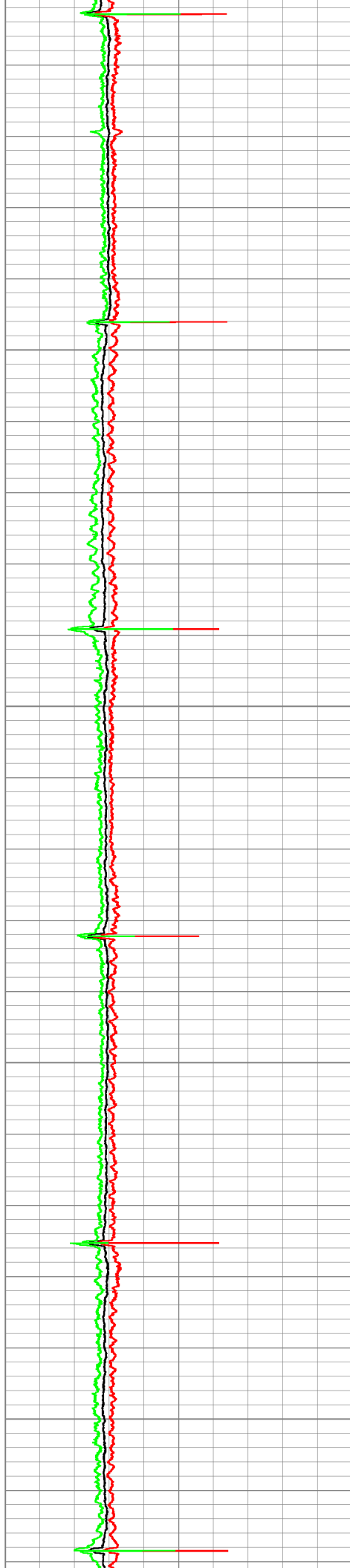


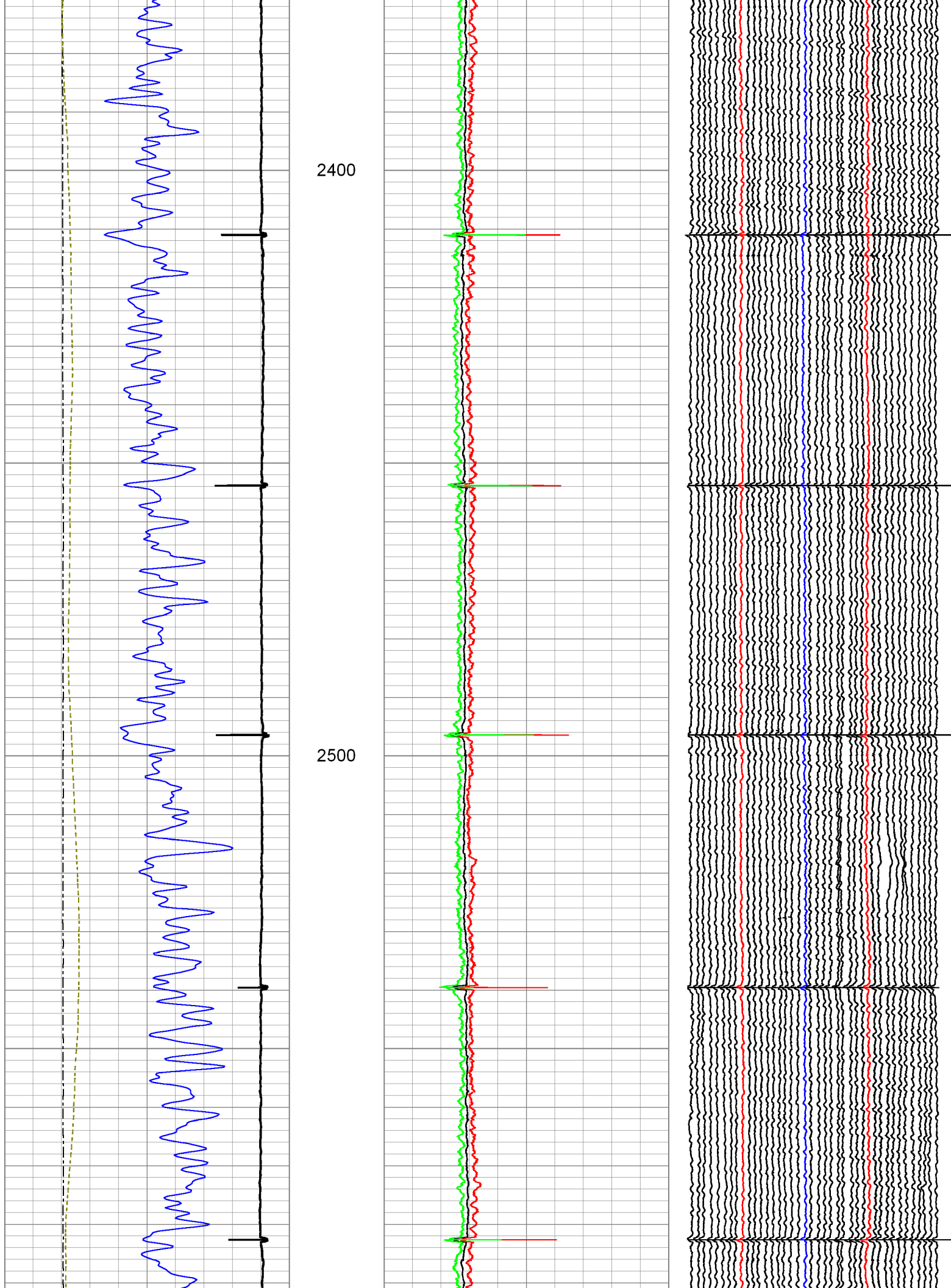


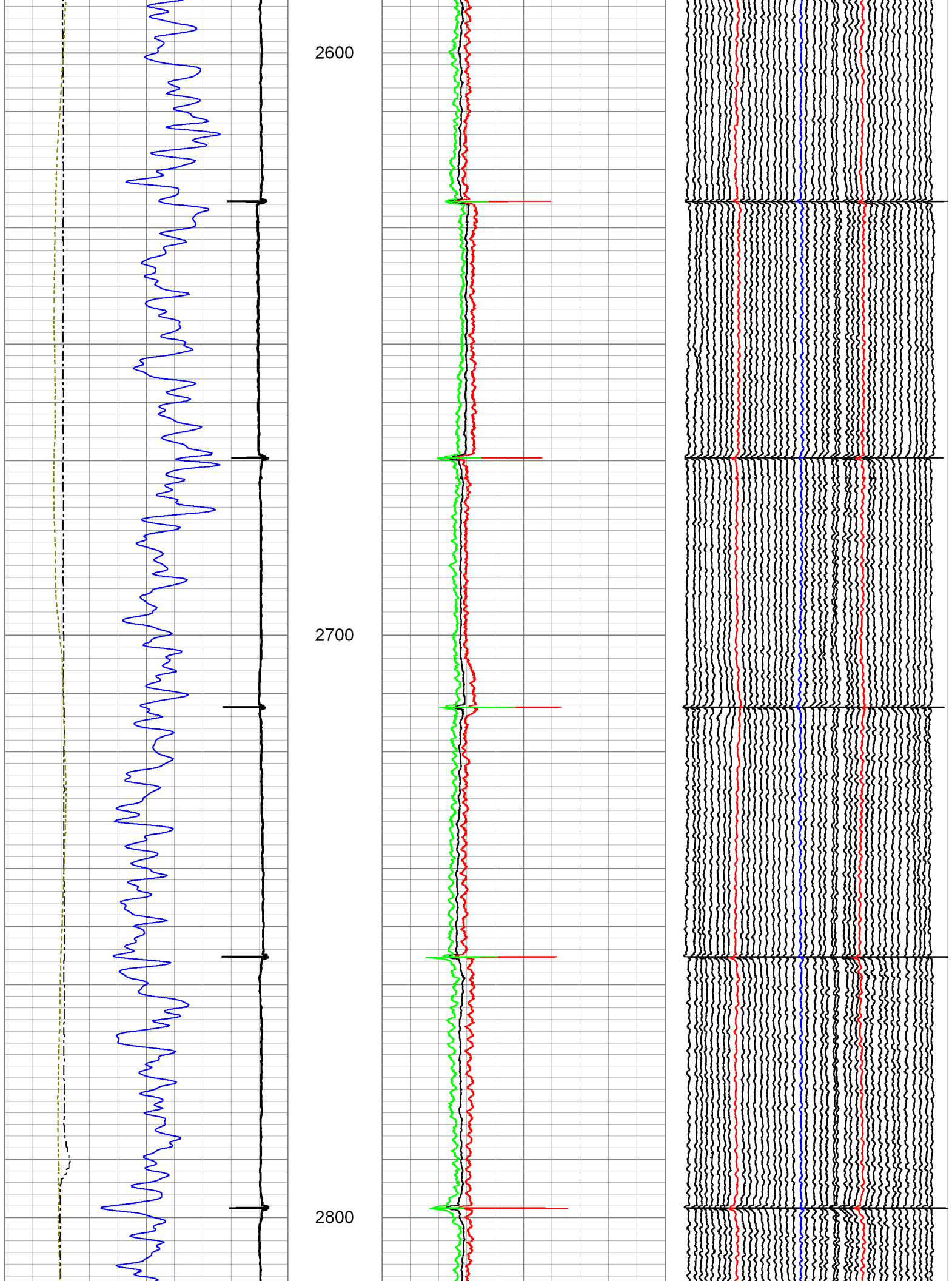


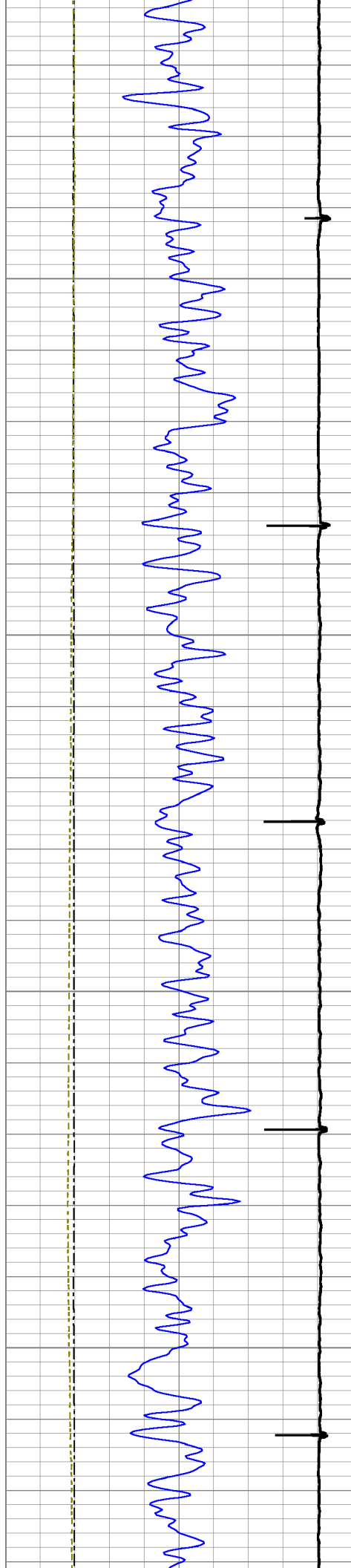
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2300



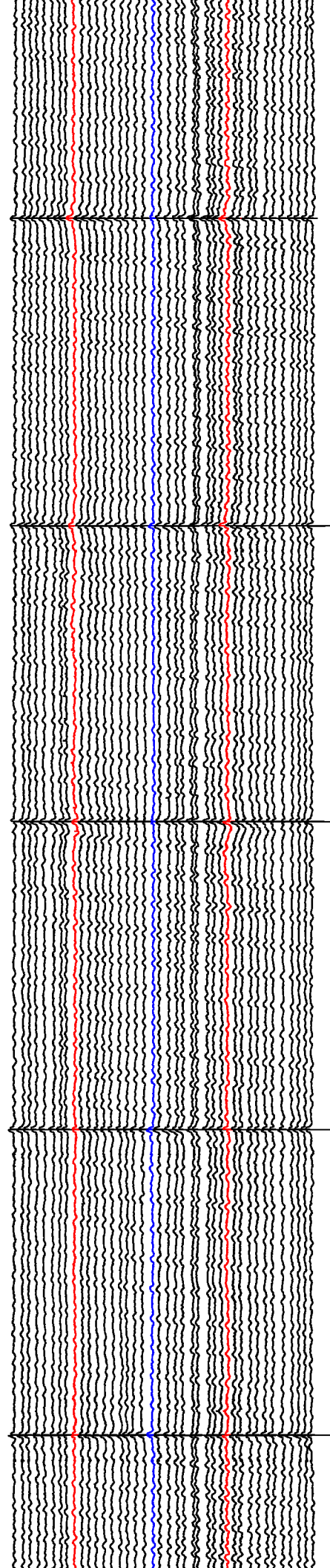
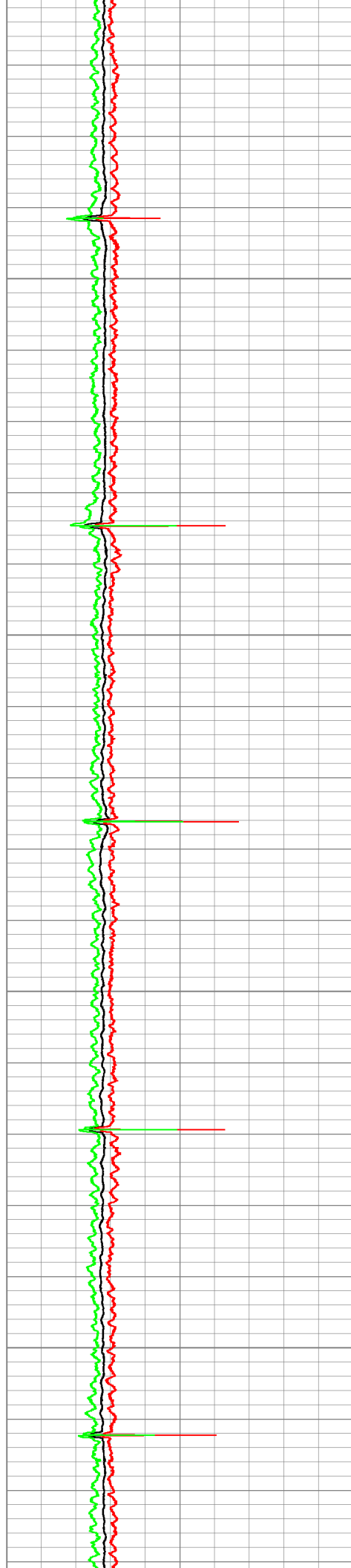


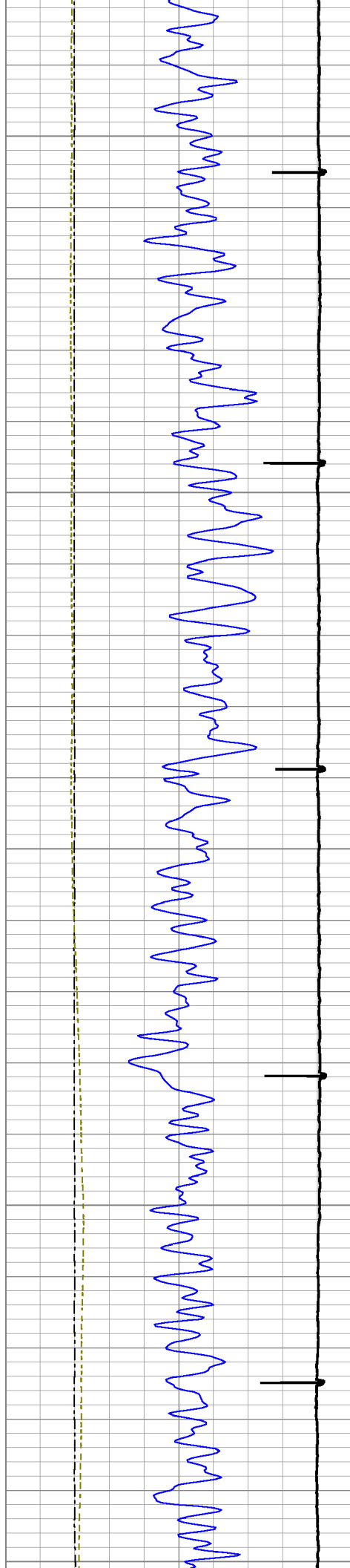




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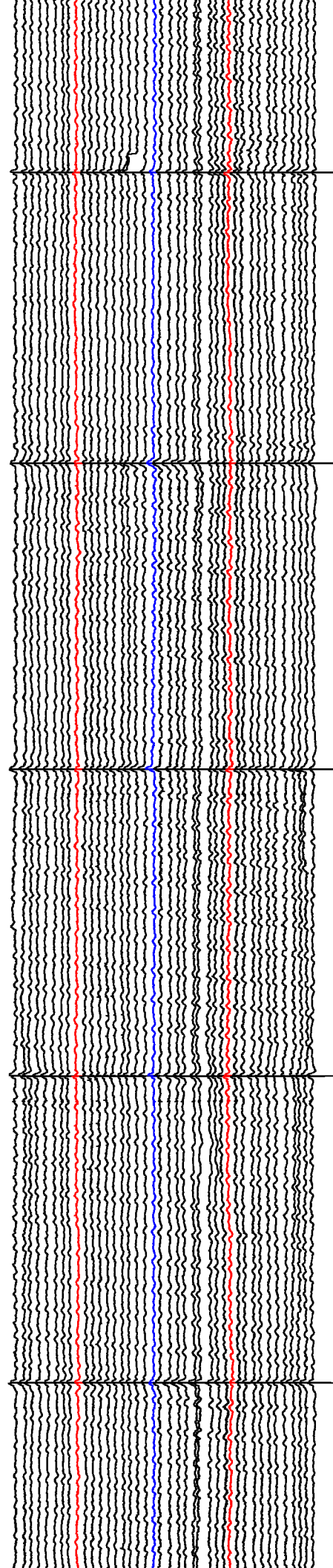
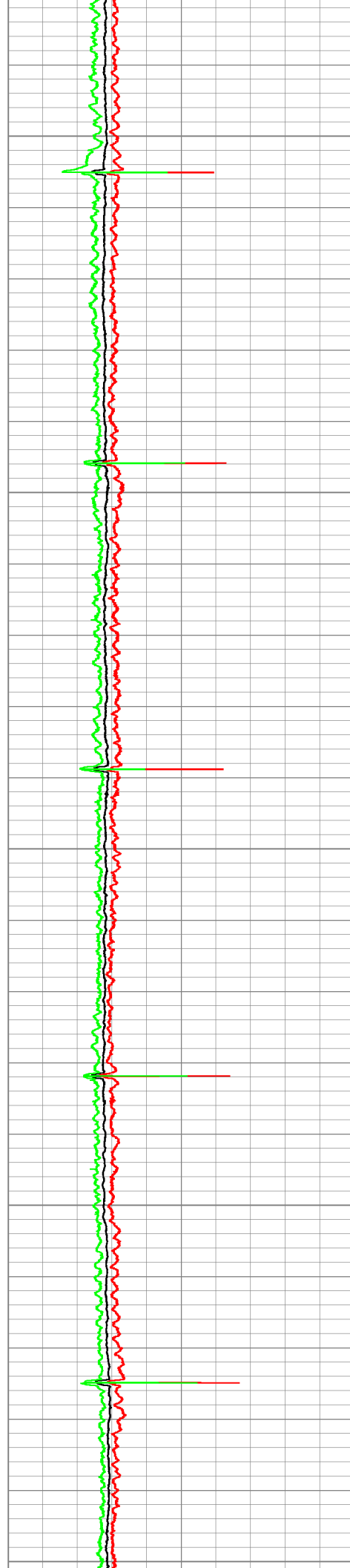
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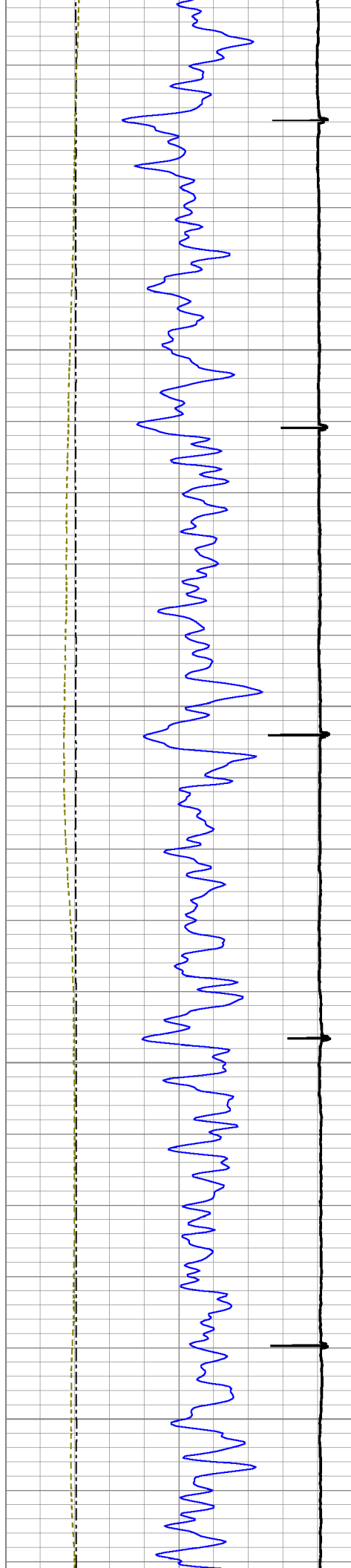




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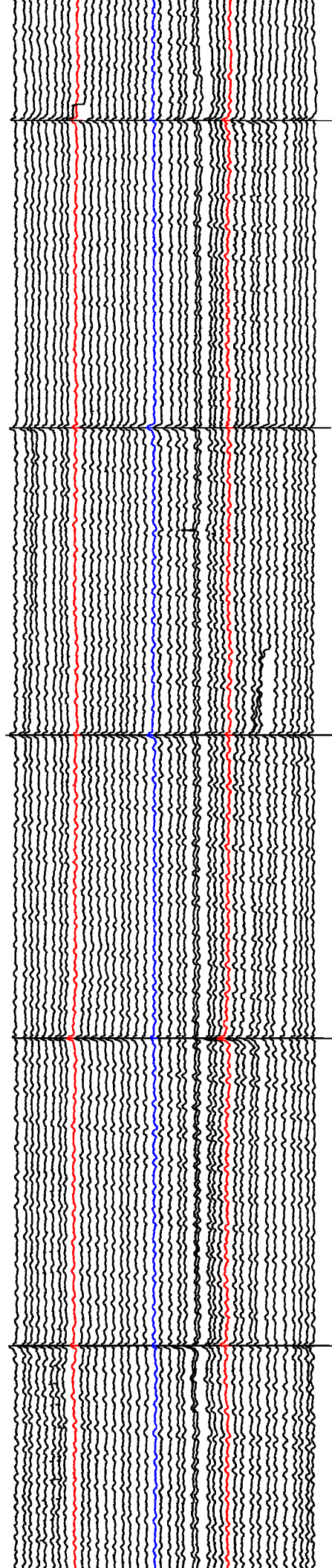
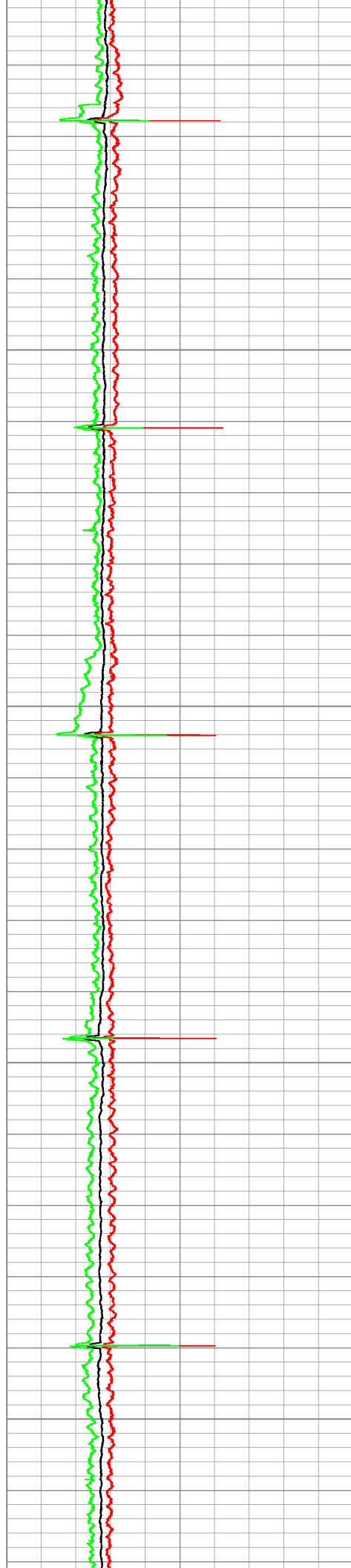
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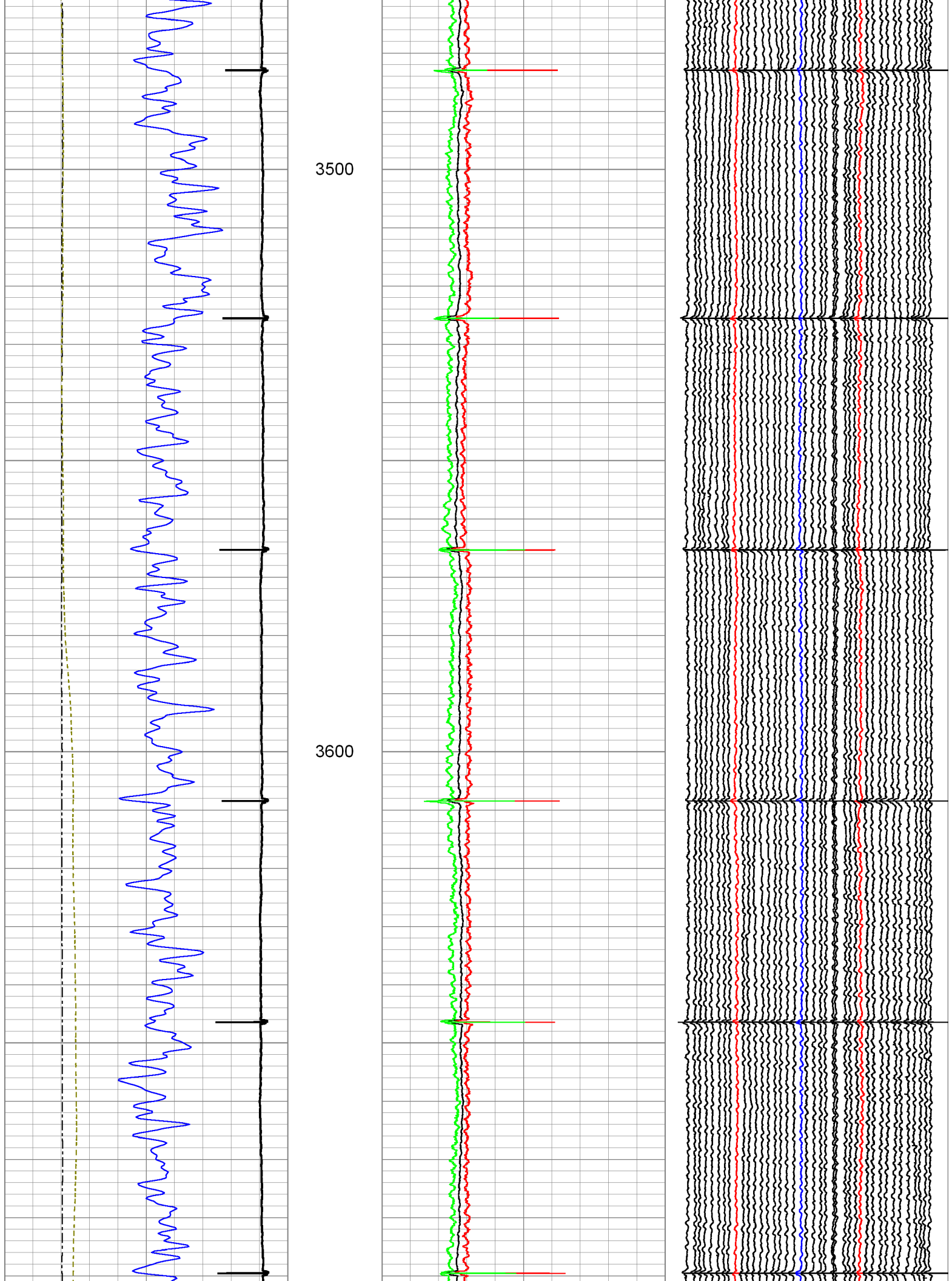


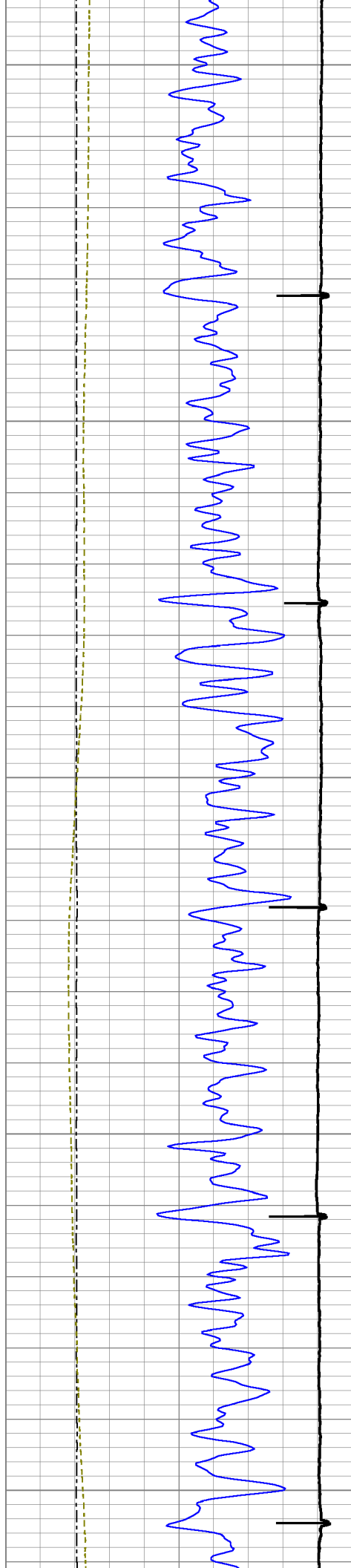


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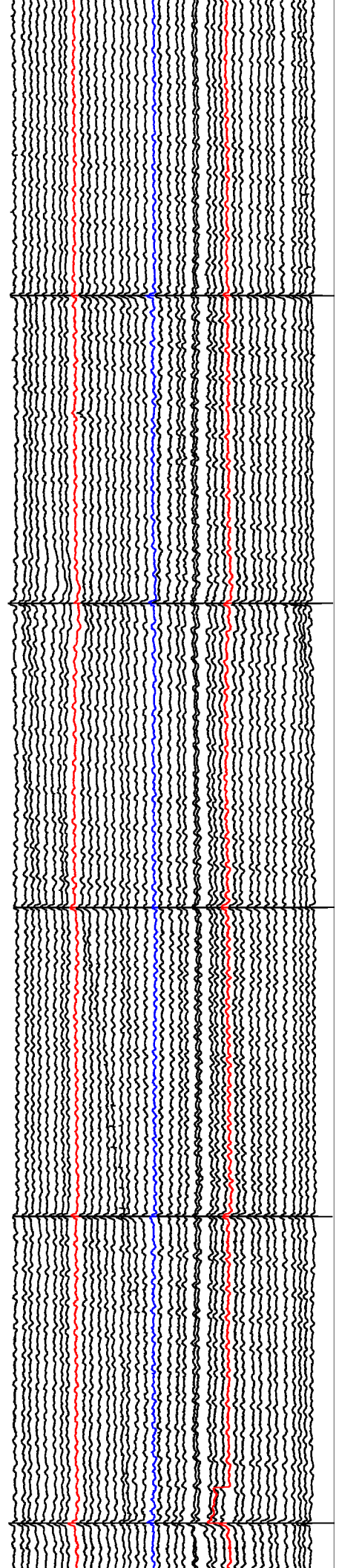


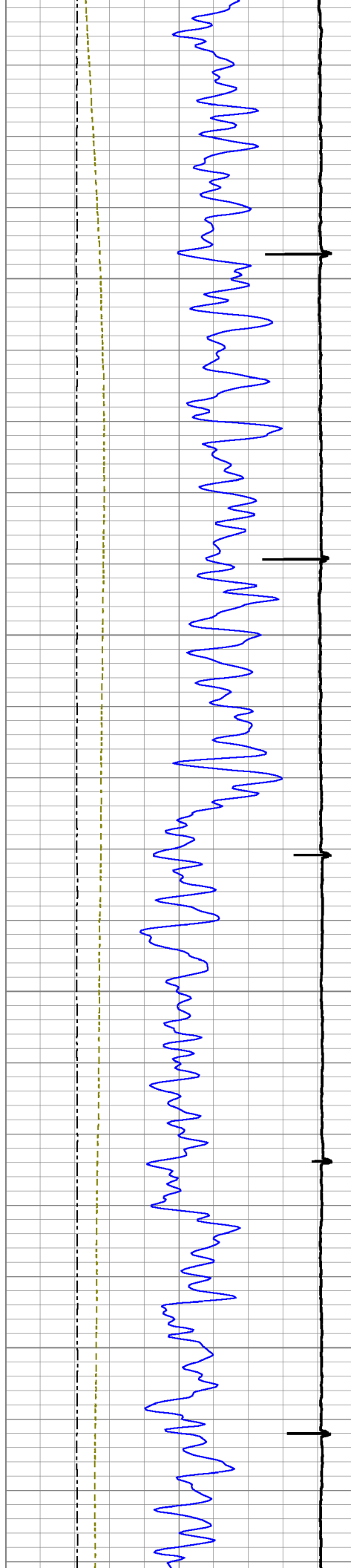


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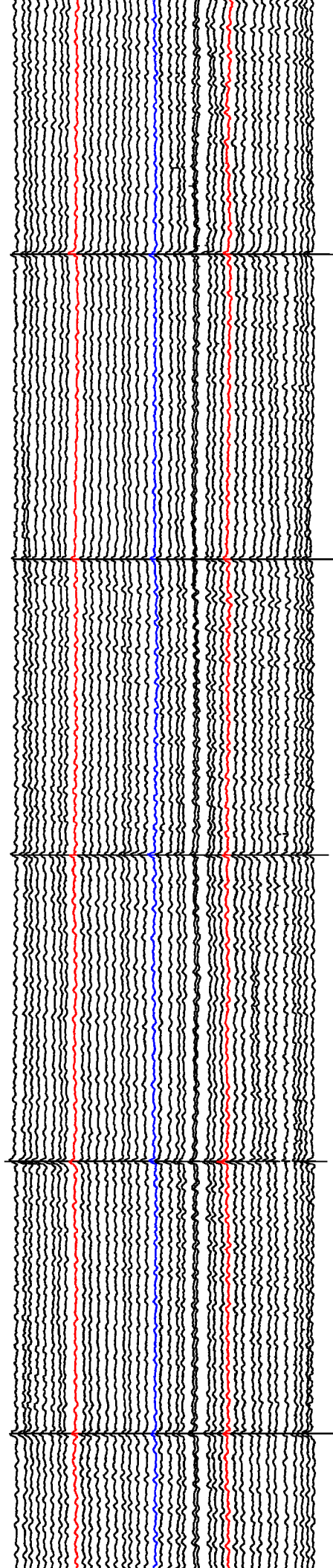
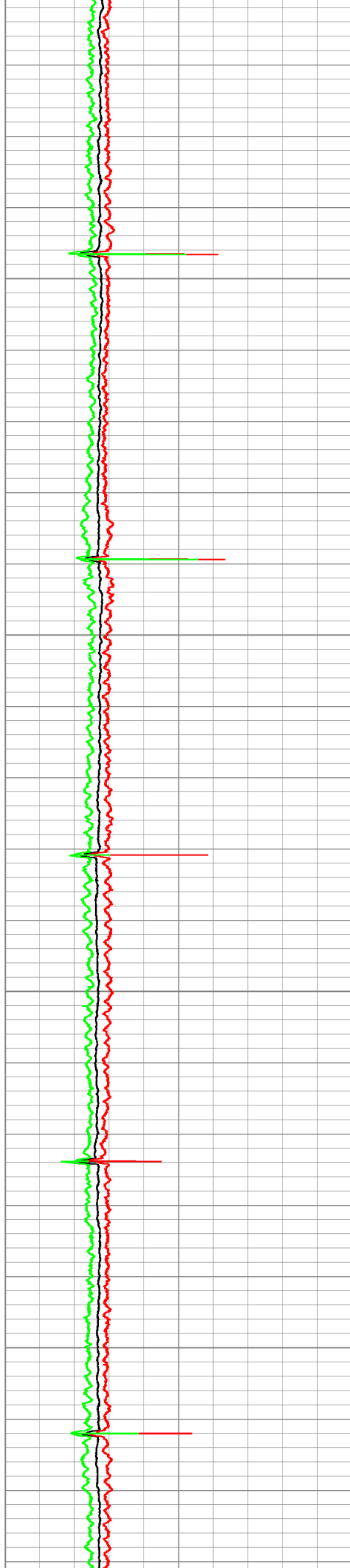
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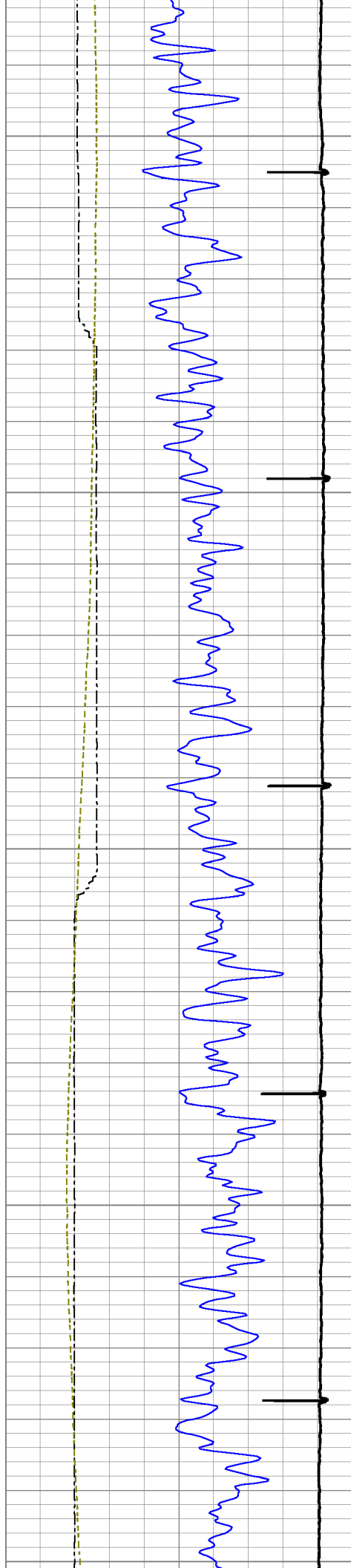




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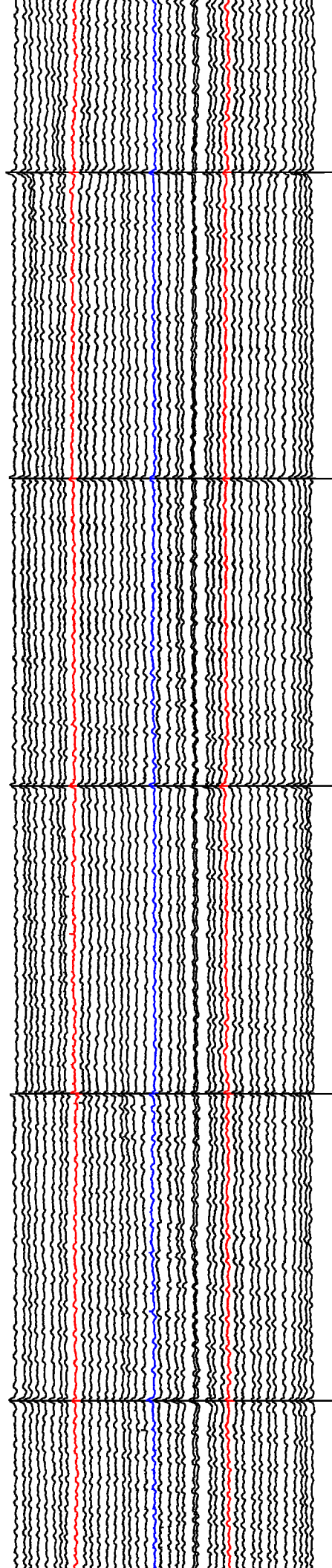
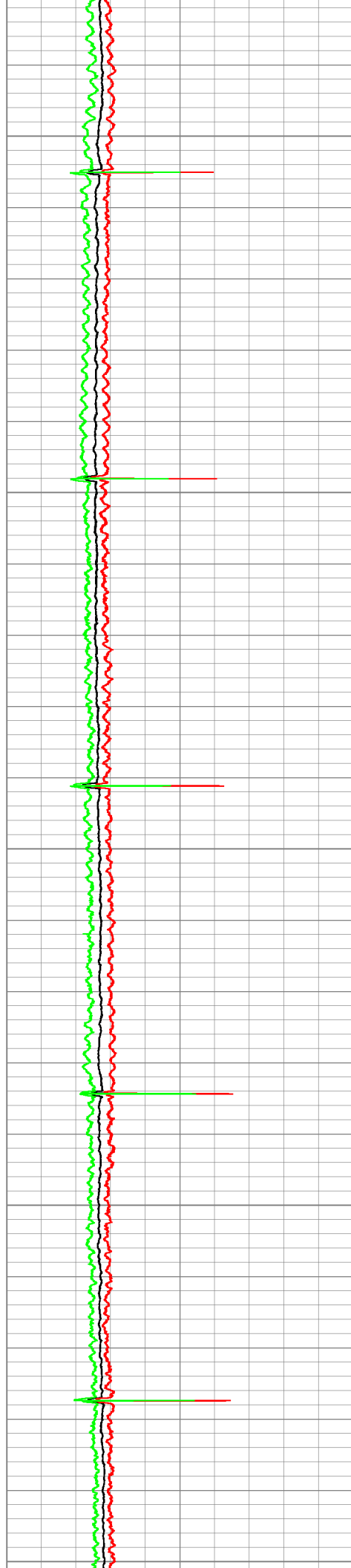
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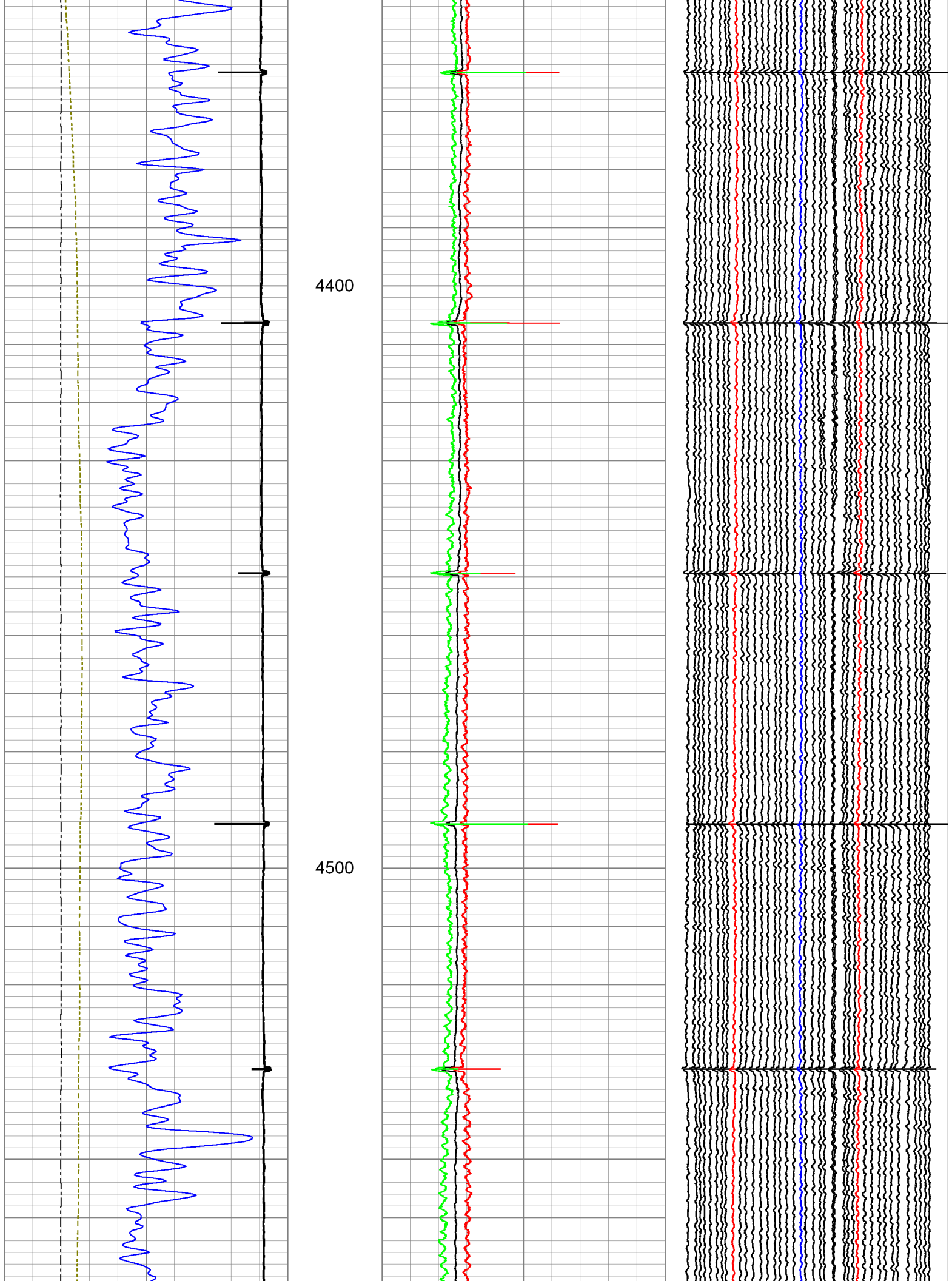


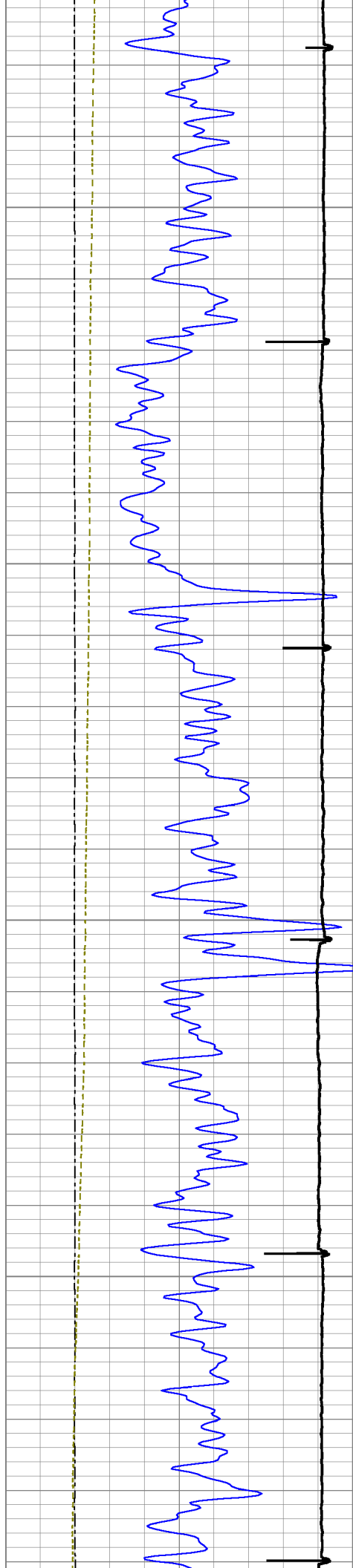


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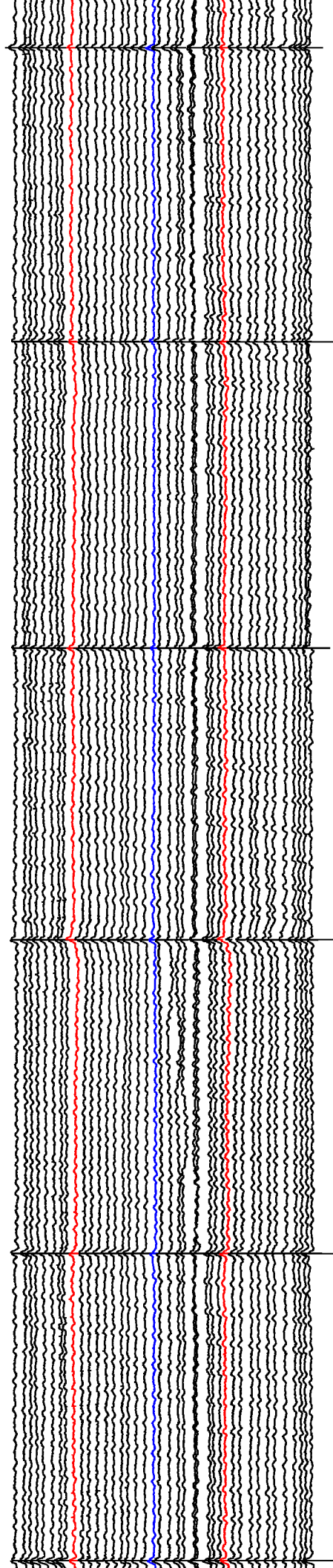
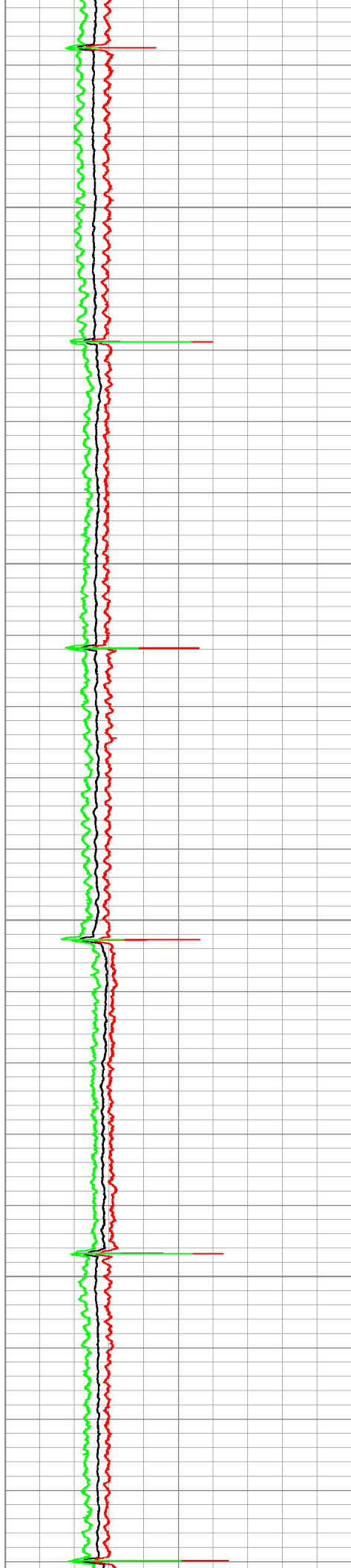


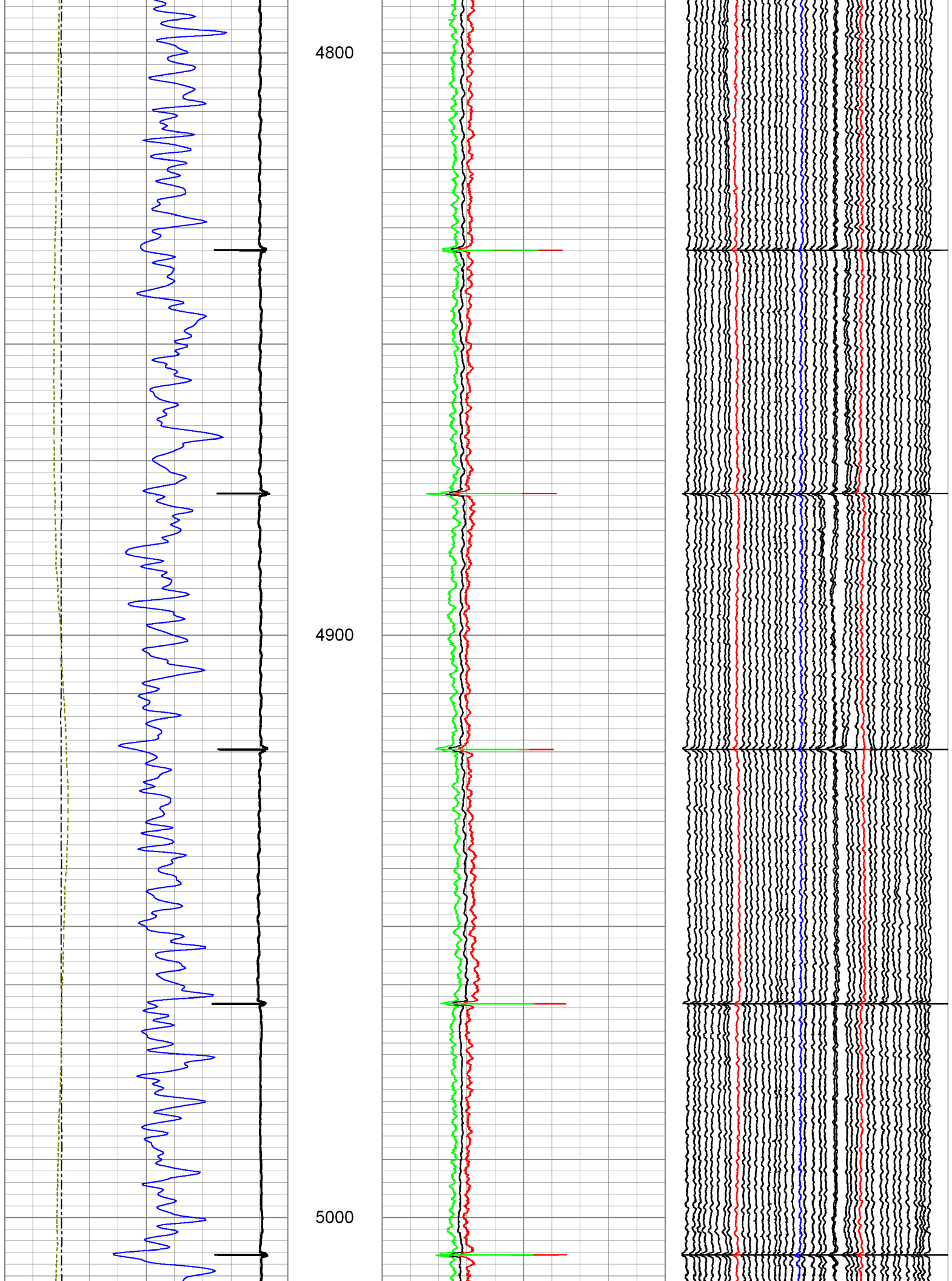


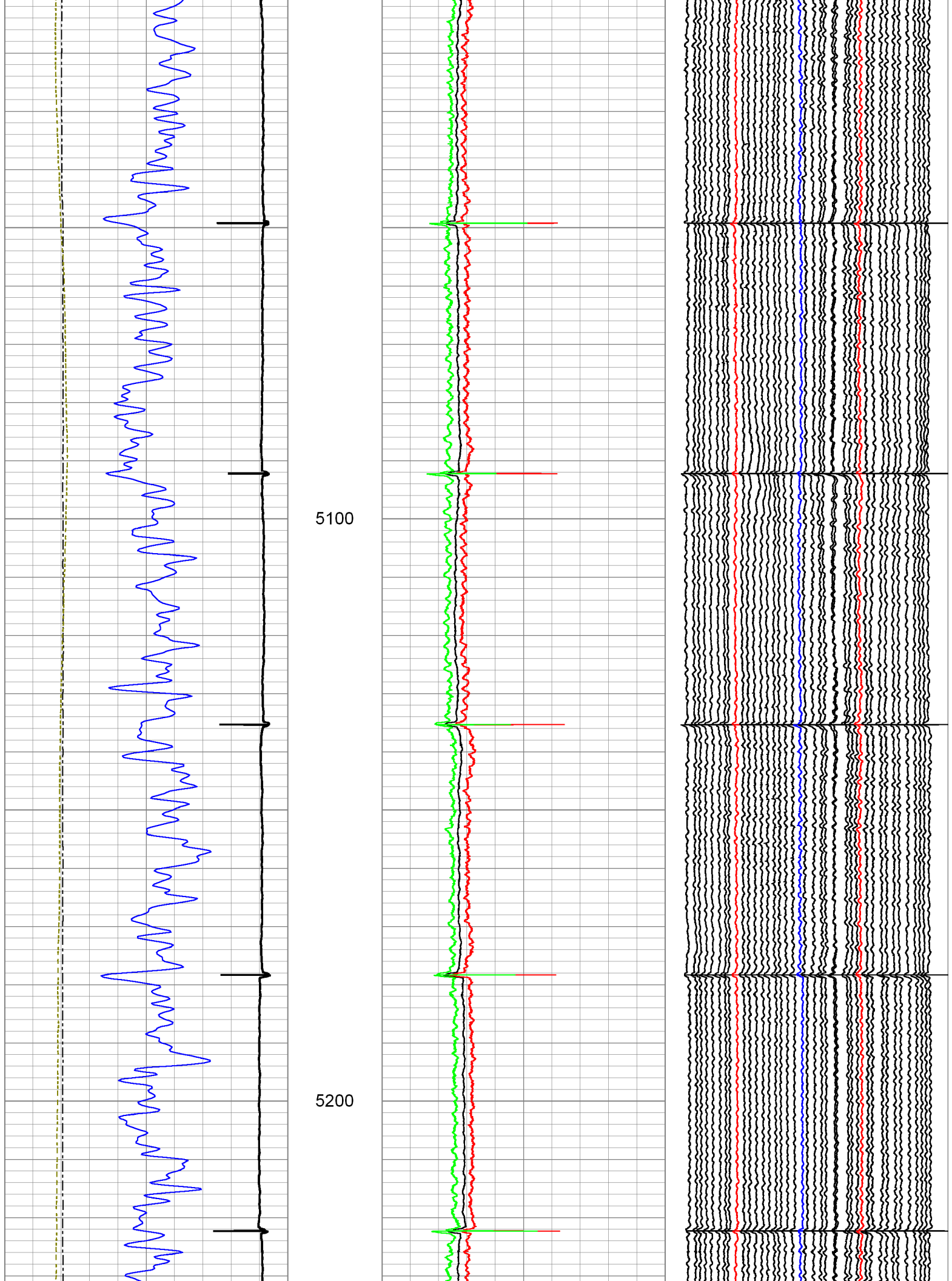


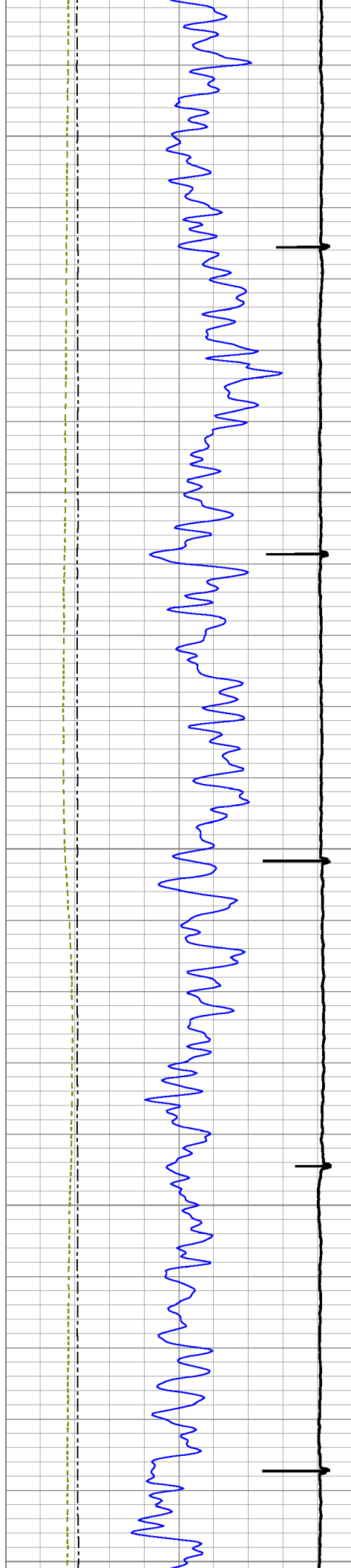
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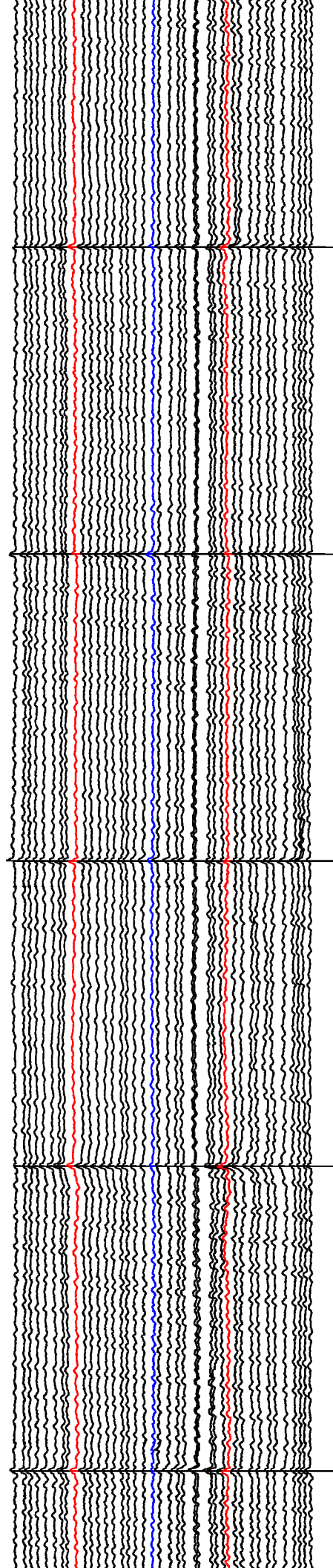
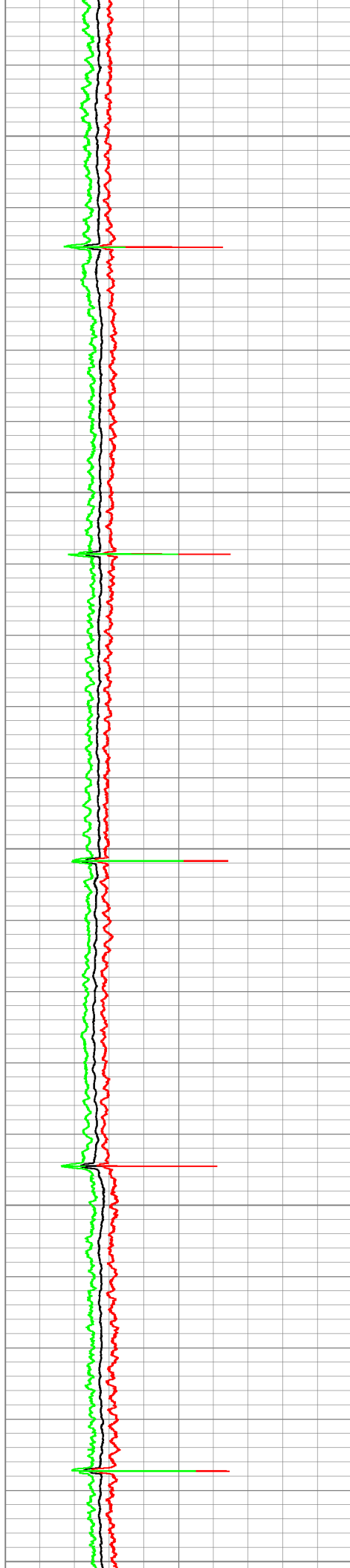


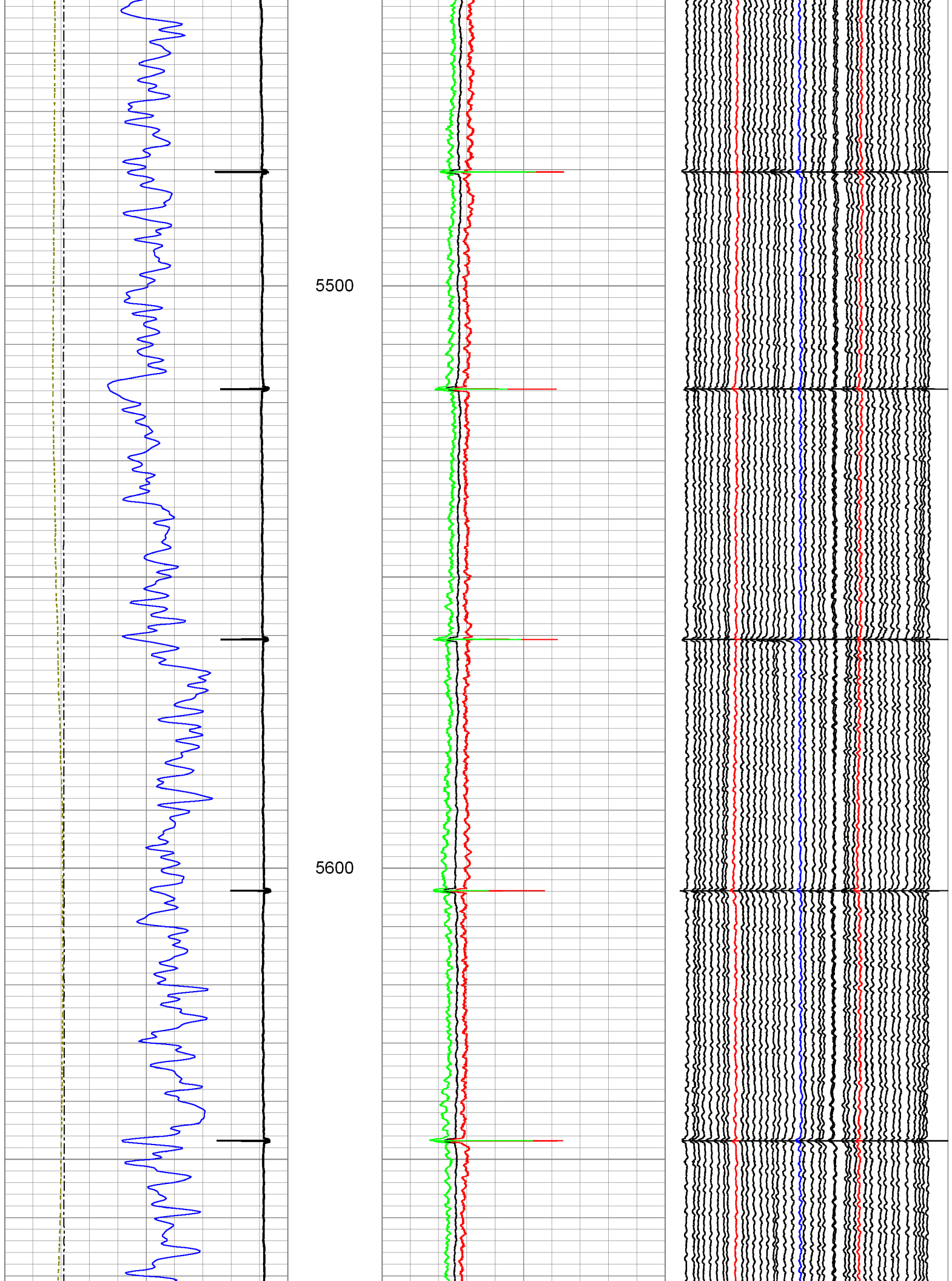


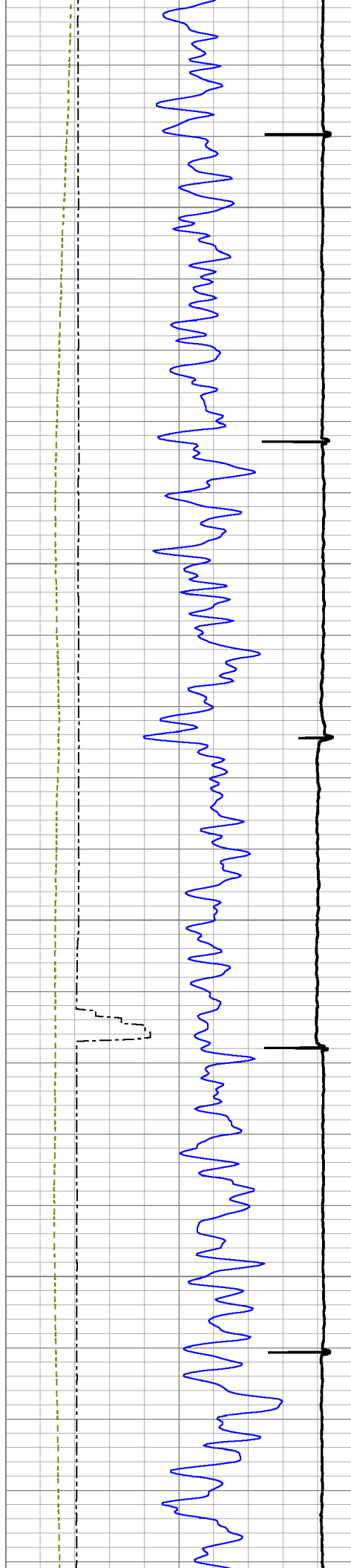


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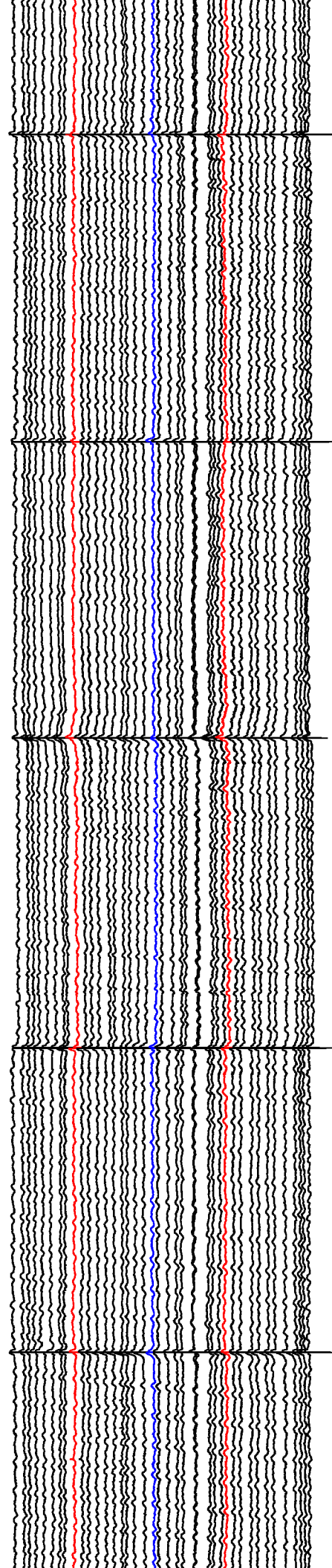


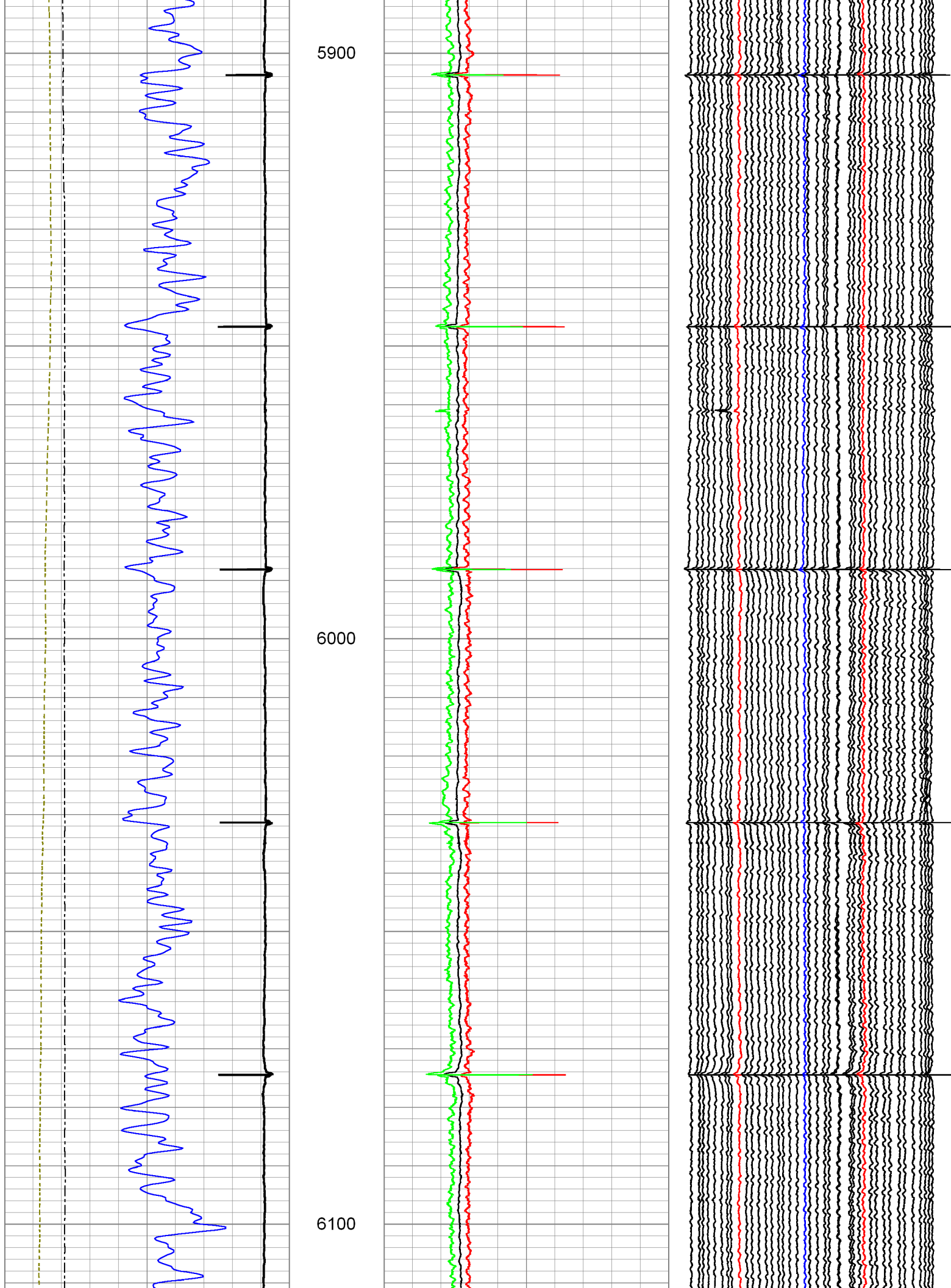


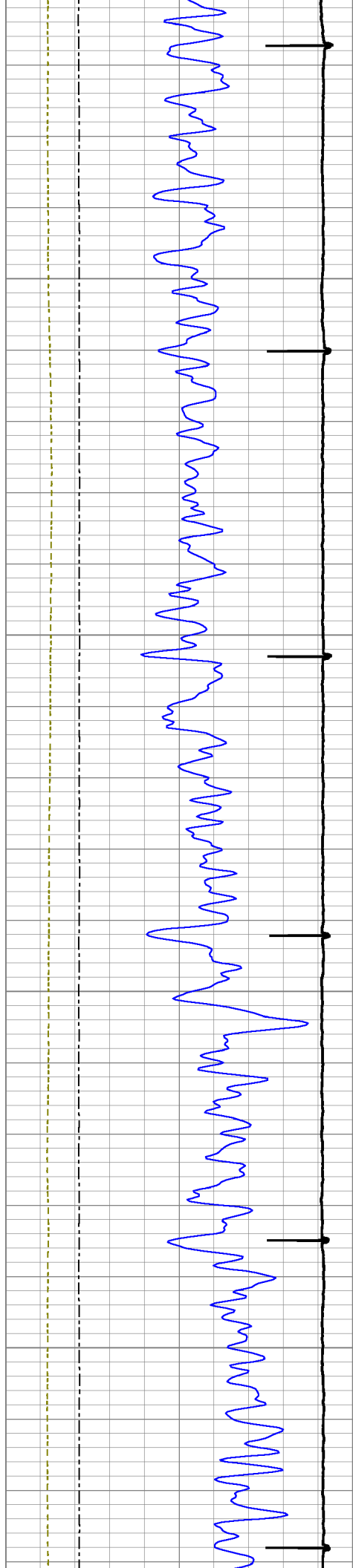


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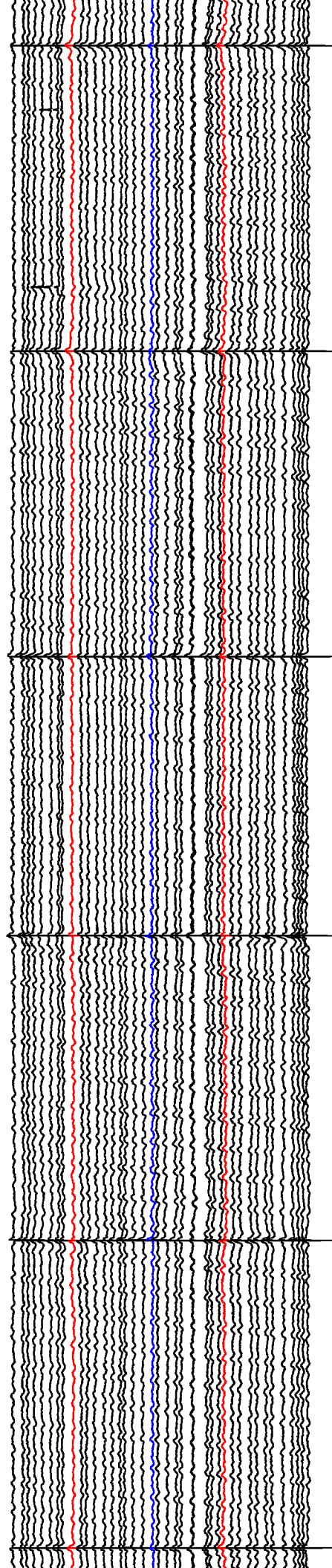
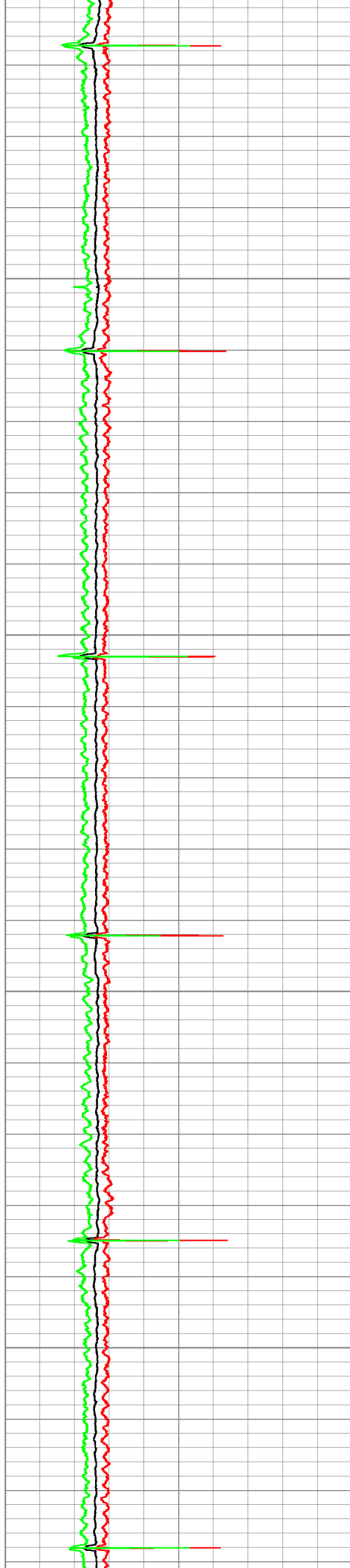


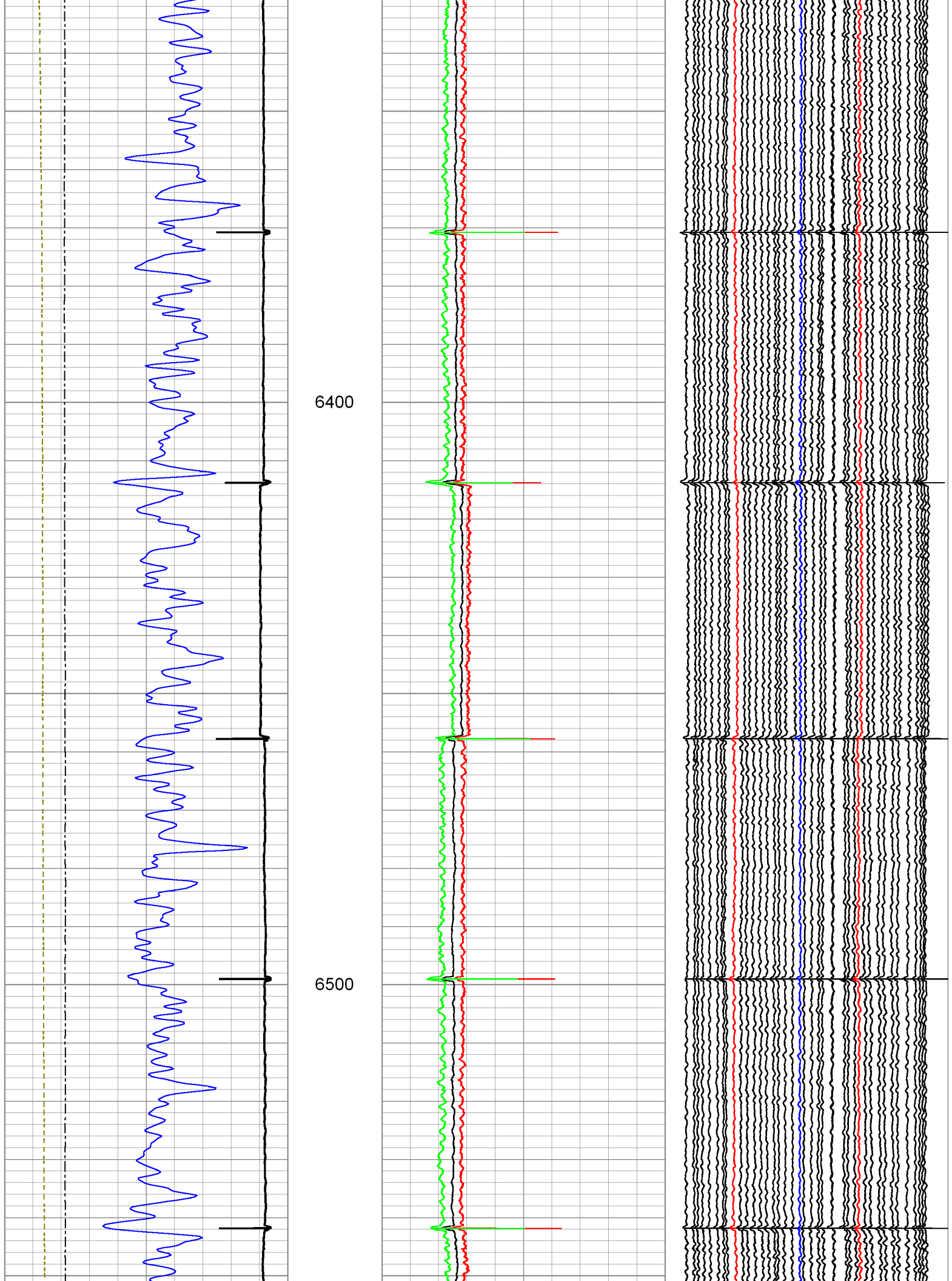


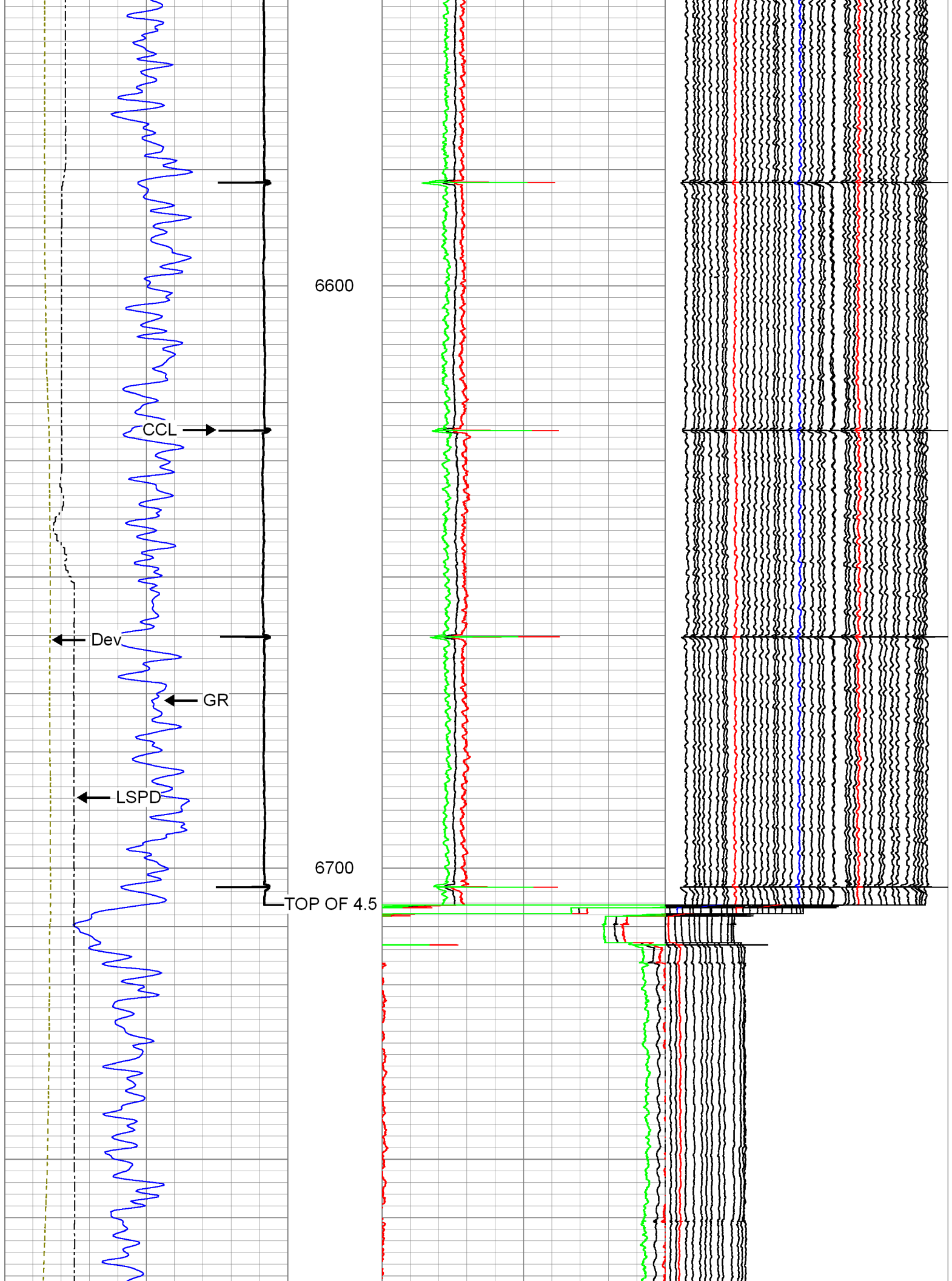


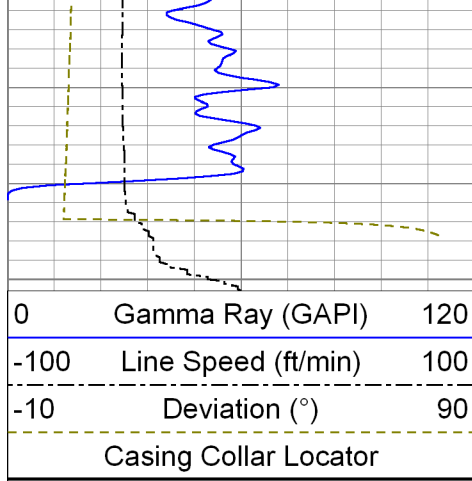
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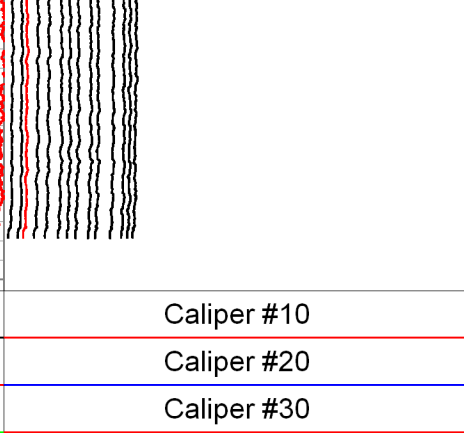
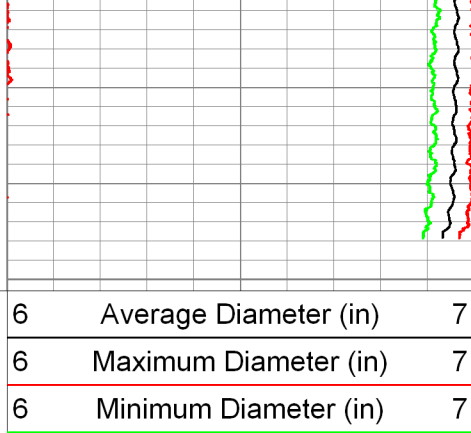






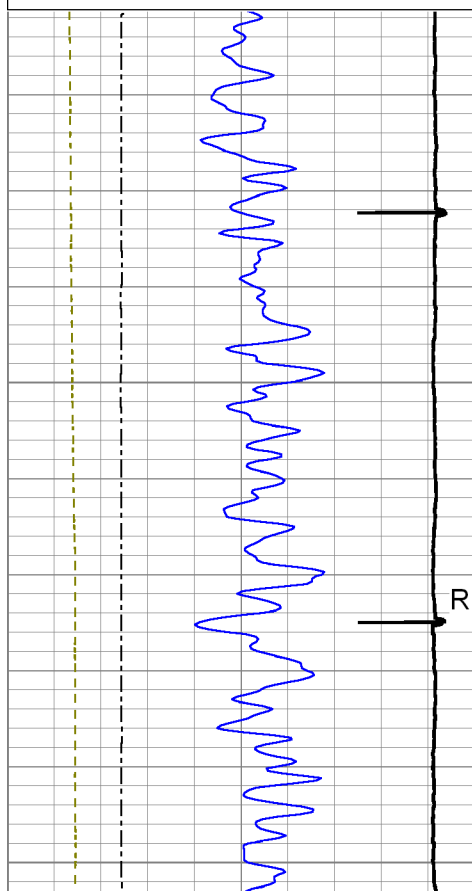
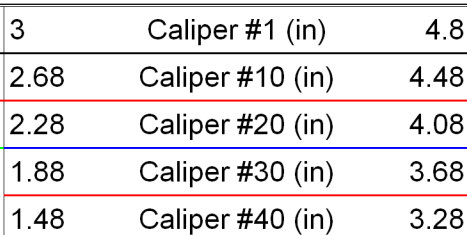
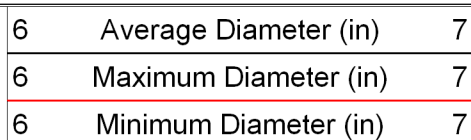
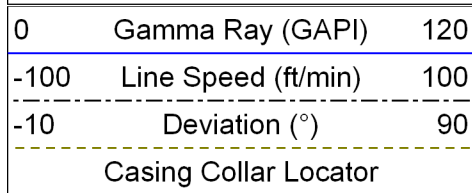


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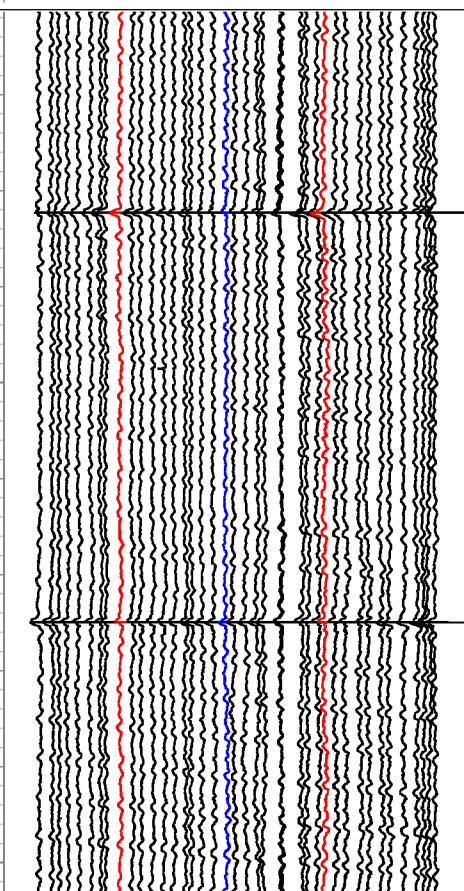
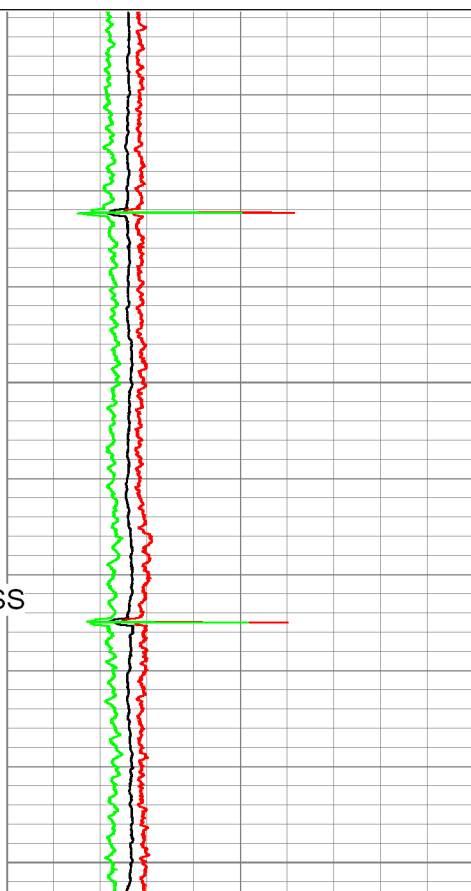
Repeat Pass

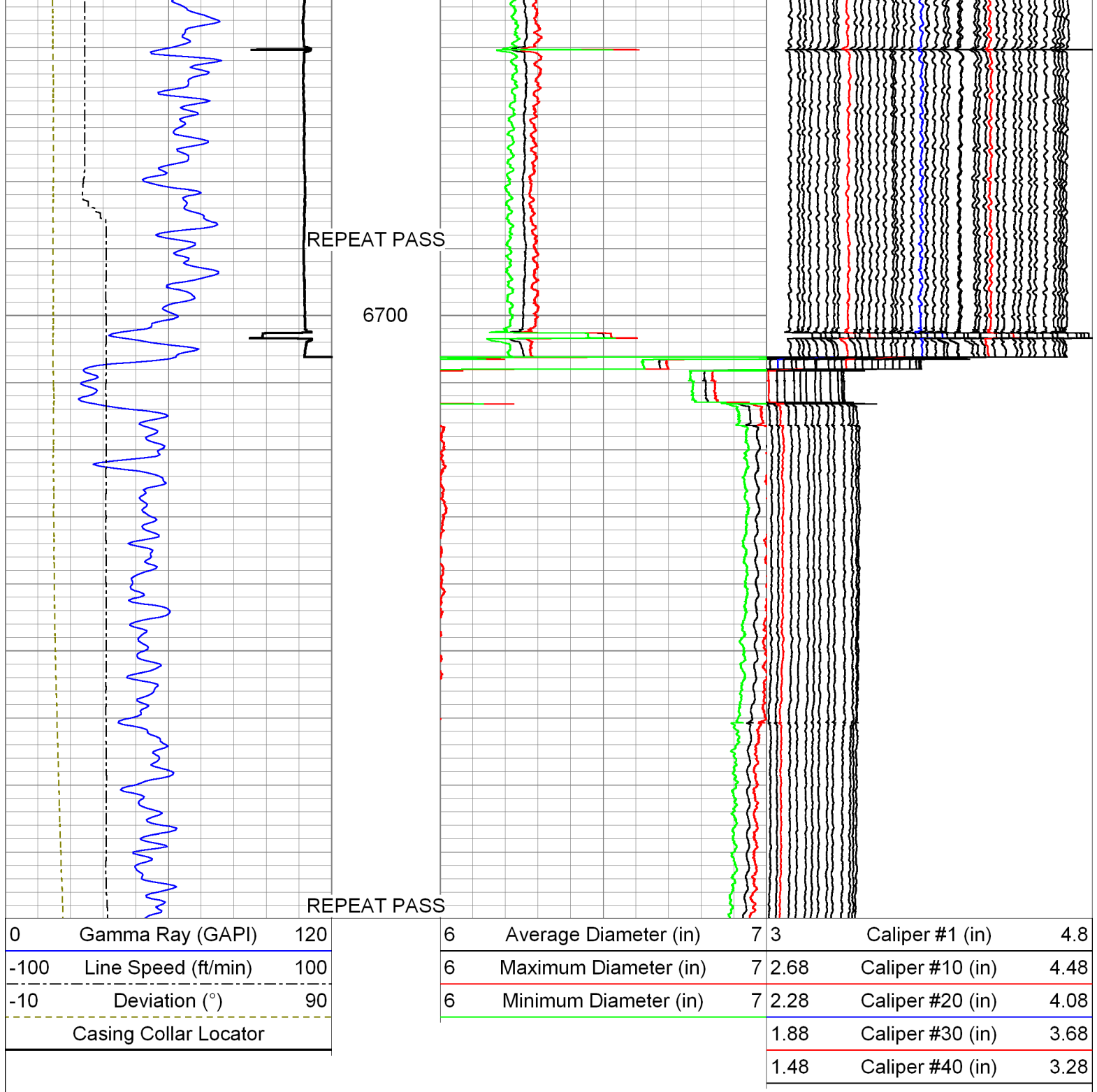
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 Presentation Format: 7.0mit40
 Dataset Creation: Fri Nov 15 13:12:52 2013 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240




6600

REPEAT PASS





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			AES 1-7/16" Cablehead	1.08	1.44	1.00
			AGS-001 (219135) Adaptor GO to Sondex	0.21	1.69	1.00
			XTU-002 (051219) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50

GR	11.22		PGR-020 (10013899) Production Gamma Ray	1.93	1.69	9.50
			PRC-057 (1037) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
MIT	5.41		MIT-042 (10014703) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			PRC-057 (1101) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
TSTAMP	0.00		BUL-006 (219228) Bullnose Terminator	0.22	1.69	1.20
Dataset: 0512337028_anadarko_kunzman_4n-5hz_11-15-13_mit.db: field/well/run1/pass2 Total Length: 15.52 ft Total Weight: 144.30 lb O.D. 2.75 in						

Calibration Report	
Database File:	0512337028_anadarko_kunzman_4n-5hz_11-15-13_mit.db
Dataset Pathname:	pass2
Dataset Creation:	Fri Nov 15 13:24:07 2013 by Log Sondex V7.03
Multi-finger Imaging Tool Calibration Report	
Serial Number:	10014703
Number of Fingers:	40
Tool Model:	042
Inclinometer Calibration Report	
Performed:	Fri Sep 20 11:47:48 2013
Calibration Angle:	15


Calibration Angle: 45		Inc X	Inc Y
Vertical:		1963	1960
Finger 1 up:		1748	1727
Finger 31 up:		2195	1742
Finger 21 up:		2178	2188
Finger 11 up:		1727	2173
Sensitivity ratio:	1.00706		
X-axis angle:	132.825		
Deviation const.:	317.775		

Finger Calibration Report							
Performed:				Fri Nov 15 12:32:10 2013			
Ring size:	4		5		6		7
(in)	Sens		Sens		Sens		
Finger 01:	1183	329.0	1512	461.0	1973	393.0	2366
Finger 02:	1115	330.0	1445	476.0	1921	433.0	2354
Finger 03:	1142	318.0	1460	461.0	1921	429.0	2350
Finger 04:	1085	322.0	1407	477.0	1884	463.0	2347
Finger 05:	1160	313.0	1473	444.0	1917	440.0	2357
Finger 06:	1113	316.0	1429	447.0	1876	463.0	2339
Finger 07:	1136	315.0	1451	427.0	1878	458.0	2336
Finger 08:	1085	320.0	1405	433.0	1838	485.0	2323
Finger 09:	1161	321.0	1482	406.0	1888	456.0	2344
Finger 10:	1133	321.0	1454	400.0	1854	463.0	2317
Finger 11:	1109	325.0	1434	390.0	1824	473.0	2297
Finger 12:	1196	329.0	1525	361.0	1886	435.0	2321
Finger 13:	1127	331.0	1458	369.0	1827	469.0	2296
Finger 14:	1094	347.0	1441	372.0	1813	478.0	2291
Finger 15:	1077	356.0	1433	363.0	1796	477.0	2273
Finger 16:	1128	357.0	1485	345.0	1830	455.0	2285
Finger 17:	1160	358.0	1518	328.0	1846	428.0	2274
Finger 18:	1177	359.0	1536	320.0	1856	419.0	2275
Finger 19:	1157	378.0	1535	322.0	1857	421.0	2278
Finger 20:	1100	395.0	1495	331.0	1826	429.0	2255
Finger 21:	1167	382.0	1549	311.0	1860	395.0	2255
Finger 22:	1161	395.0	1556	317.0	1873	390.0	2263
Finger 23:	1243	376.0	1619	297.0	1916	357.0	2273
Finger 24:	1151	410.0	1561	329.0	1890	377.0	2267
Finger 25:	1156	406.0	1562	331.0	1893	372.0	2265
Finger 26:	1183	405.0	1588	330.0	1918	349.0	2267
Finger 27:	1199	396.0	1595	332.0	1927	346.0	2273
Finger 28:	1154	412.0	1566	356.0	1922	351.0	2273
Finger 29:	1139	413.0	1552	374.0	1926	355.0	2281
Finger 30:	1143	409.0	1552	386.0	1938	353.0	2291
Finger 31:	1182	395.0	1577	381.0	1958	333.0	2291
Finger 32:	1145	396.0	1541	411.0	1952	352.0	2304
Finger 33:	1143	390.0	1533	419.0	1952	352.0	2304
Finger 34:	1125	387.0	1512	439.0	1951	364.0	2315
Finger 35:	1184	365.0	1549	421.0	1970	346.0	2316
Finger 36:	1126	370.0	1496	453.0	1949	372.0	2321
Finger 37:	1214	346.0	1560	427.0	1987	353.0	2340
Finger 38:	1183	344.0	1527	449.0	1976	374.0	2350
Finger 39:	1142	343.0	1485	466.0	1951	395.0	2346
Finger 40:	1080	345.0	1425	491.0	1916	424.0	2340

Gamma Ray Calibration Report

Serial Number:	10013899
Tool Model:	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	Kerr-McGee Oil & Gas Onshore, L.P.
	Well	Kunzman 4N-5HZ
	Field	Wattenberg
	County	Weld
	State	Colorado