



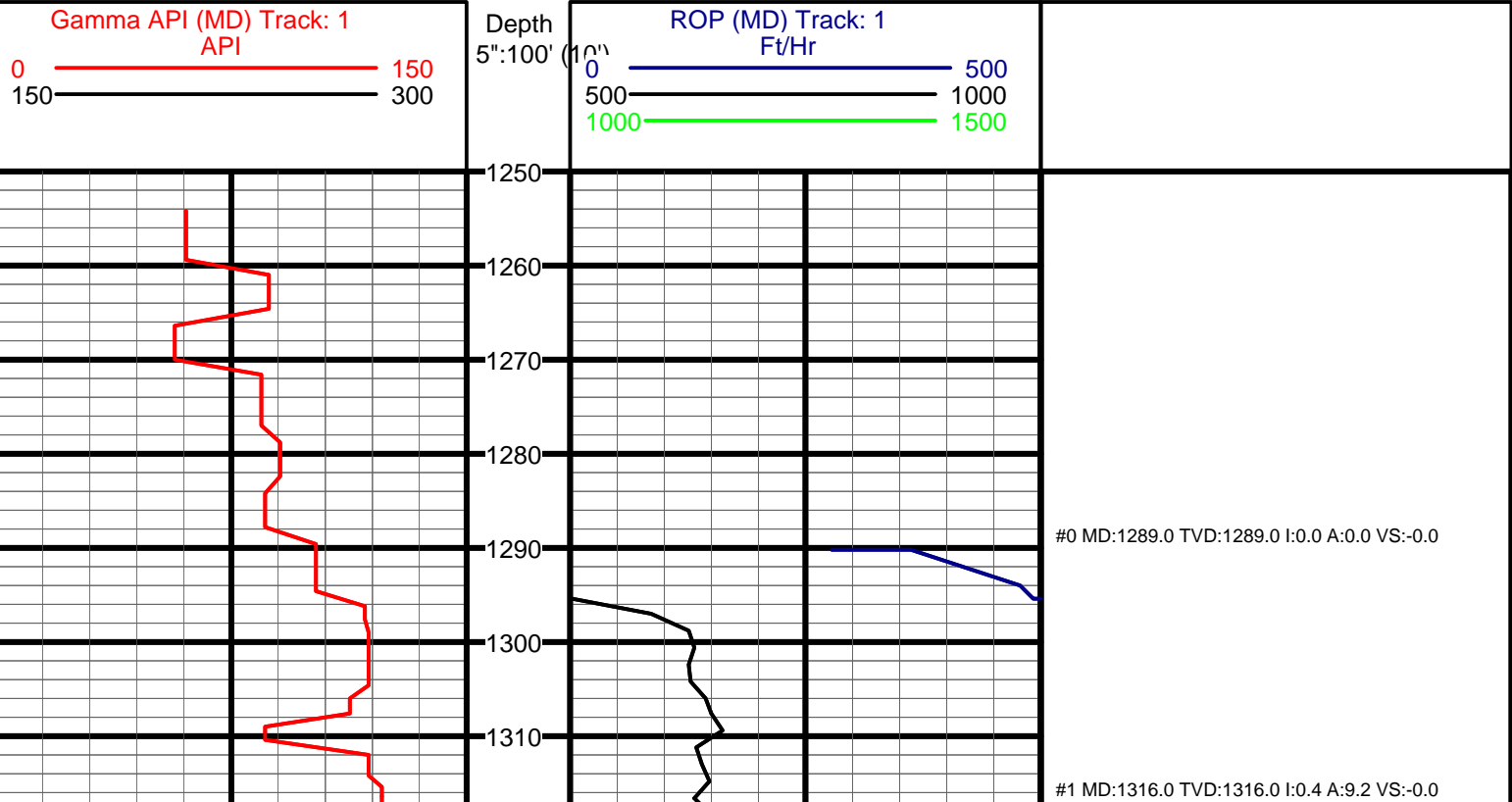
KAUFMAN PC GL20-68HN FINAL 5" MD
(Scale: 5":100' (10'))

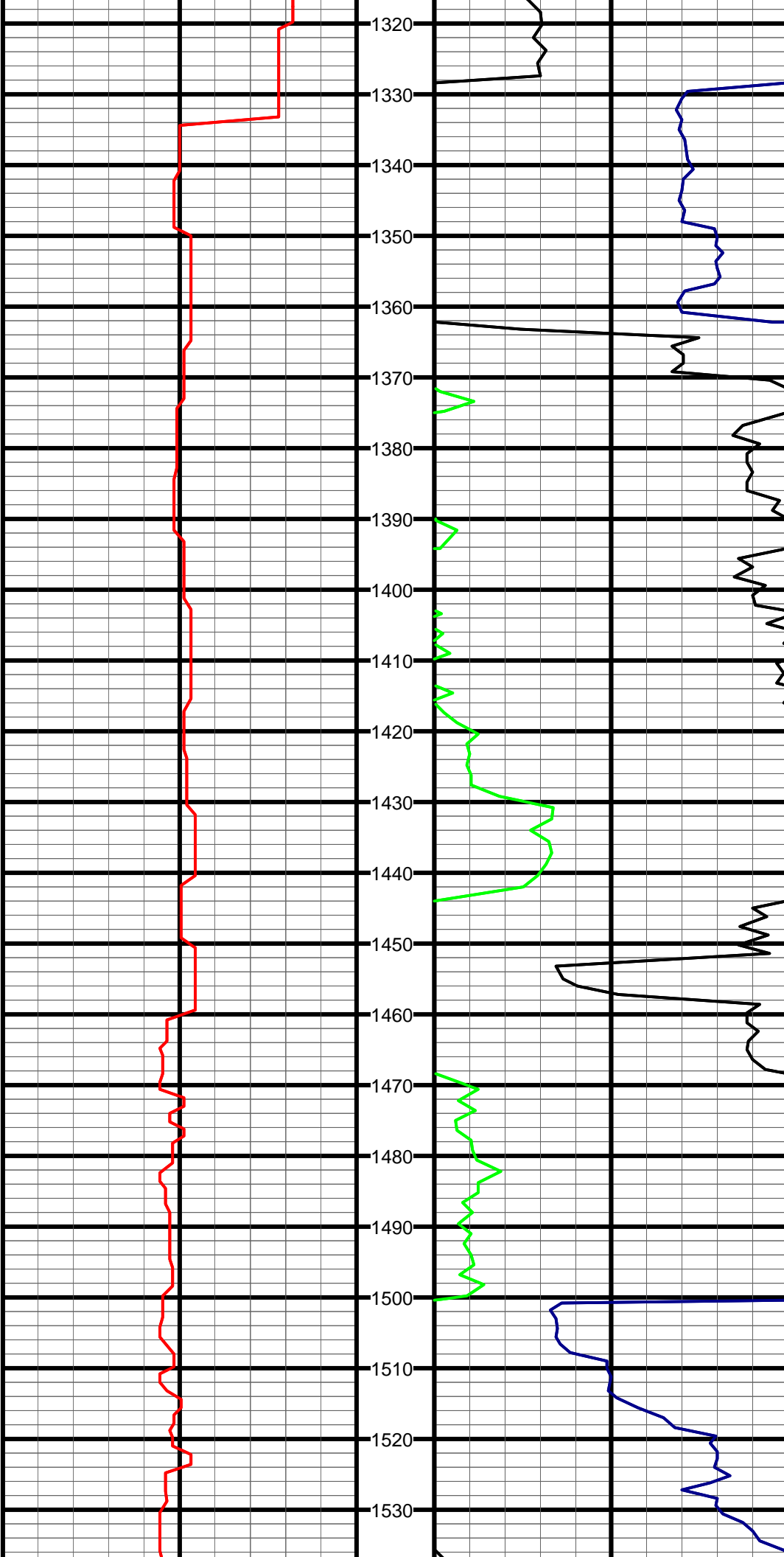
Company: NOBLE ENERGY, INC.
Well: KAUFMAN PC GL20-68HN
Field: WILDCAT
Well ID: 05-123-35887-00
Job Number: RM-12938
Location: LAT: 40° 54' 53.964 N / LONG: 104° 7' 33.708 W
Operator 1: CHRIS ABBOTT
Operator 2: TROY MARDESEN

State: COLORADO
County: WELD
Country: USA
Elev KB: 5,312'
Elev DF: N/A
Elev GL: 5,282'

Comment 1: TIE INTO SURFACE CASING AT 1,279'
Comment 2:
Comment 3:
Comment 4:
Comment 5:

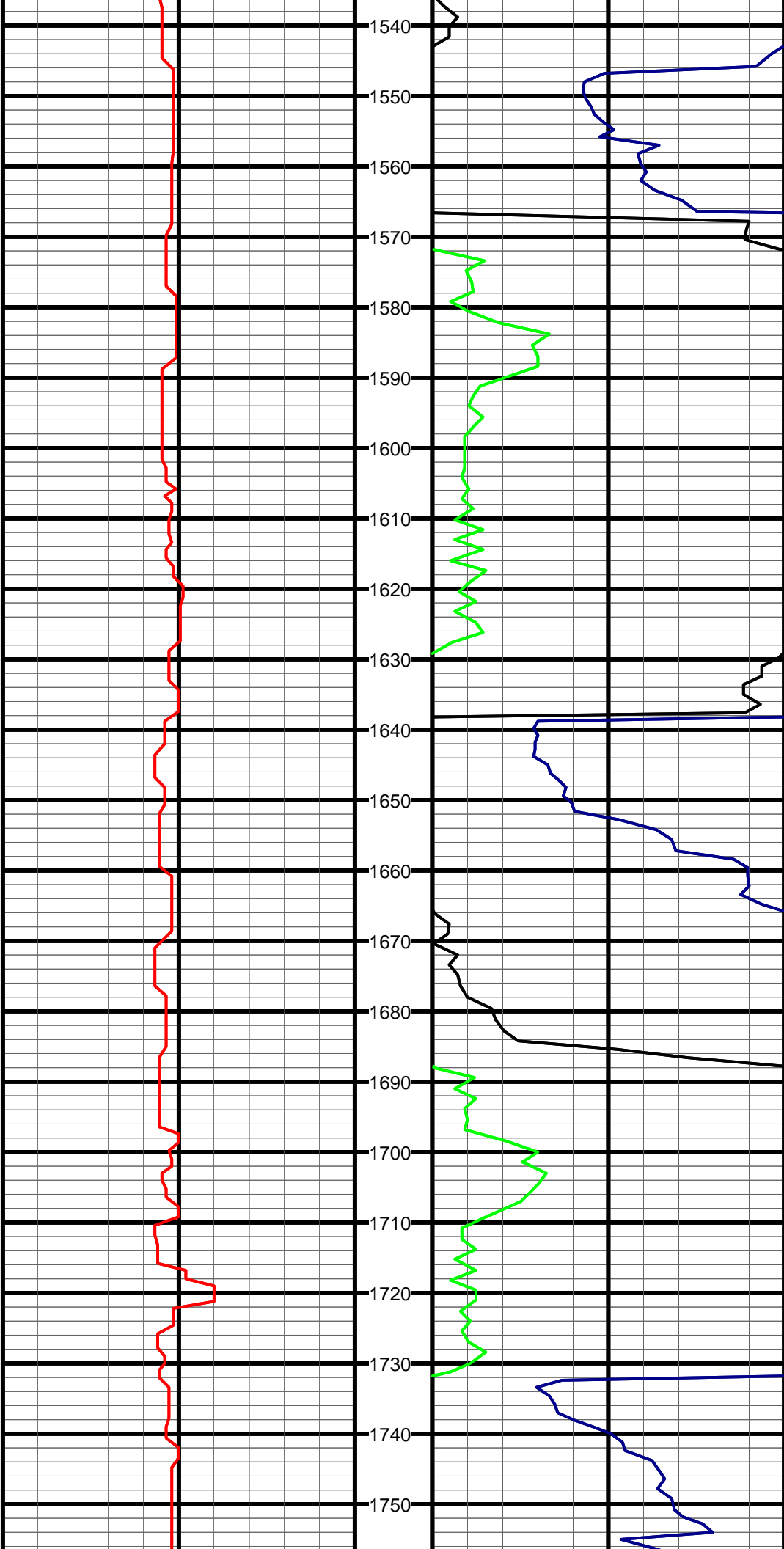
Hole Data			Casing Record			
Size	From	To	Size	From	To	
13 3/4"	0'	1,289'	9 5/8"	0	1,279'	
8 3/4"	1,289'	7,304'	7"	1,279'	7,290'	
6 1/8"	7,304'	11,290'				
Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5	
Tool S/N	2422	2422	2422	2422	1836	
Cal Factor	3.875	3.875	3.875	2.25	2.036	
Gamma Offset	36	36	36	49	49	
Start Depth	1,289'	6,167'	7,114'	7,304'	7,756'	
Start Date	12/15/2012	12/16/2012	12/17/2012	12/20/2012	12/20/2012	
Start Time	10:00	16:00	16:00	03:00	22:30	
End Depth	6,167'	7,114'	7,304'	7,756'	11,290'	
End Date	12/16/2012	12/17/2012	12/17/12	12/20/12	12/22/2012	
End Time	07:00	04:30	21:00	13:00	12:00	





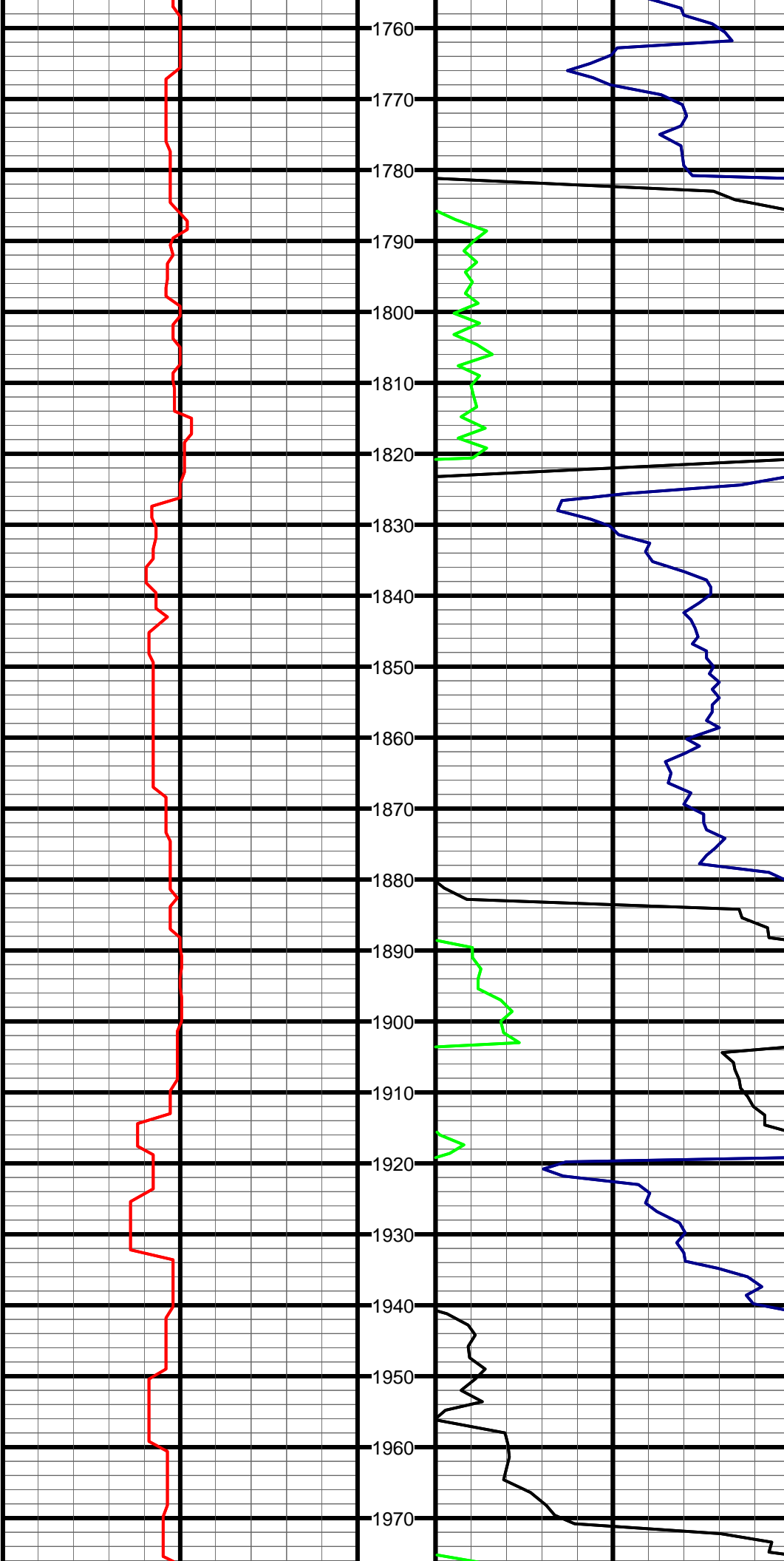
#2 MD:1409.0 TVD:1409.0 I:0.4 A:342.3 VS:-0.1

#3 MD:1504.0 TVD:1504.0 I:0.4 A:190.1 VS:-0.3



#4 MD:1597.0 TVD:1596.9 I:3.4 A:168.5 VS:0.7

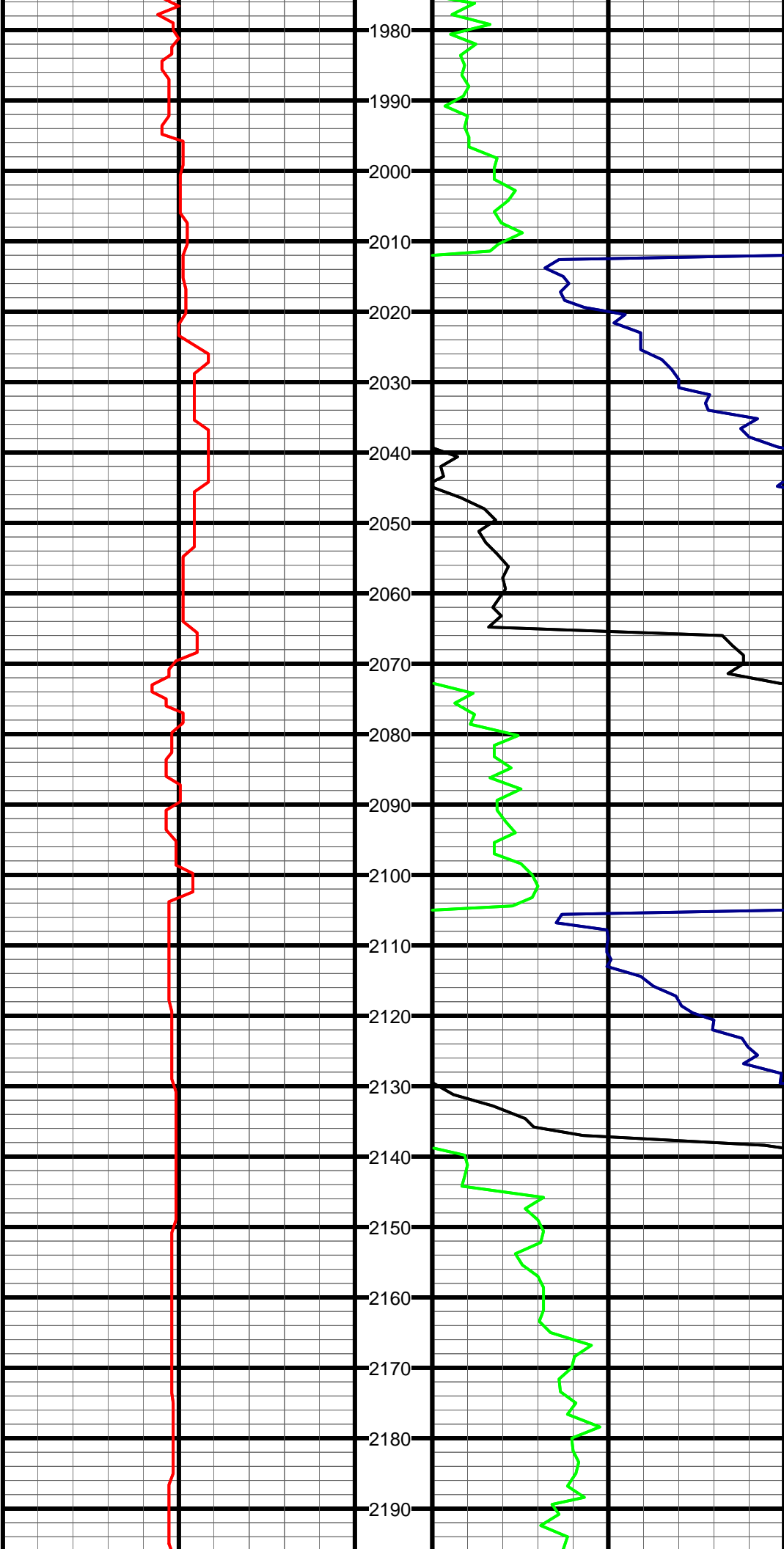
#5 MD:1690.0 TVD:1689.6 I:6.0 A:152.1 VS:4.6



#6 MD:1782.0 TVD:1780.9 I:8.0 A:137.9 VS:12.5

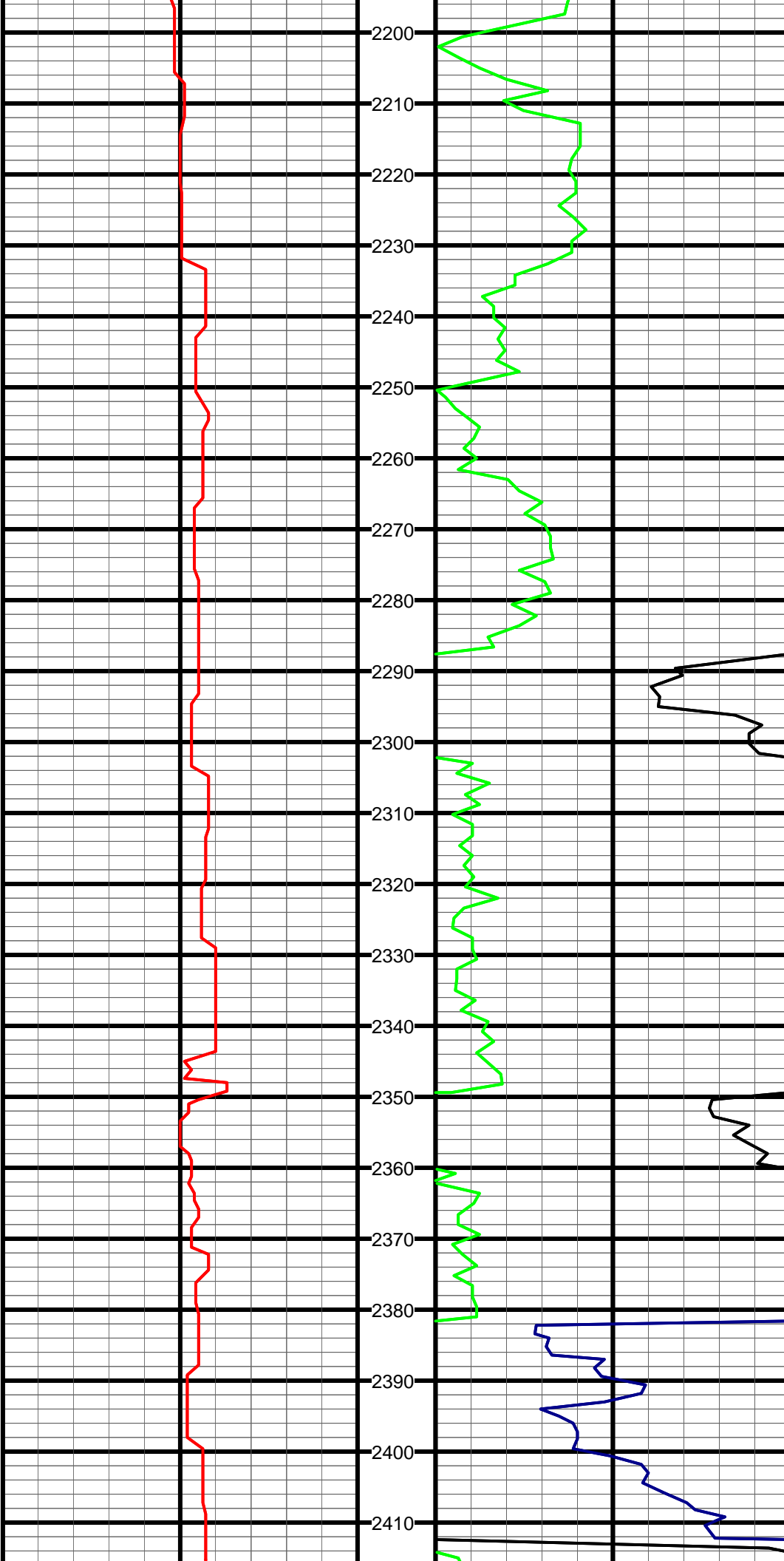
#7 MD:1875.0 TVD:1872.7 I:10.5 A:151.6 VS:22.7

#8 MD:1968.0 TVD:1963.8 I:13.1 A:160.1 VS:33.1



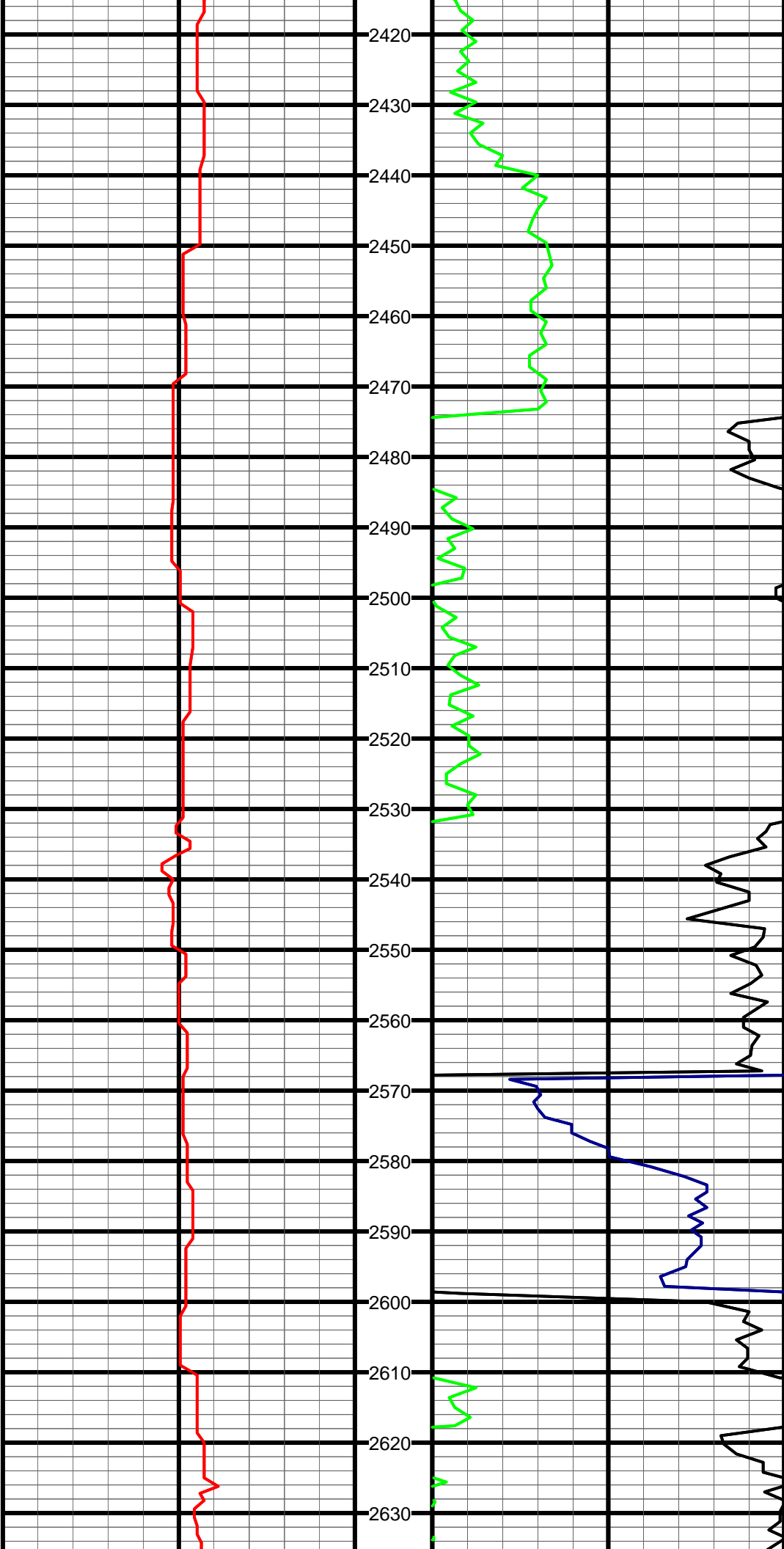
#9 MD:2060.0 TVD:2052.7 I:16.3 A:166.6 VS:43.1

#10 MD:2153.0 TVD:2141.6 I:17.9 A:167.3 VS:53.5



#11 MD:2246.0 TVD:2230.2 I:17.7 A:166.9 VS:64.3

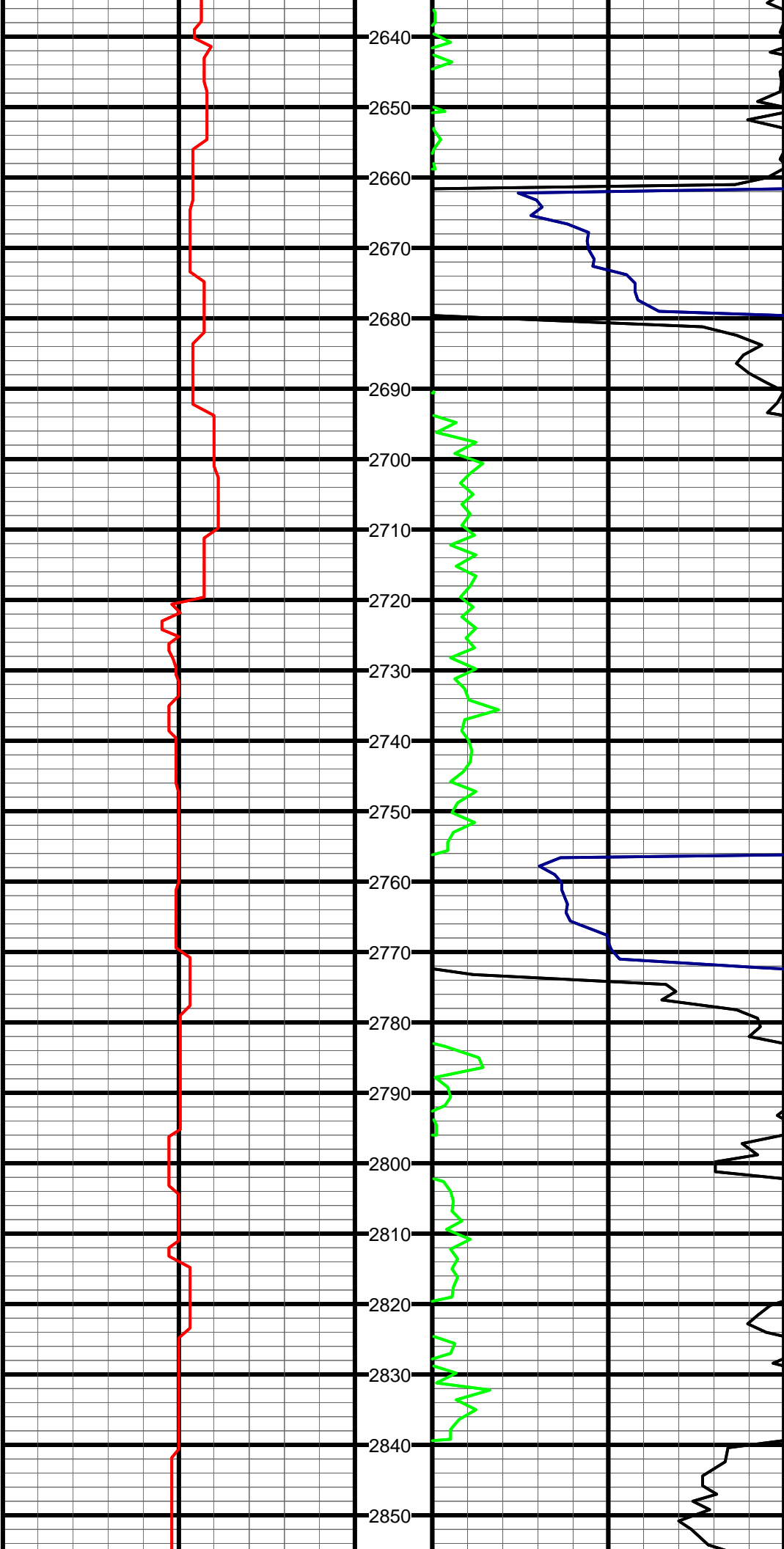
#12 MD:2339.0 TVD:2319.1 I:16.4 A:167.4 VS:74.5



#13 MD:2432.0 TVD:2408.0 I:17.8 A:167.1 VS:84.8

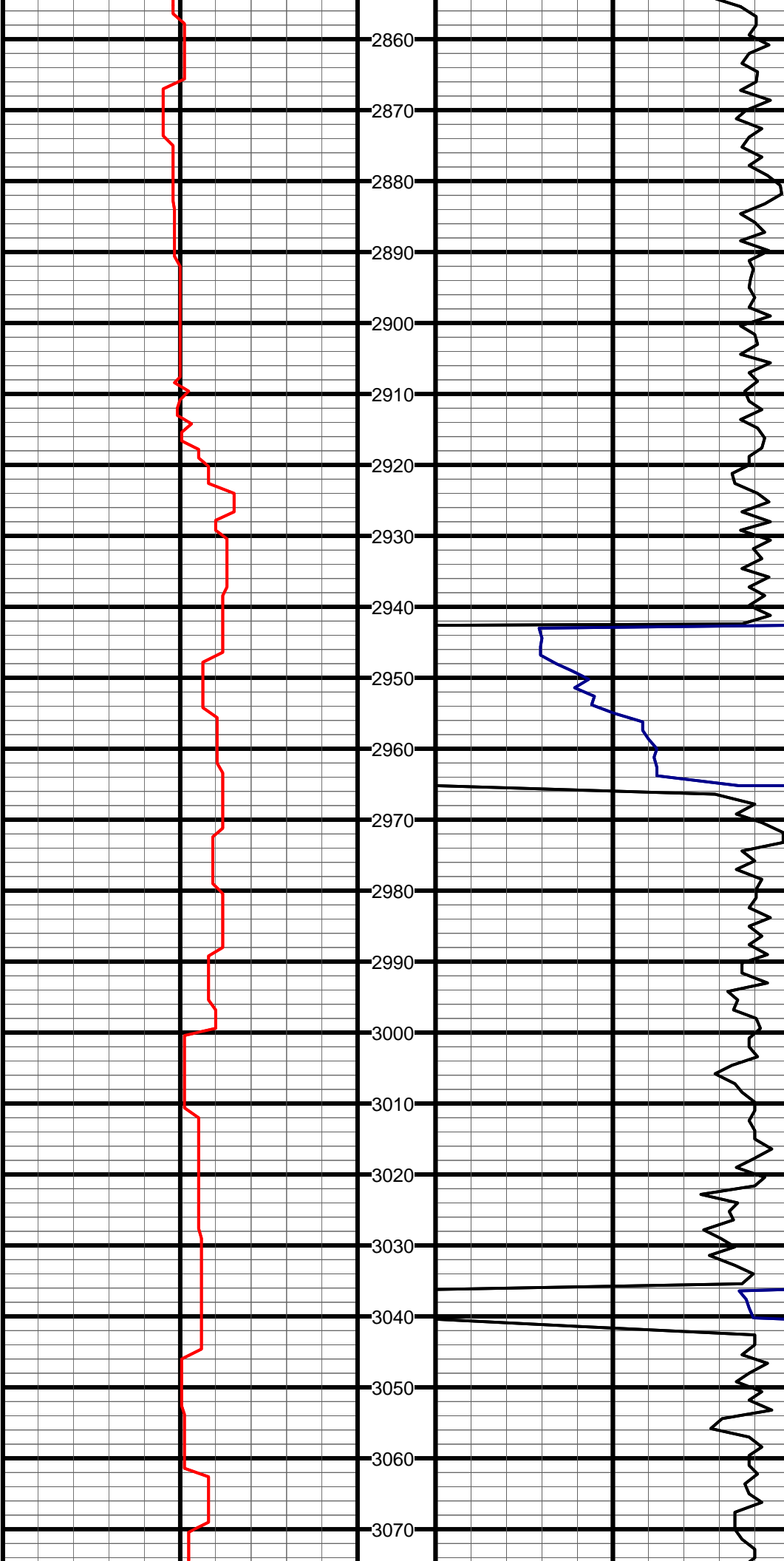
#14 MD:2526.0 TVD:2498.0 I:15.8 A:166.2 VS:95.2

#15 MD:2619.0 TVD:2587.2 I:16.8 A:165.7 VS:105.6



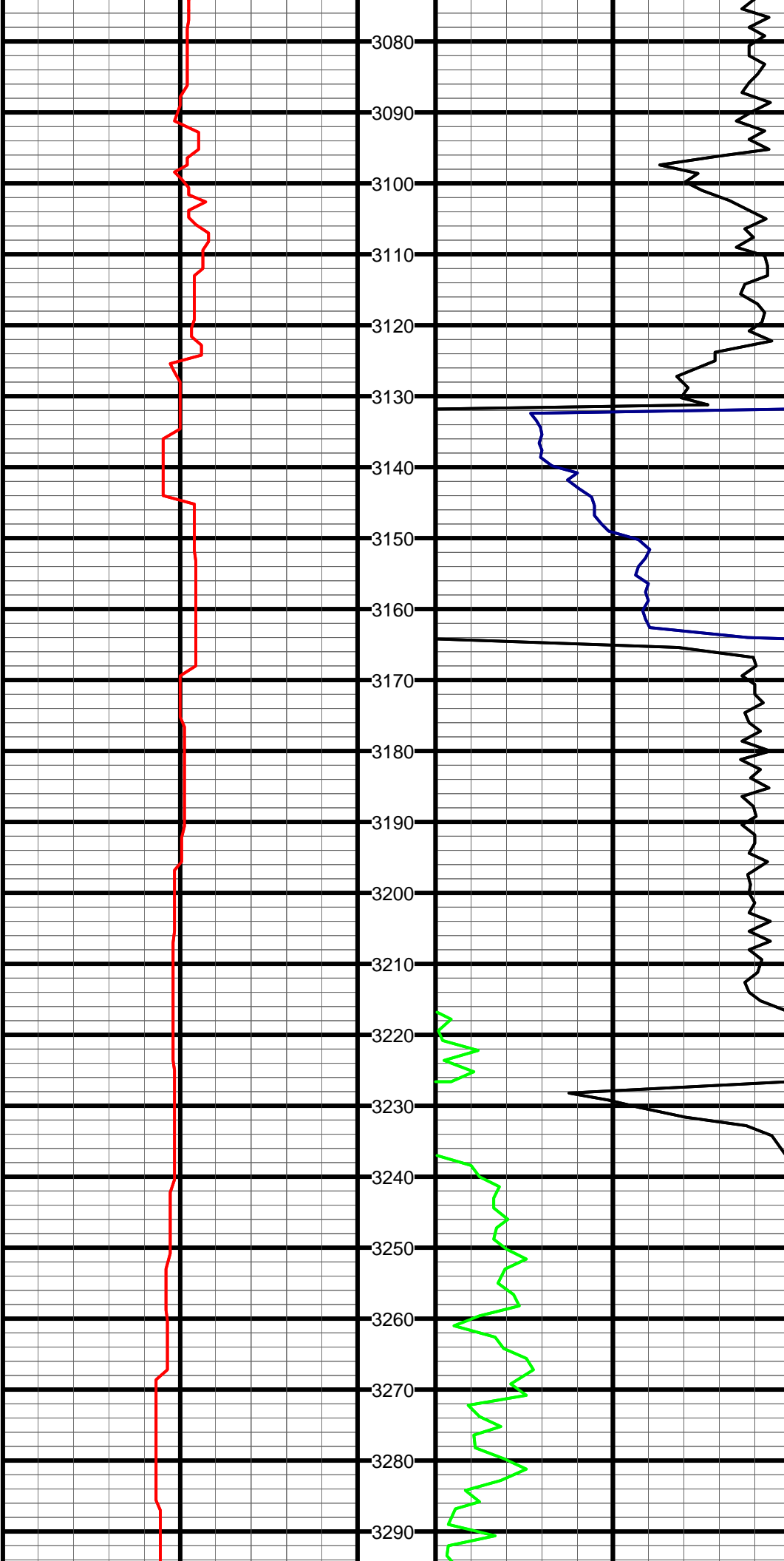
#16 MD:2713.0 TVD:2677.2 I:16.8 A:163.7 VS:116.9

#17 MD:2806.0 TVD:2766.1 I:17.6 A:165.5 VS:128.4



#18 MD:2900.0 TVD:2855.8 I:16.9 A:164.8 VS:139.8

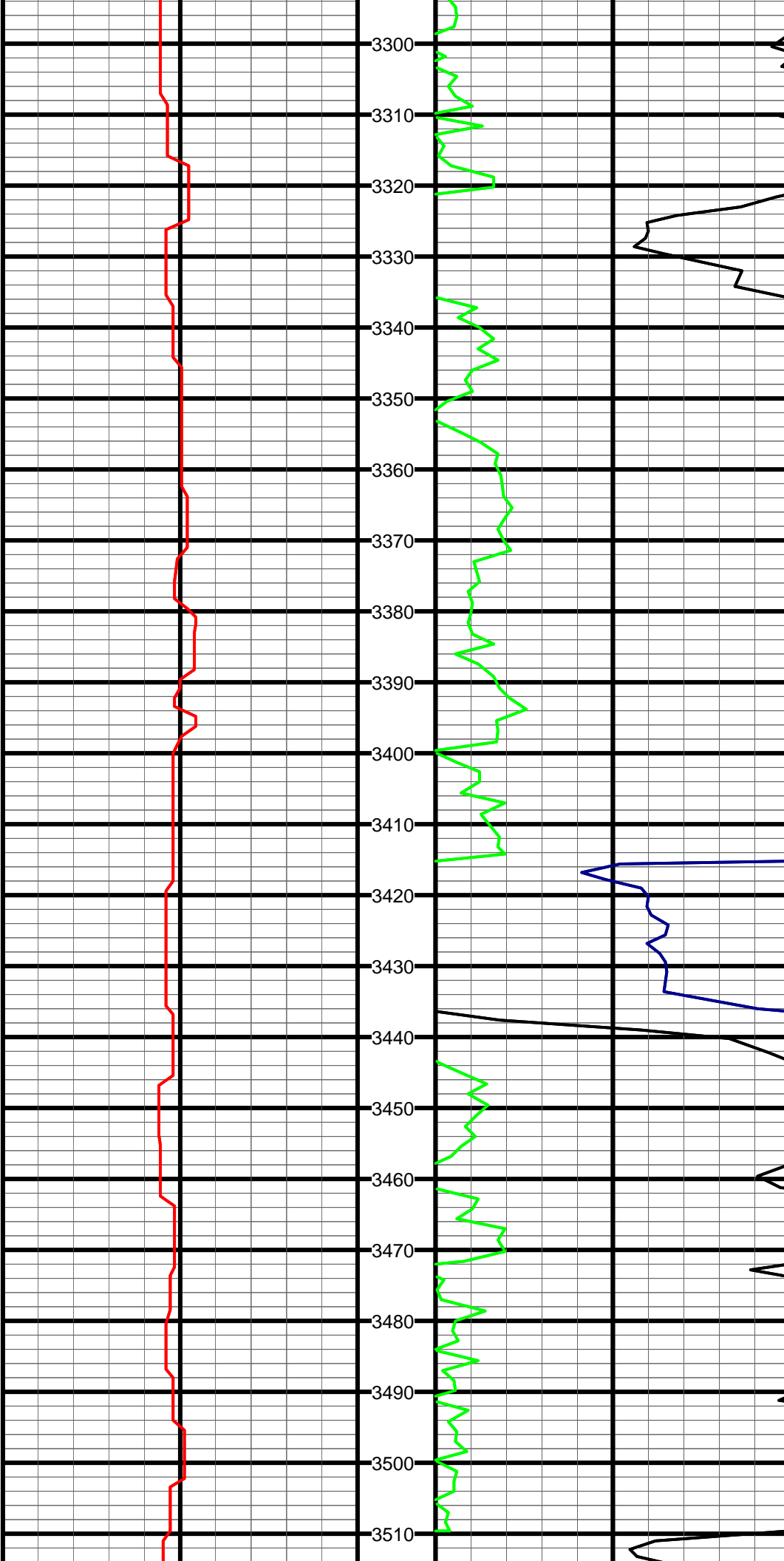
#19 MD:2994.0 TVD:2945.7 I:17.3 A:165.3 VS:151.1



#20 MD:3089.0 TVD:3036.6 I:16.3 A:163.6 VS:162.6

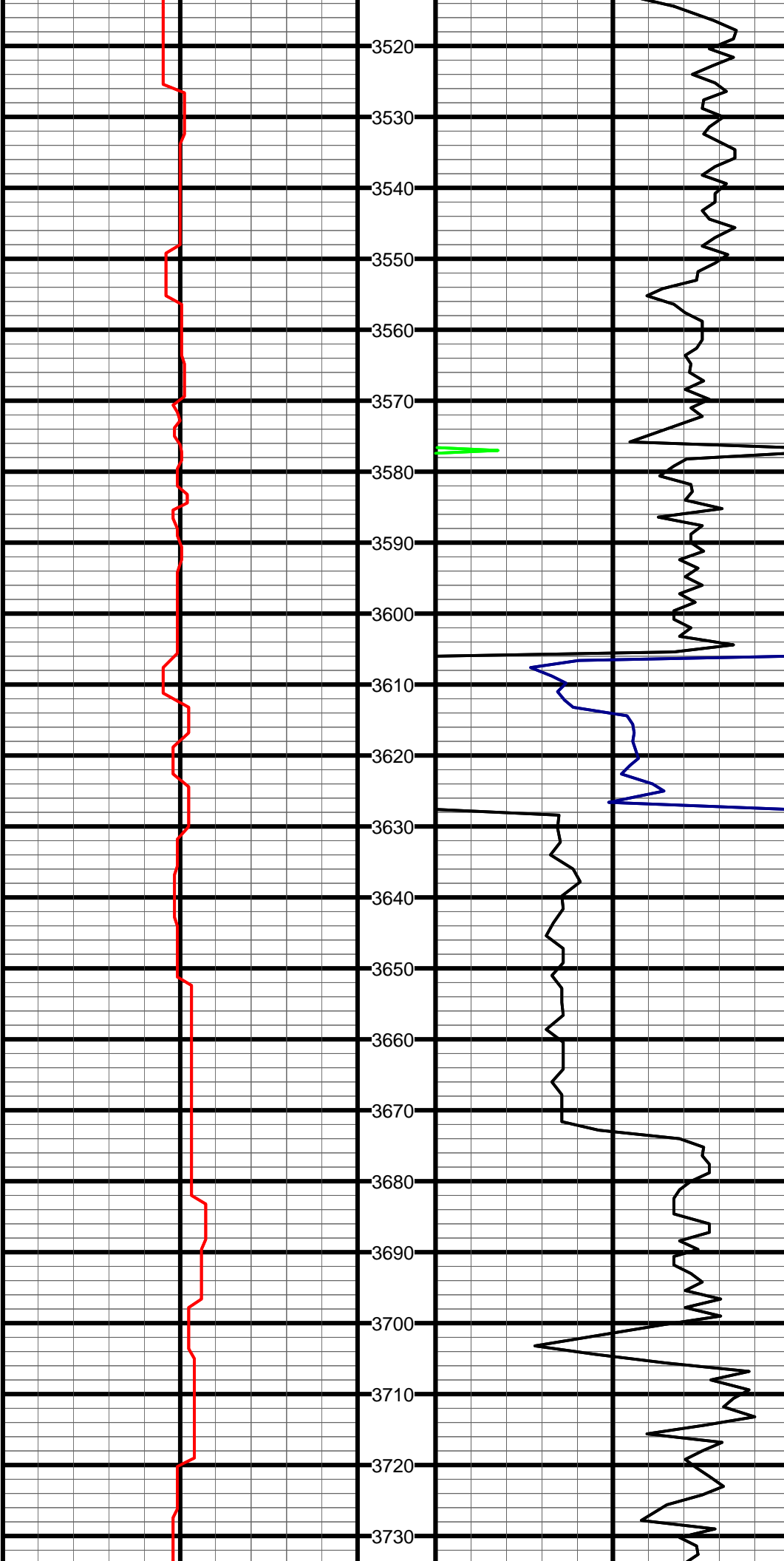
#21 MD:3184.0 TVD:3127.5 I:17.6 A:164.3 VS:174.5

#22 MD:3280.0 TVD:3218.9 I:17.9 A:163.7 VS:187.0



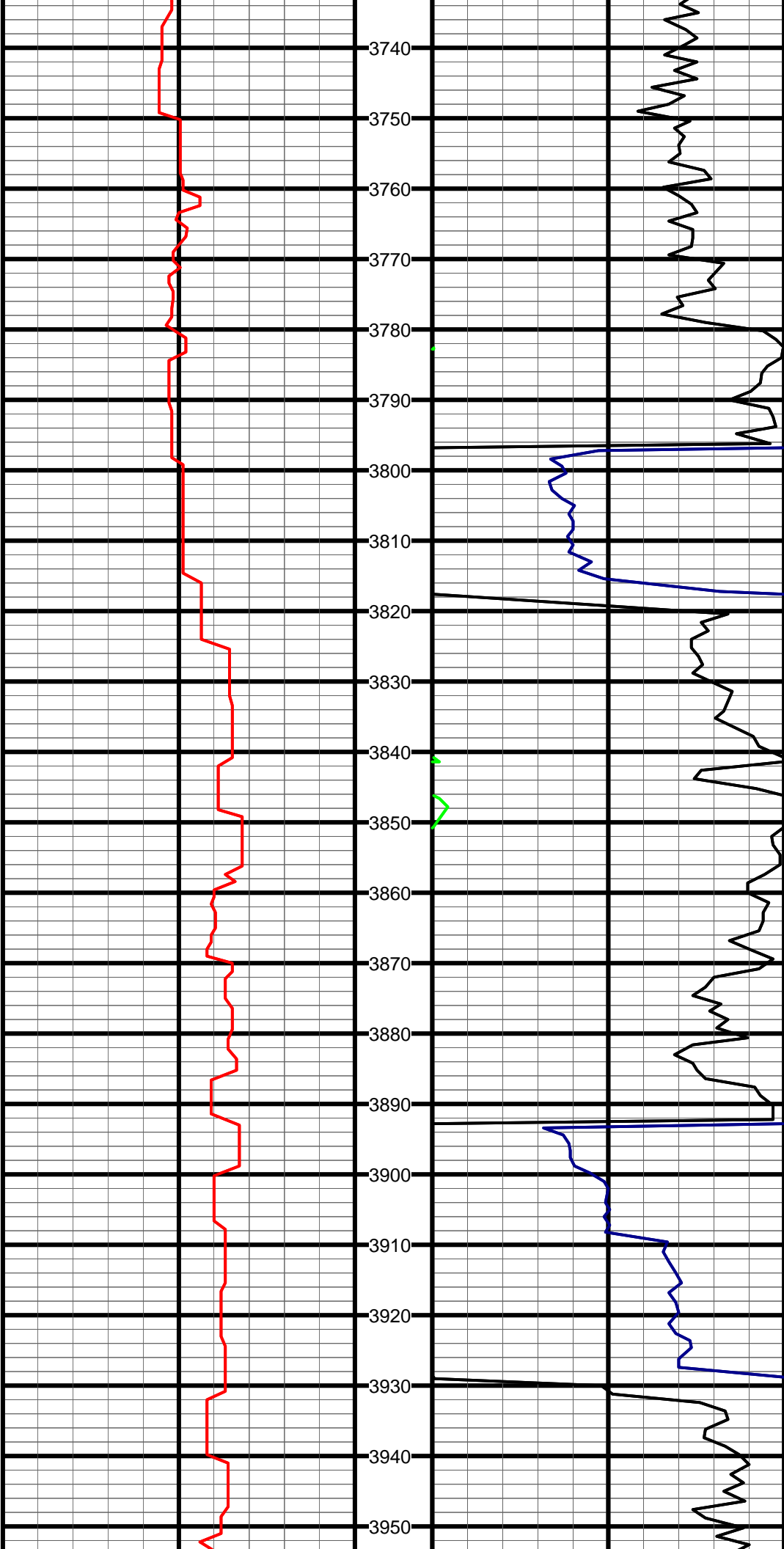
#23 MD:3374.0 TVD:3308.2 I:18.5 A:163.7 VS:199.7

#24 MD:3469.0 TVD:3398.7 I:17.1 A:166.6 VS:211.6



#25 MD:3563.0 TVD:3488.4 I:17.6 A:166.9 VS:222.3

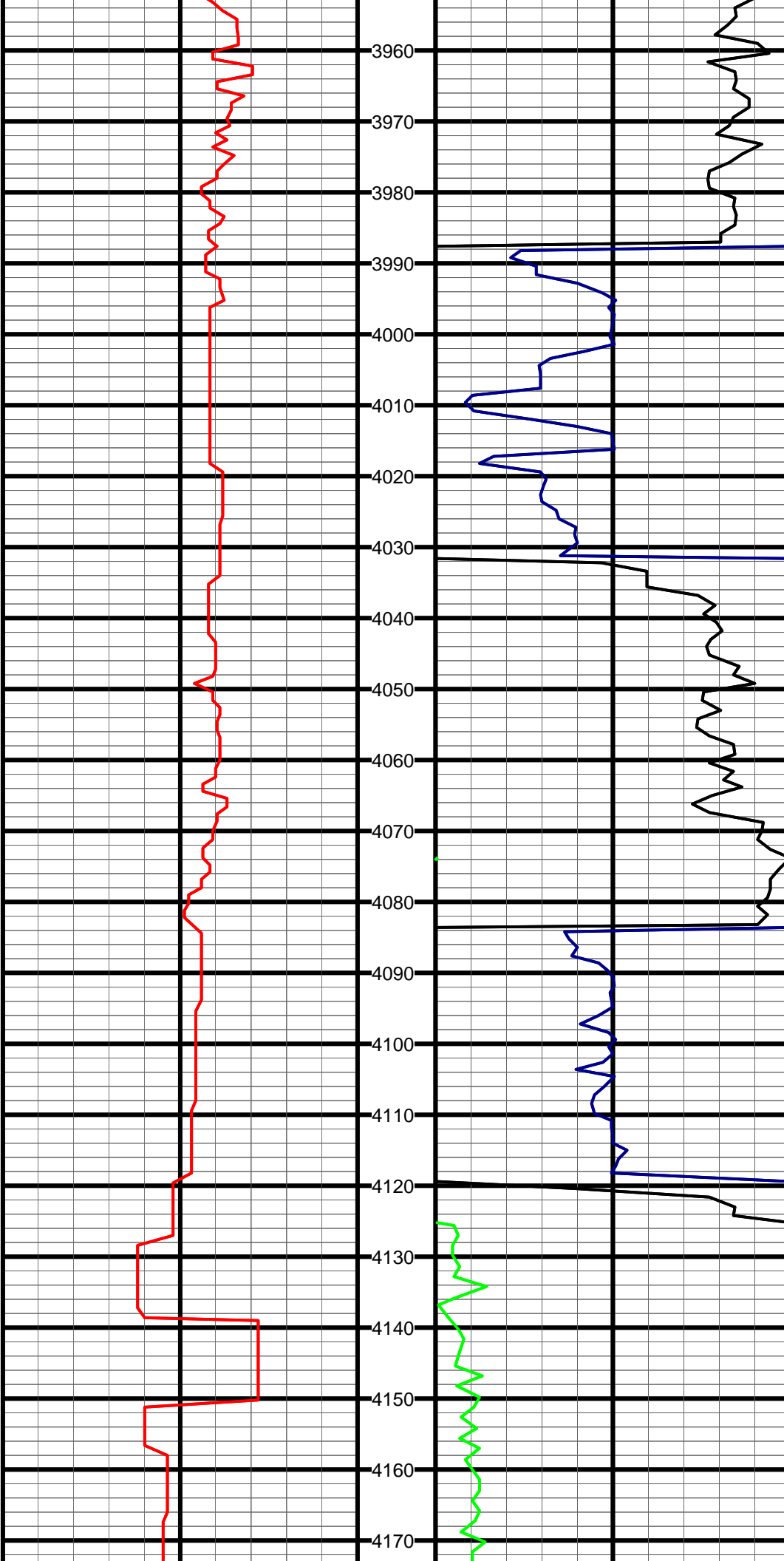
#26 MD:3658.0 TVD:3579.2 I:16.5 A:162.5 VS:233.9



#27 MD:3753.0 TVD:3670.5 I:15.8 A:162.3 VS:245.8

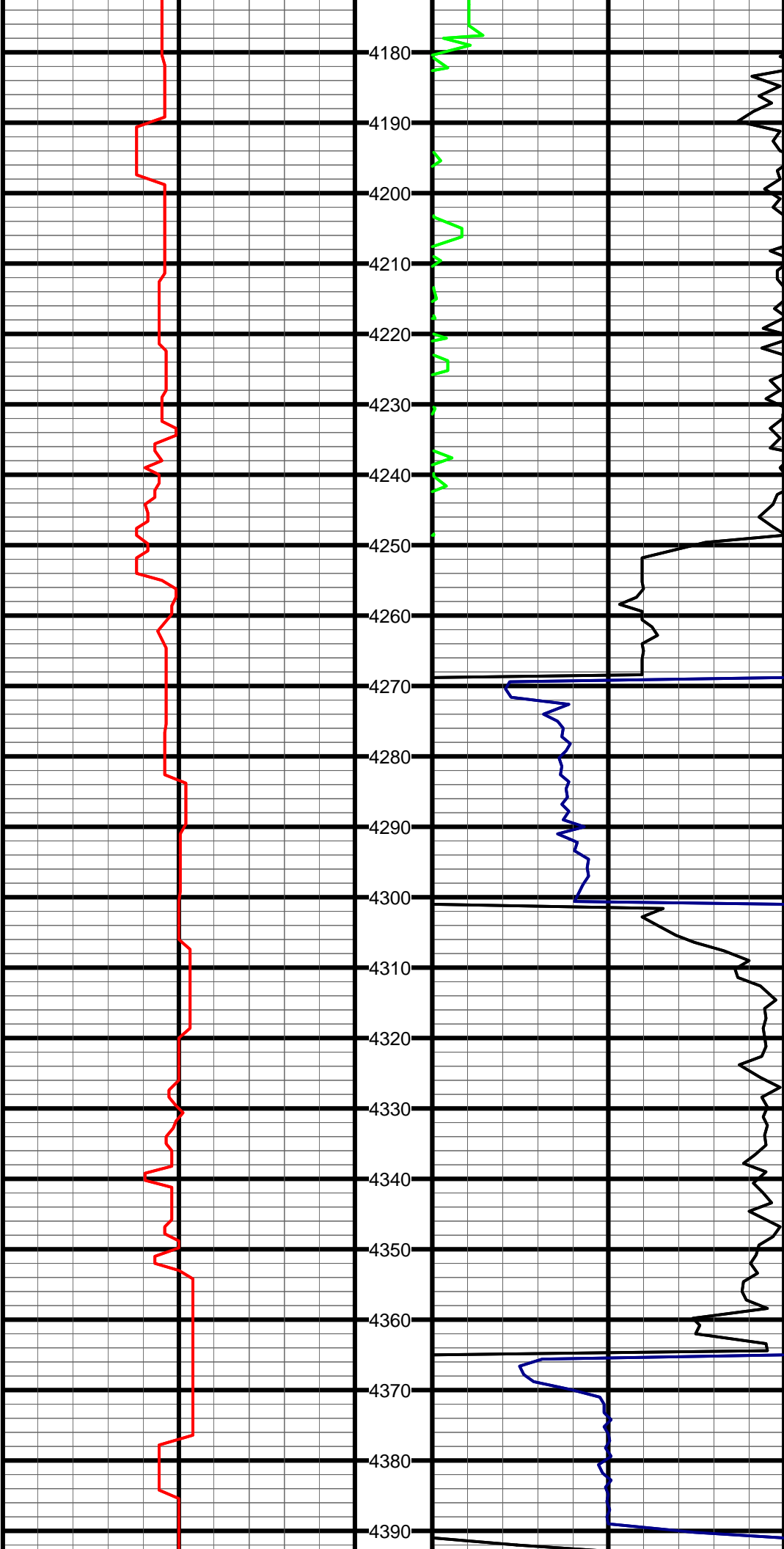
#28 MD:3848.0 TVD:3762.1 I:14.8 A:160.4 VS:257.5

#29 MD:3943.0 TVD:3853.8 I:15.5 A:165.0 VS:268.6



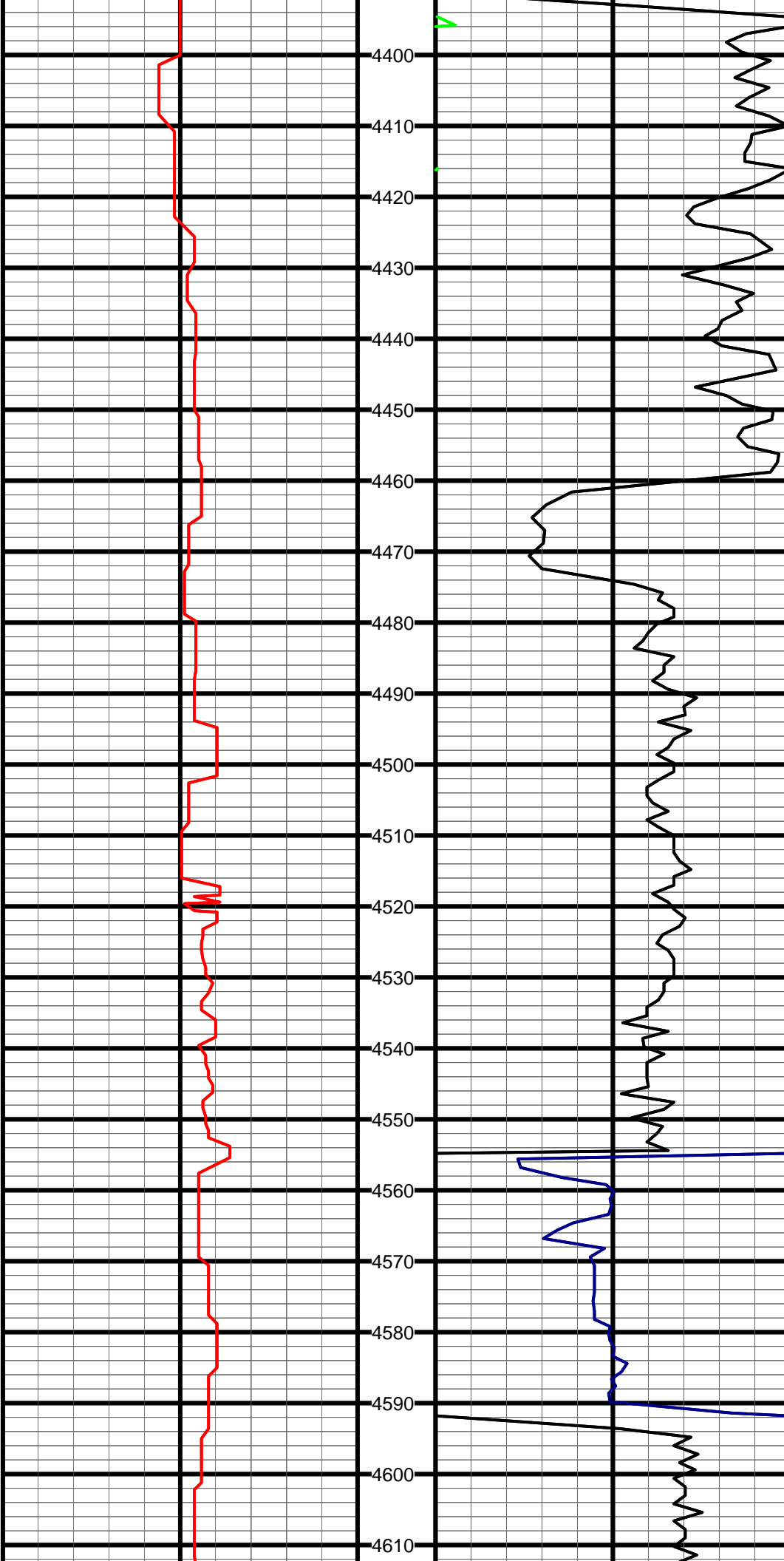
#30 MD:4038.0 TVD:3945.1 I:16.4 A:163.2 VS:279.8

#31 MD:4133.0 TVD:4035.8 I:18.2 A:166.7 VS:291.3



#32 MD:4227.0 TVD:4124.7 I:19.7 A:167.4 VS:302.9

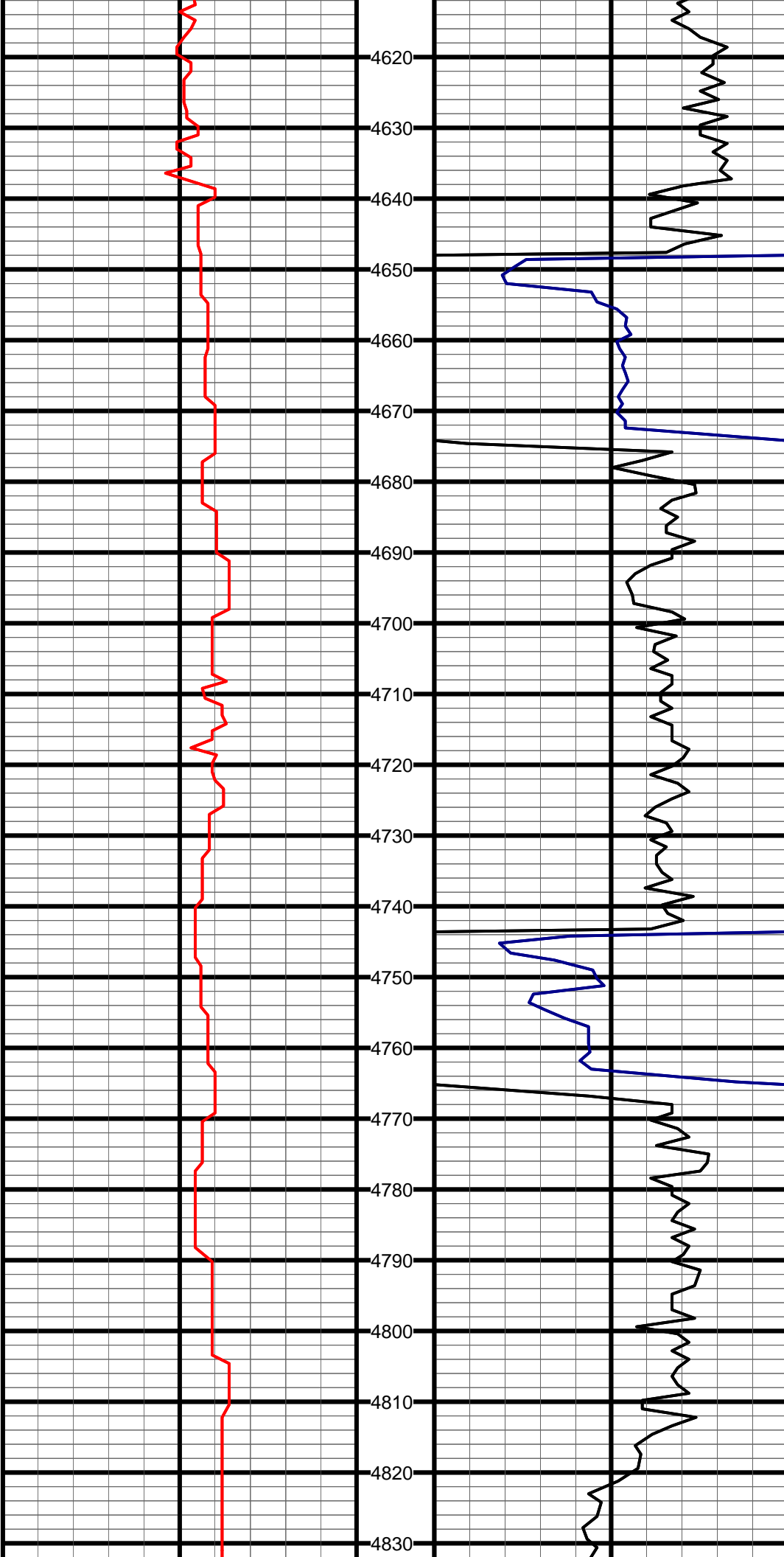
#33 MD:4322.0 TVD:4214.5 I:18.5 A:163.2 VS:315.5



#34 MD:4417.0 TVD:4305.0 I:17.1 A:160.2 VS:328.9

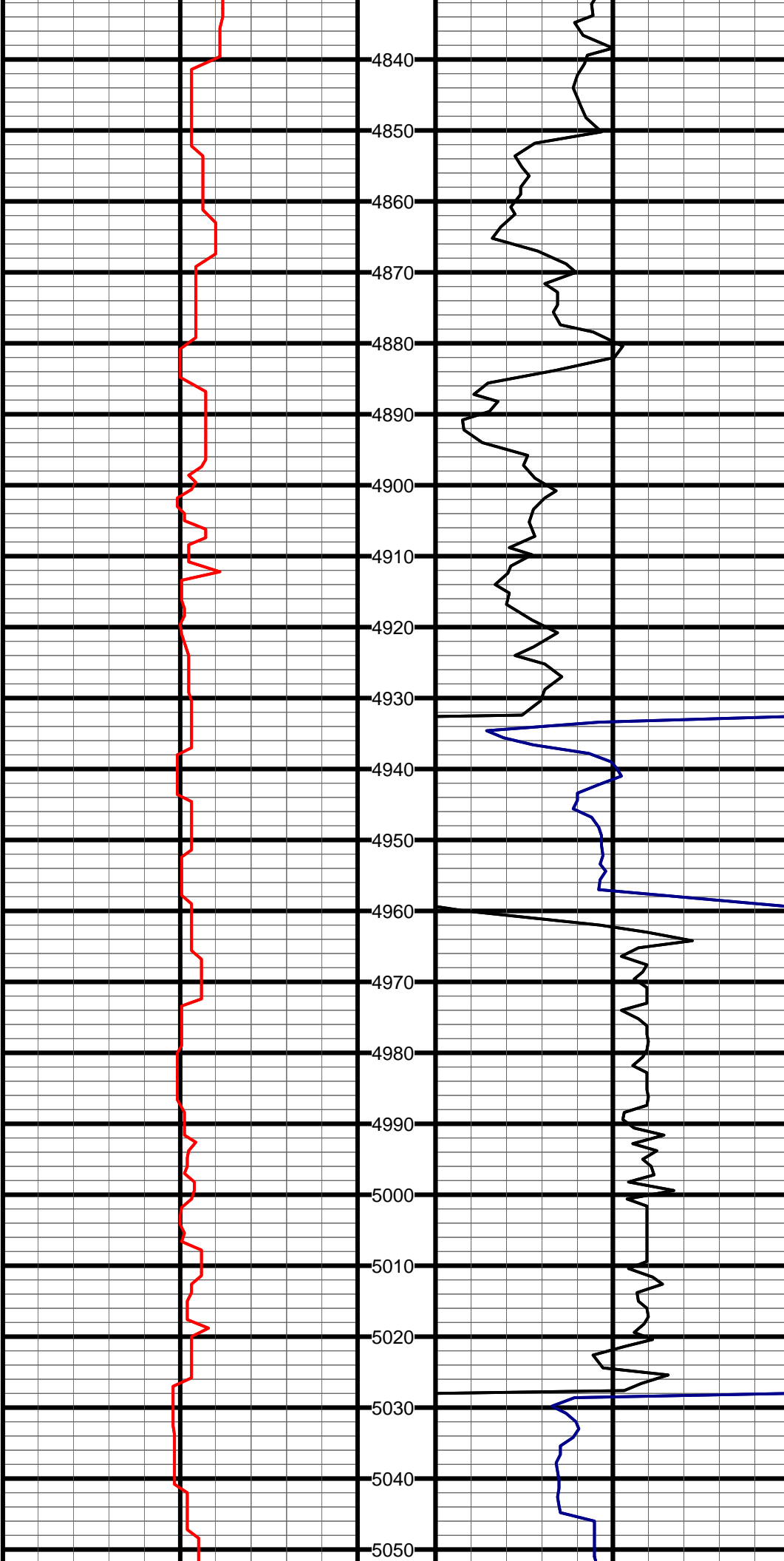
#35 MD:4512.0 TVD:4396.0 I:16.2 A:159.9 VS:342.2

#36 MD:4607.0 TVD:4486.7 I:18.4 A:160.8 VS:355.9



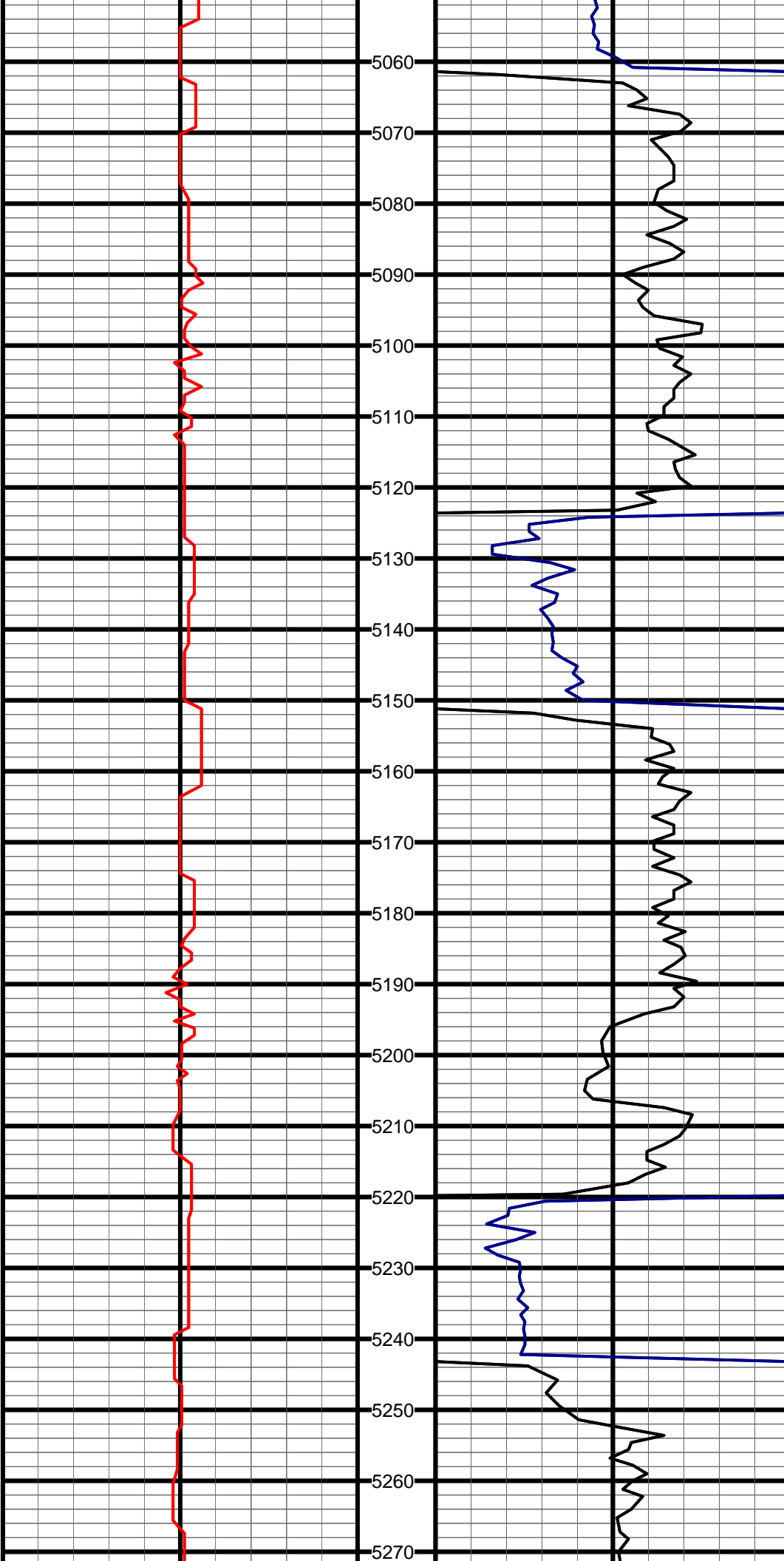
#37 MD:4702.0 TVD:4577.5 I:15.5 A:164.4 VS:368.4

#38 MD:4797.0 TVD:4668.9 I:16.4 A:163.4 VS:379.6



#39 MD:4891.0 TVD:4759.2 I:15.7 A:166.0 VS:390.4

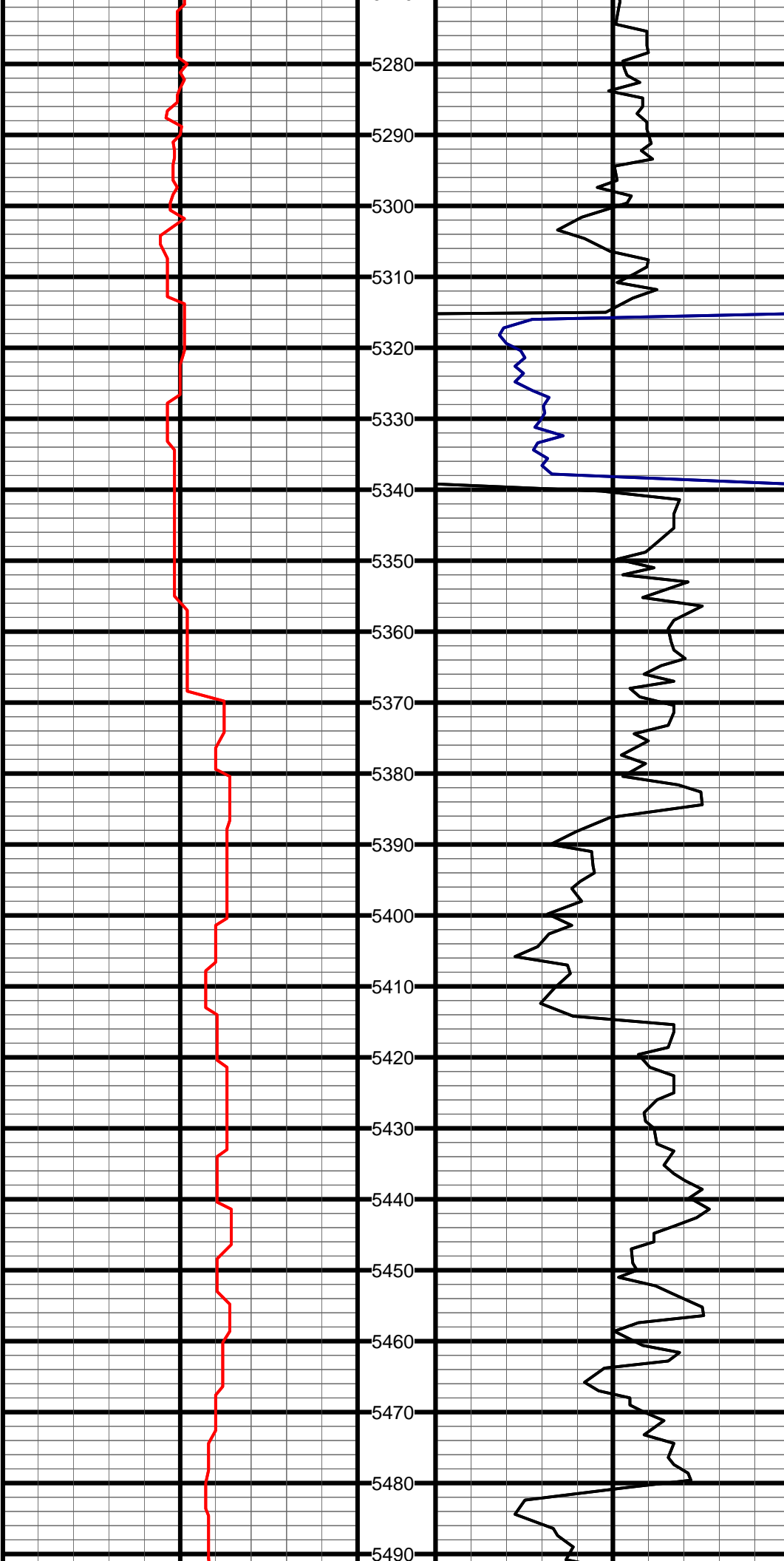
#40 MD:4986.0 TVD:4851.1 I:13.6 A:163.2 VS:400.4



#41 MD:5081.0 TVD:4944.0 I:10.6 A:160.8 VS:409.5

#42 MD:5176.0 TVD:5037.8 I:7.7 A:168.3 VS:415.9

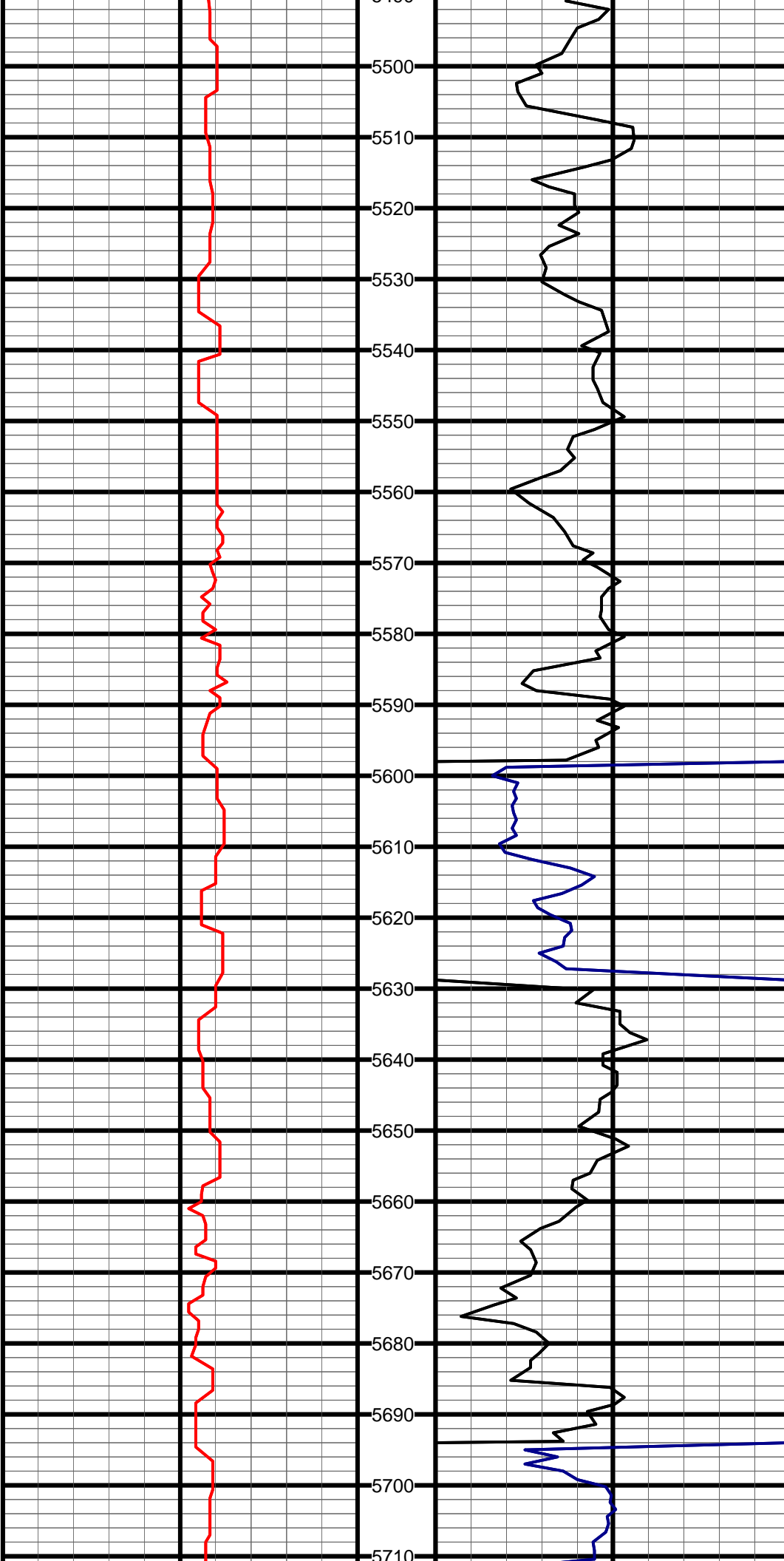
#43 MD:5271.0 TVD:5132.2 I:5.1 A:174.3 VS:419.3



#43 MD:5271.0 TVD:5162.2 I:0.7 A:174.8 VS:415.8

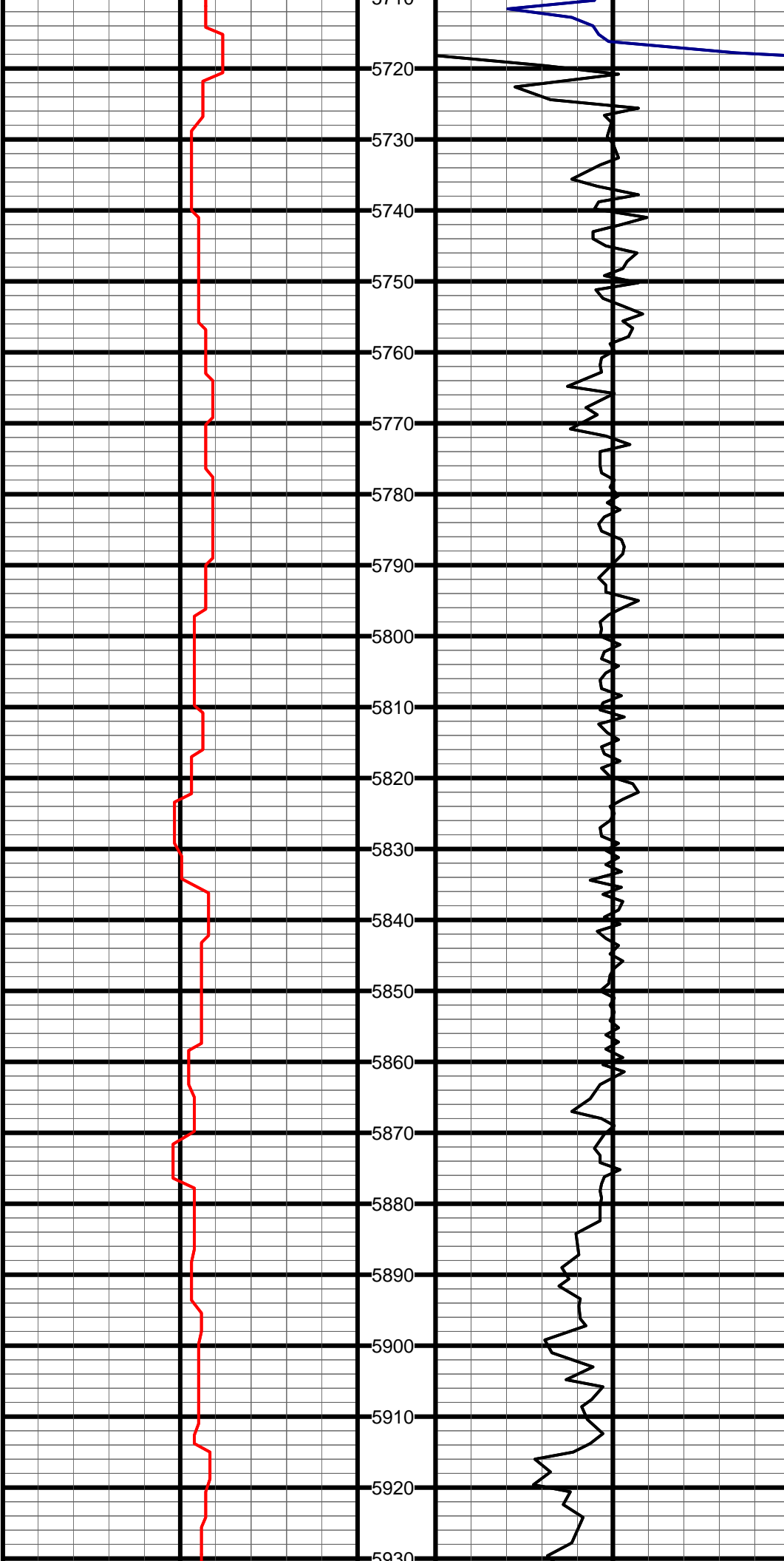
#44 MD:5366.0 TVD:5227.0 I:1.2 A:163.7 VS:420.8

#45 MD:5461.0 TVD:5322.0 I:1.0 A:130.3 VS:421.9



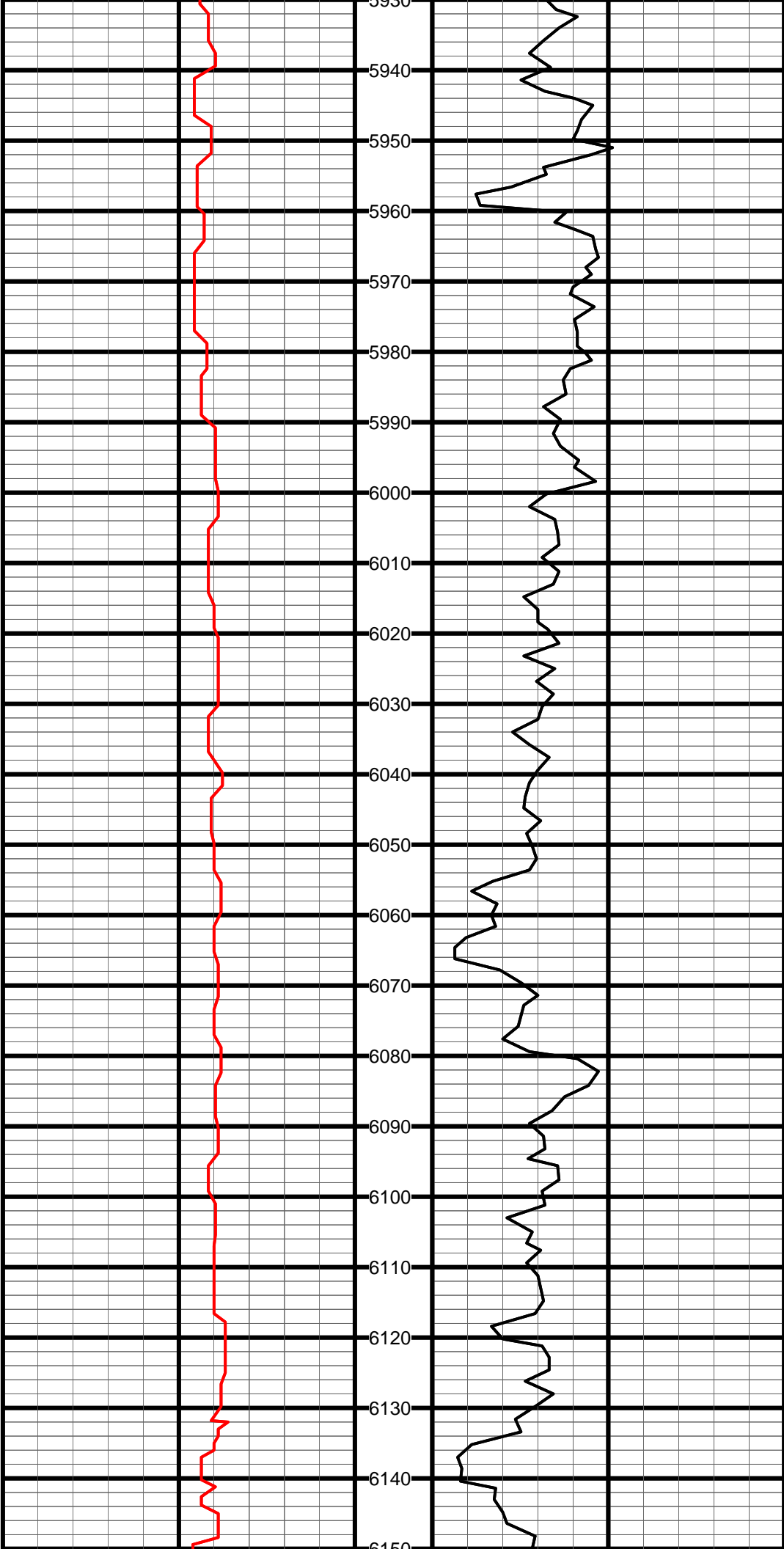
#46 MD:5556.0 TVD:5417.0 I:1.1 A:101.7 VS:423.6

#47 MD:5651.0 TVD:5512.0 I:0.8 A:276.8 VS:423.8



#48 MD:5746.0 TVD:5607.0 I:1.8 A:275.9 VS:421.7

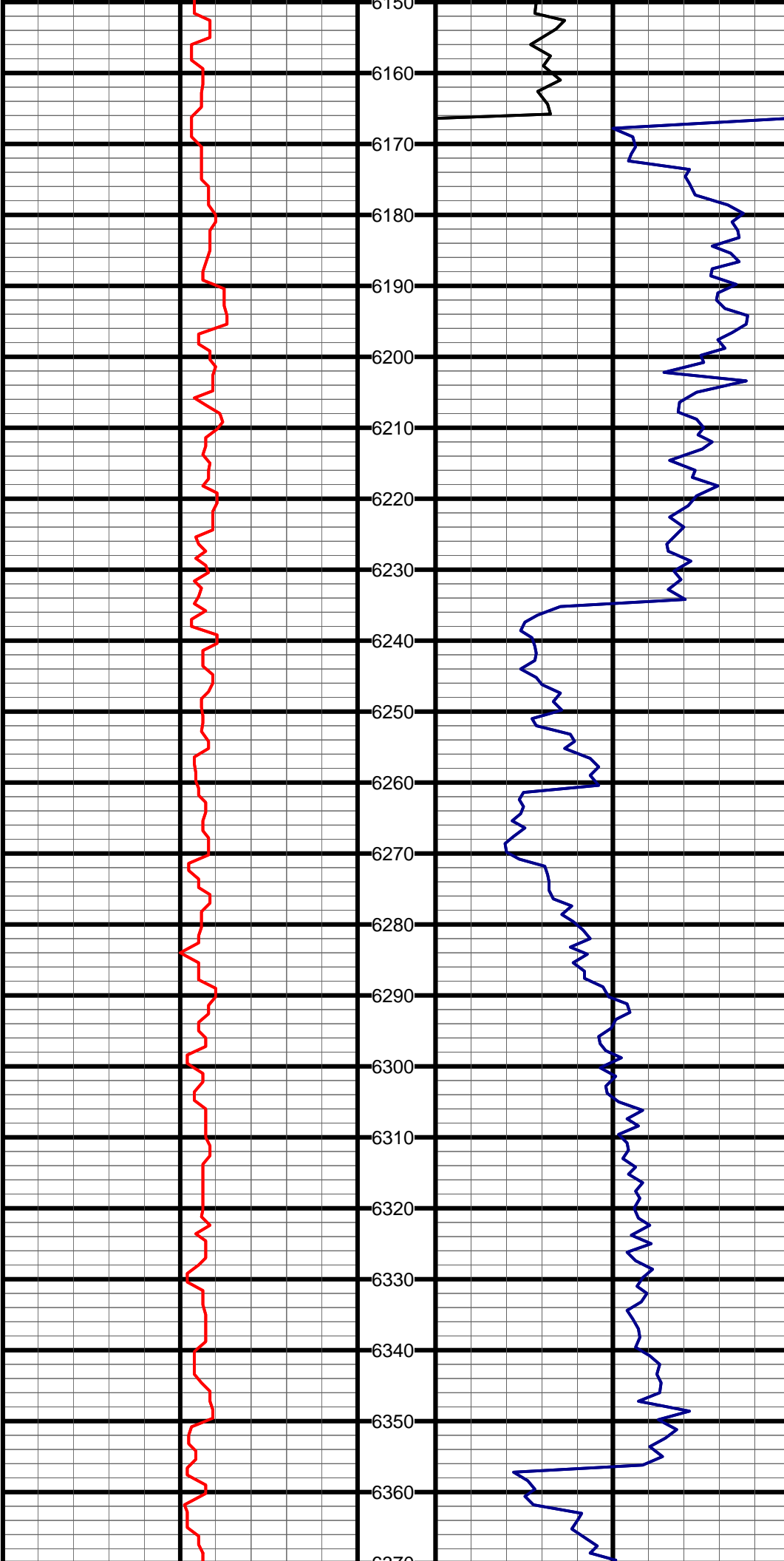
#49 MD:5840.0 TVD:5700.9 I:1.1 A:270.1 VS:419.3



#50 MD:5935.0 TVD:5795.9 I:0.2 A:234.4 VS:418.3

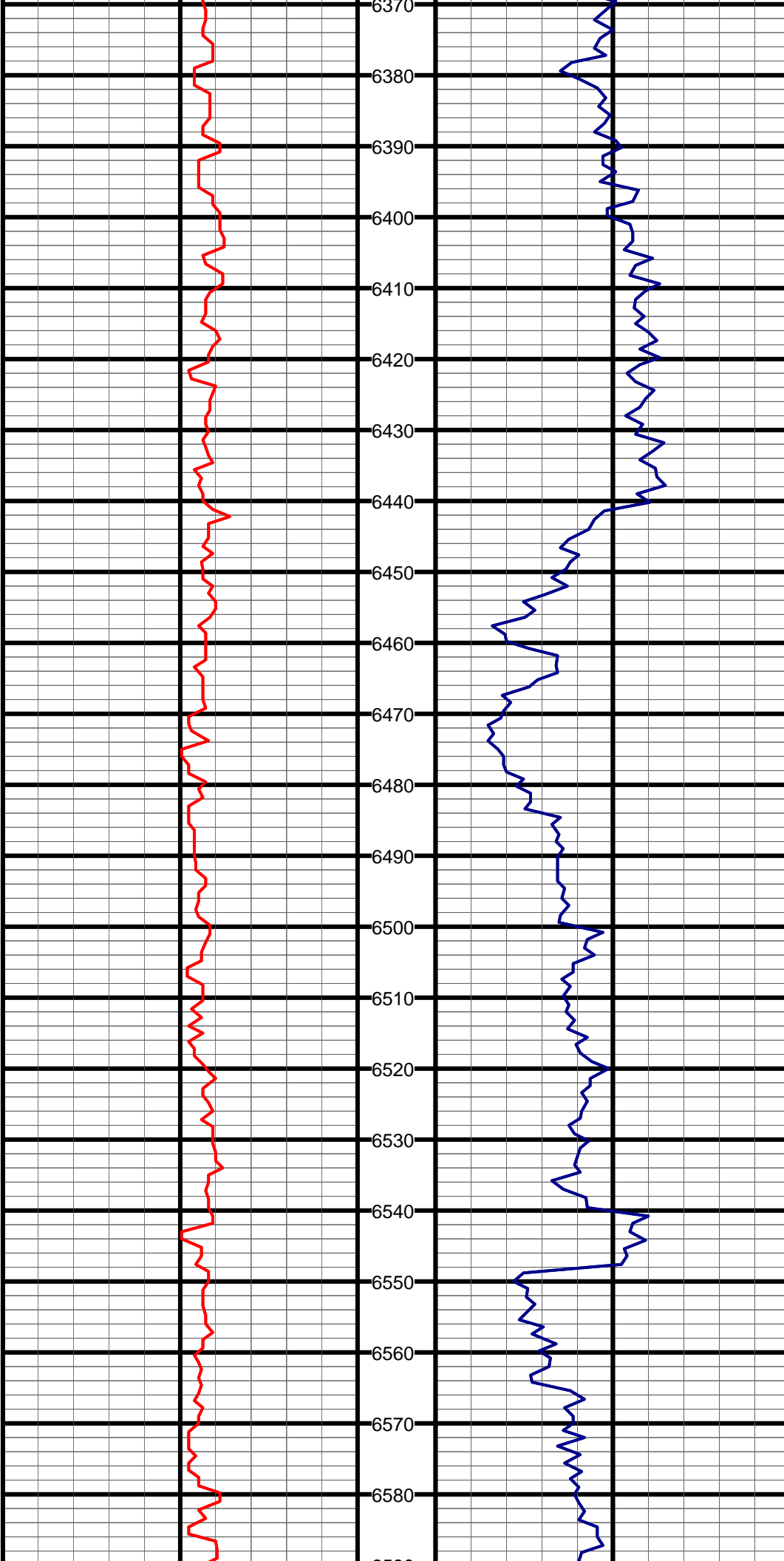
#51 MD:6030.0 TVD:5890.9 I:0.7 A:96.4 VS:418.7

#52 MD:6125.0 TVD:5985.9 I:0.9 A:123.0 VS:420.0



#53 MD:6219.0 TVD:6079.9 I:1.3 A:108.9 VS:421.7

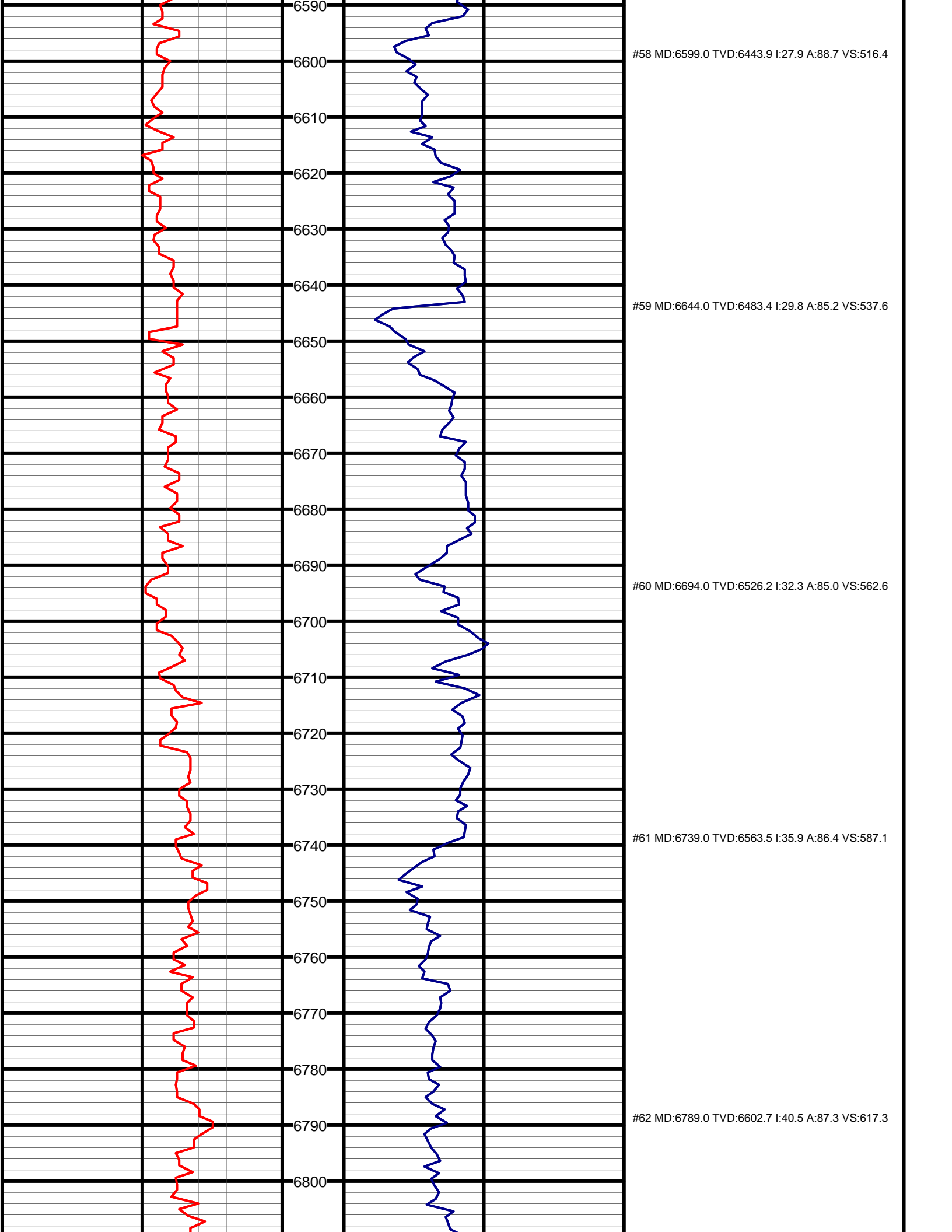
#54 MD:6314.0 TVD:6174.6 I:7.8 A:79.0 VS:428.9

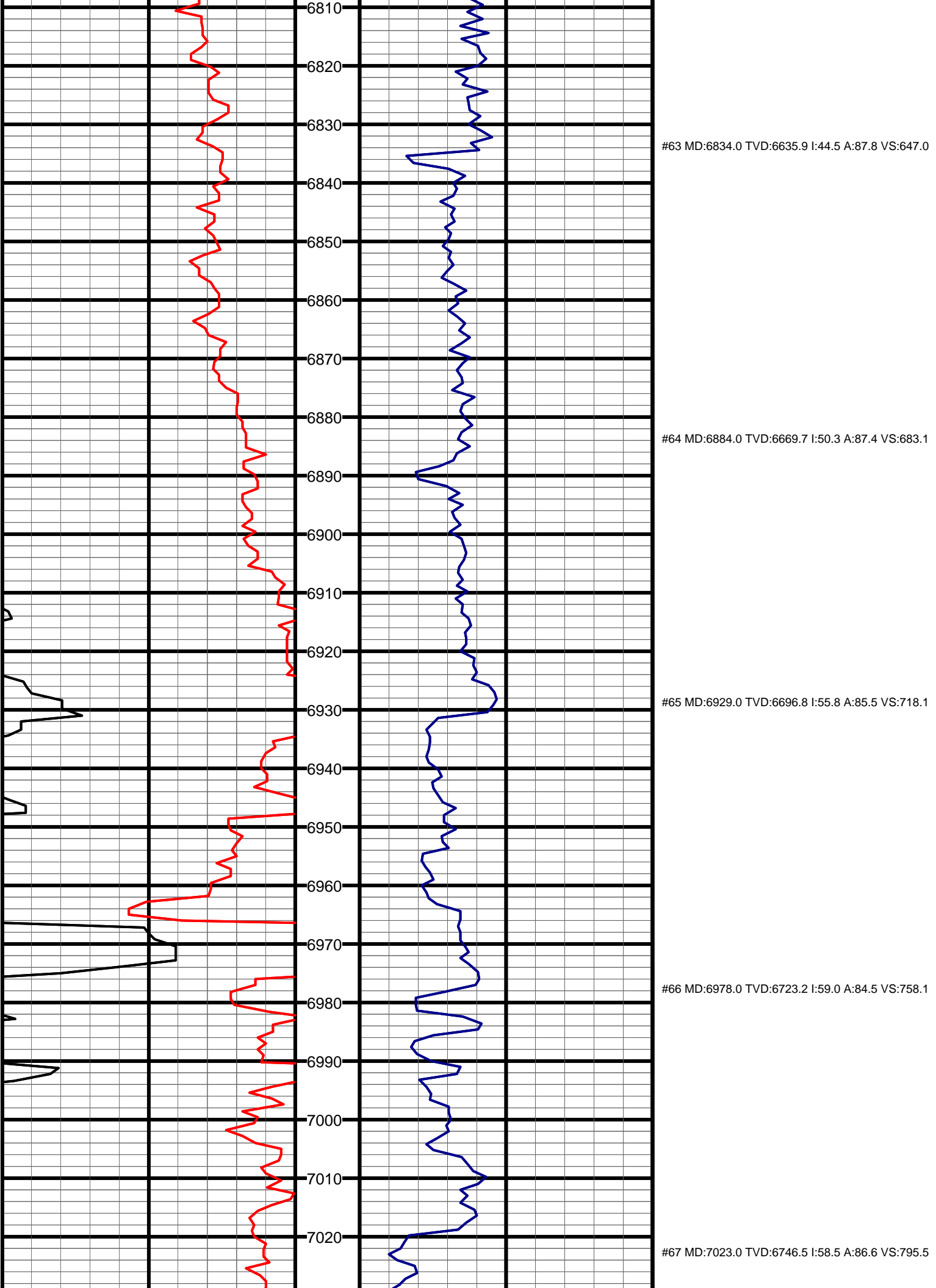


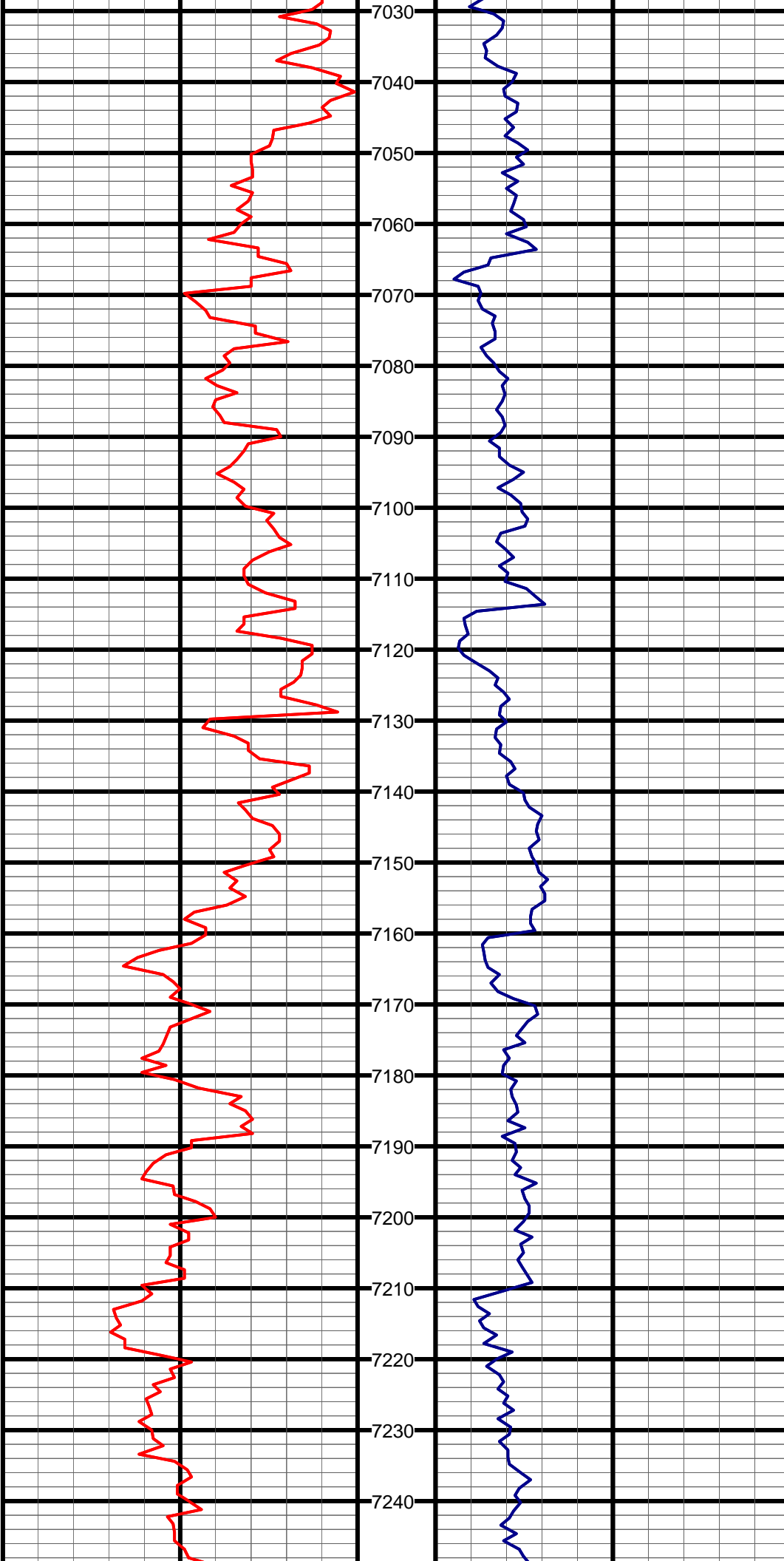
#55 MD:6409.0 TVD:6267.5 I:15.6 A:88.2 VS:447.5

#56 MD:6504.0 TVD:6357.6 I:21.4 A:94.5 VS:477.3

#57 MD:6549.0 TVD:6399.1 I:24.3 A:91.8 VS:494.7



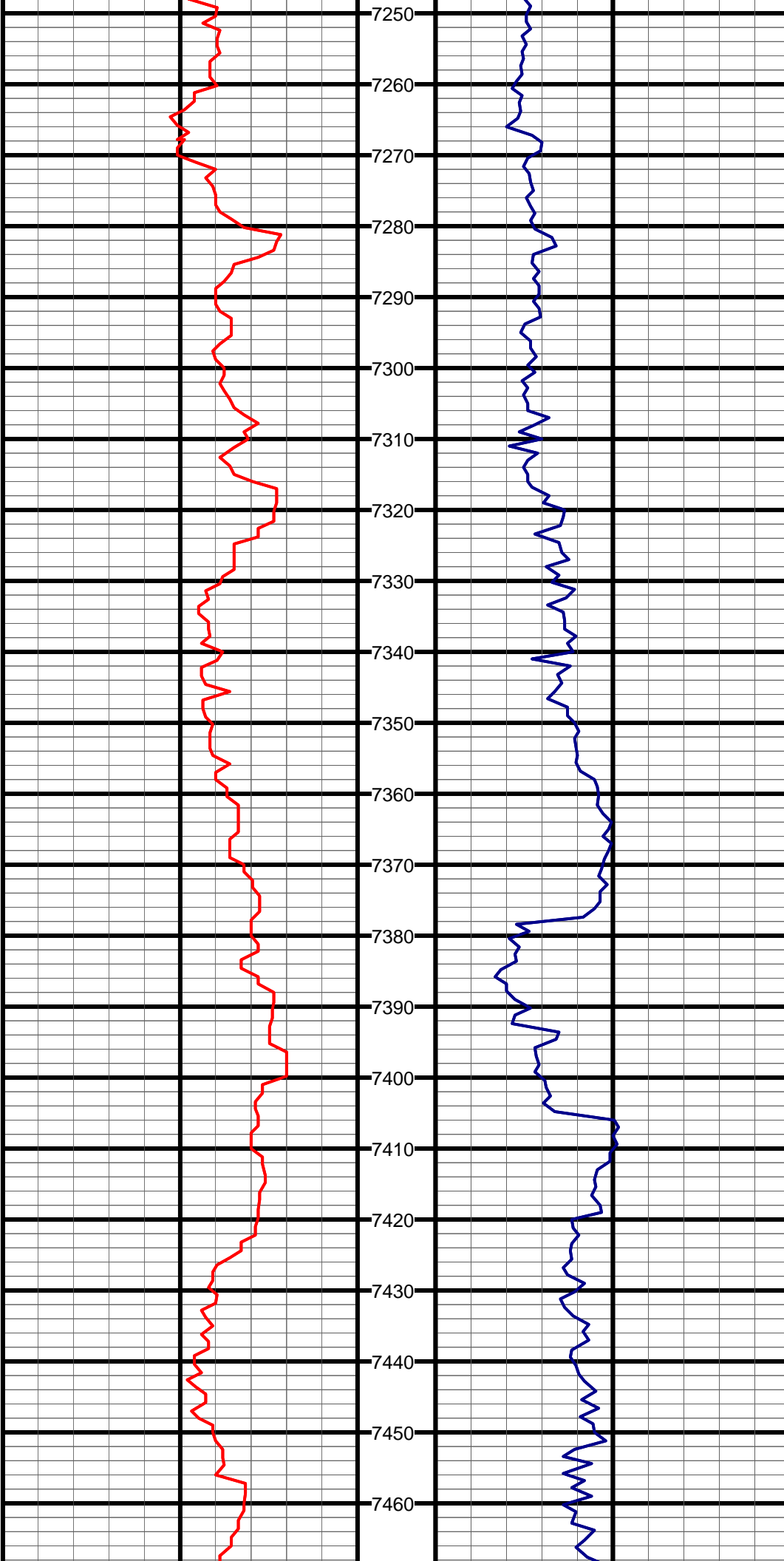




#68 MD:7073.0 TVD:6771.3 I:62.2 A:91.0 VS:838.2

#69 MD:7118.0 TVD:6790.7 I:66.7 A:90.8 VS:878.3

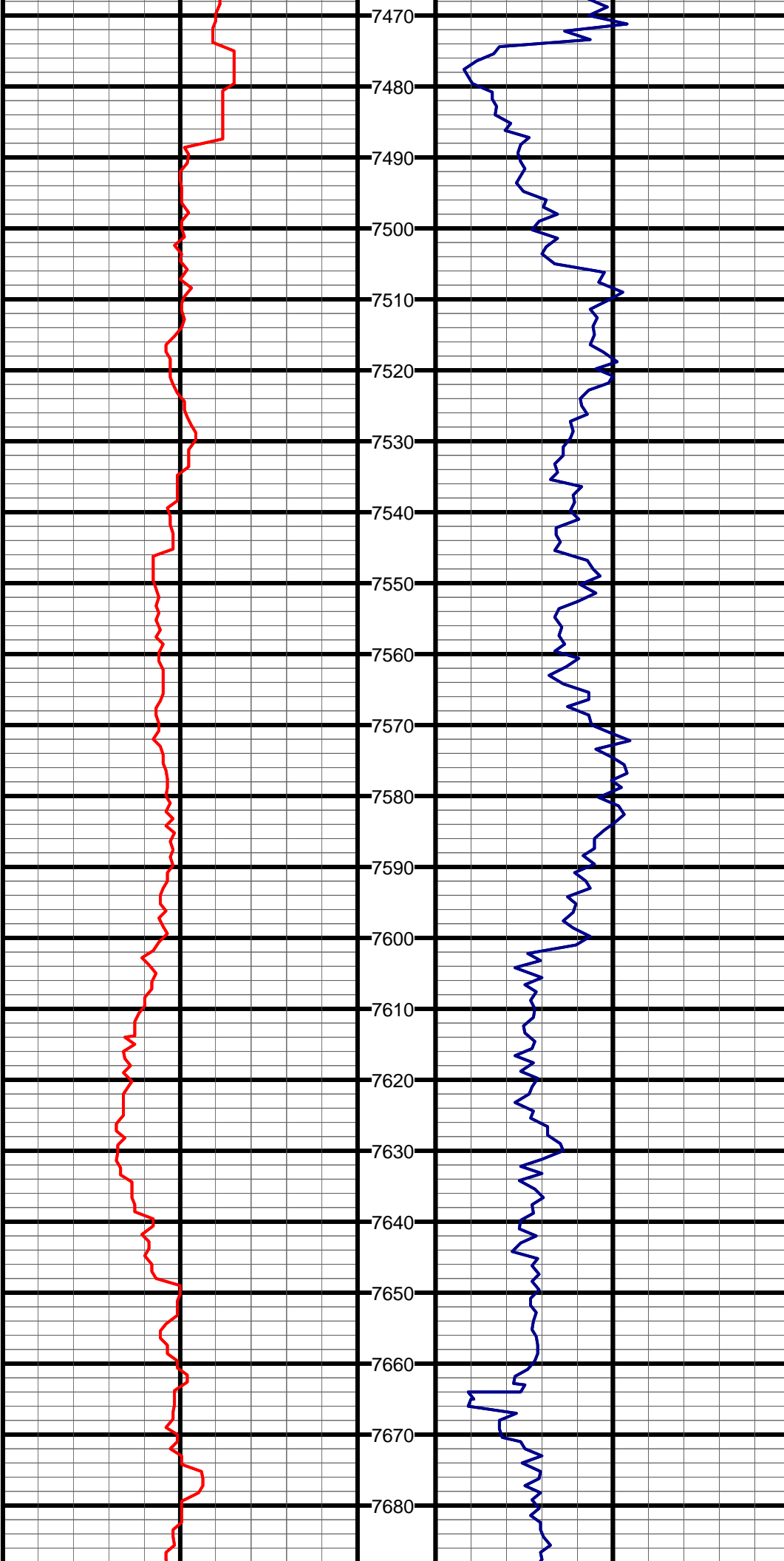
#70 MD:7168.0 TVD:6808.3 I:72.1 A:89.9 VS:924.5



#71 MD:7262.0 TVD:6825.8 I:86.3 A:89.7 VS:1015.4

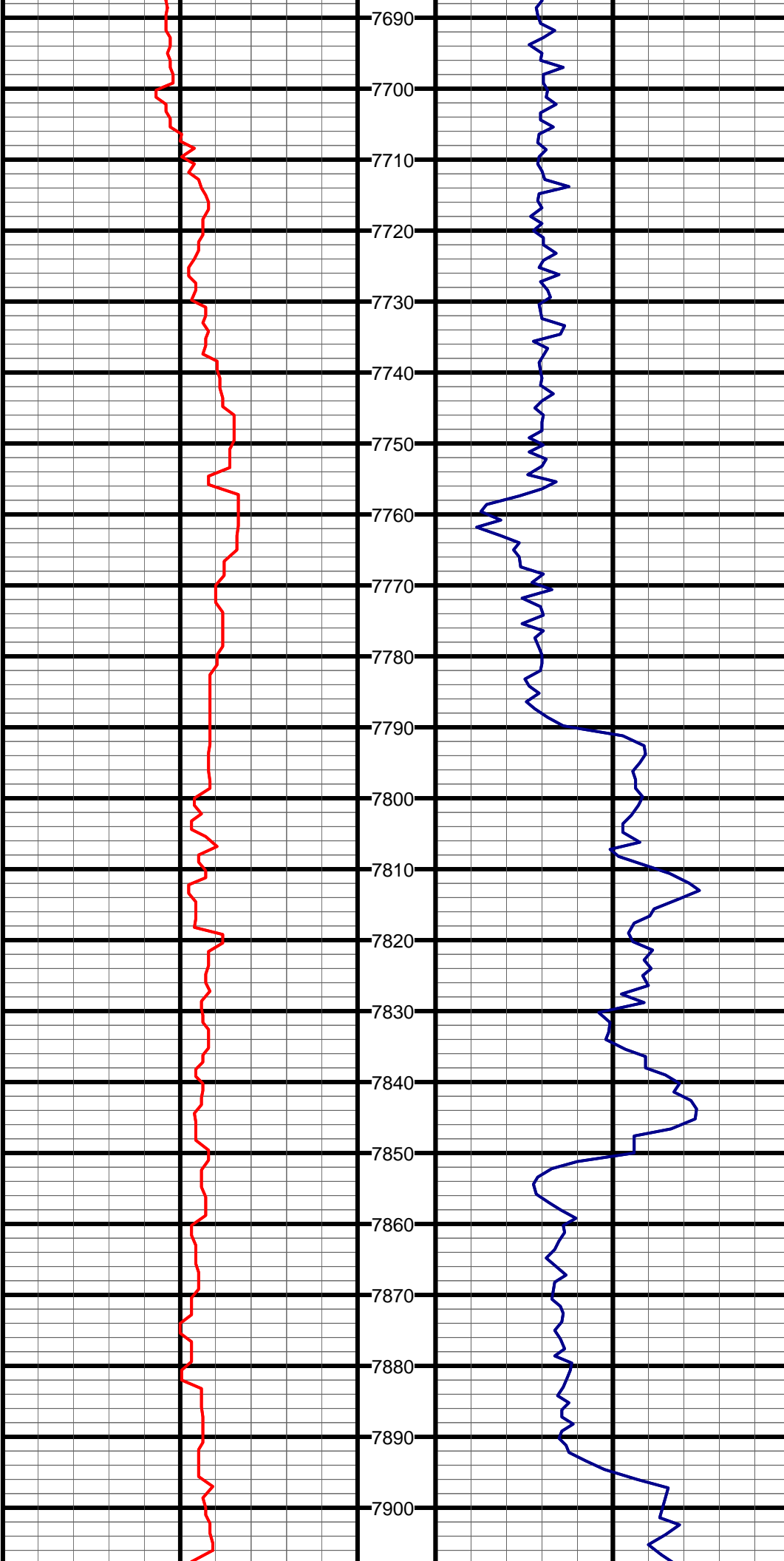
#72 MD:7323.0 TVD:6826.4 I:92.6 A:86.0 VS:1075.1

#73 MD:7418.0 TVD:6822.6 I:92.0 A:86.4 VS:1167.6



#74 MD:7513.0 TVD:6819.5 I:91.7 A:88.0 VS:1260.4

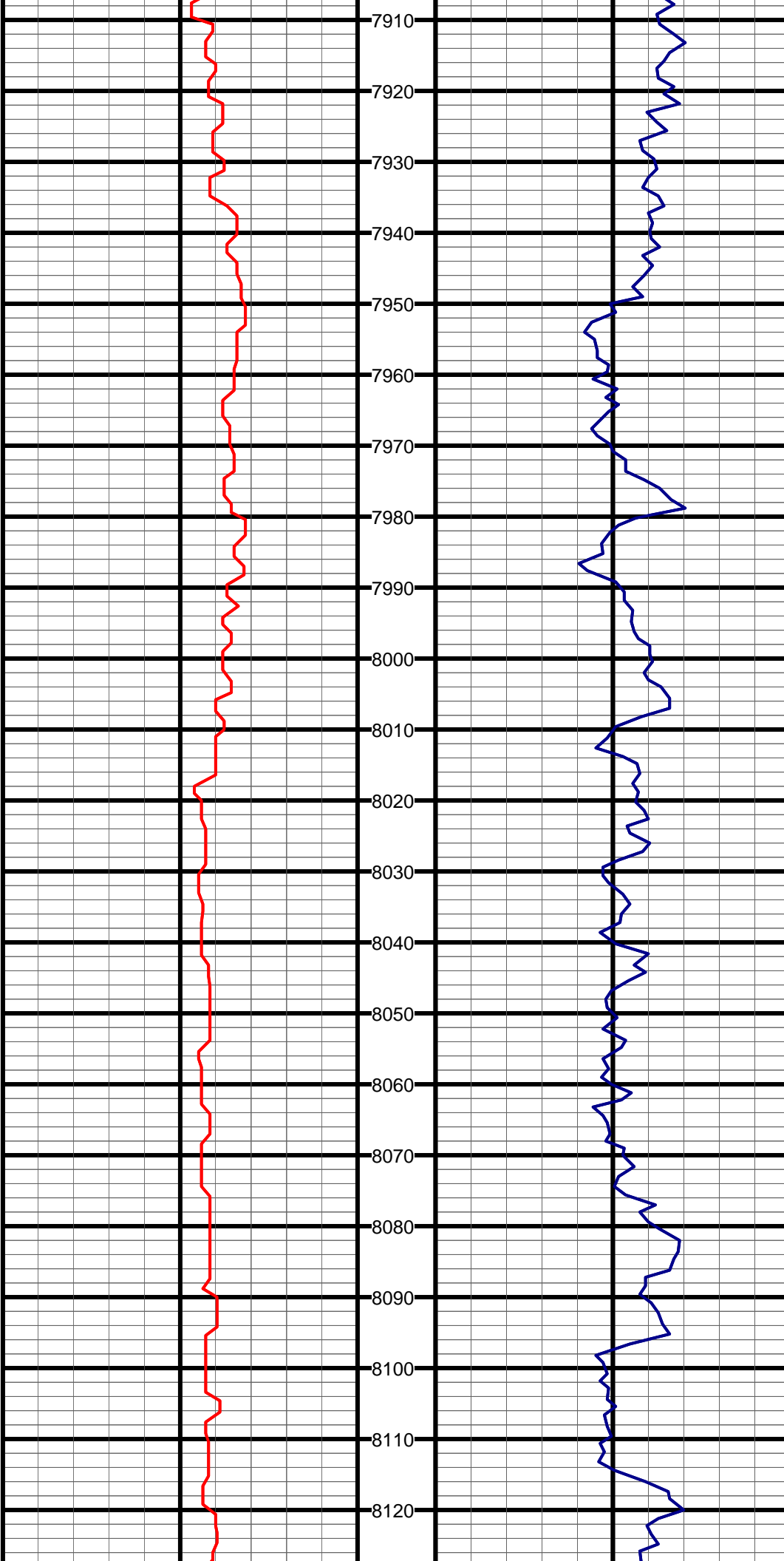
#75 MD:7608.0 TVD:6816.1 I:92.4 A:86.6 VS:1353.3



#76 MD:7702.0 TVD:6813.5 I:90.8 A:86.0 VS:1444.8

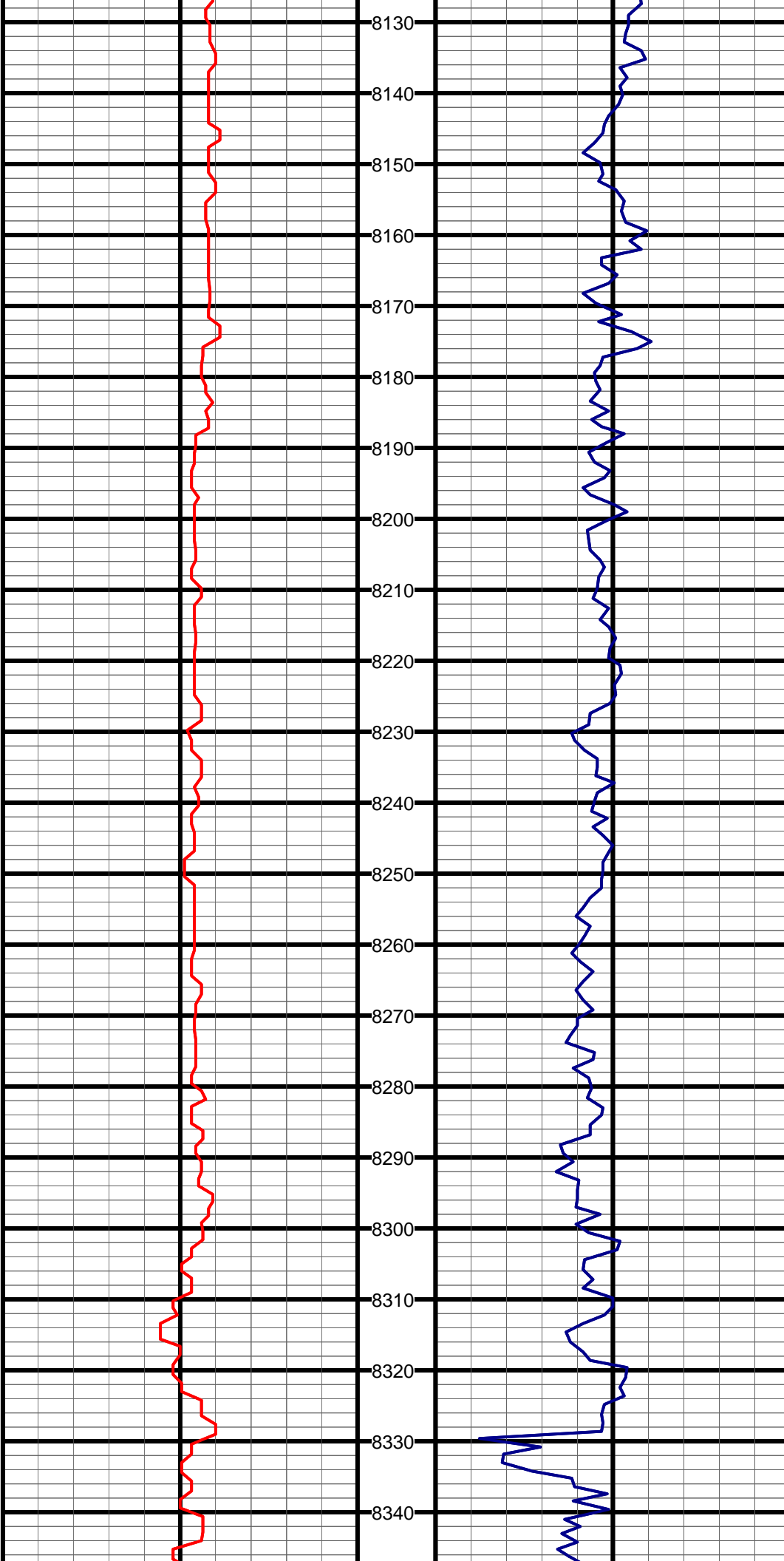
#77 MD:7797.0 TVD:6812.7 I:90.2 A:87.8 VS:1537.6

#78 MD:7892.0 TVD:6813.1 I:89.3 A:90.3 VS:1631.1



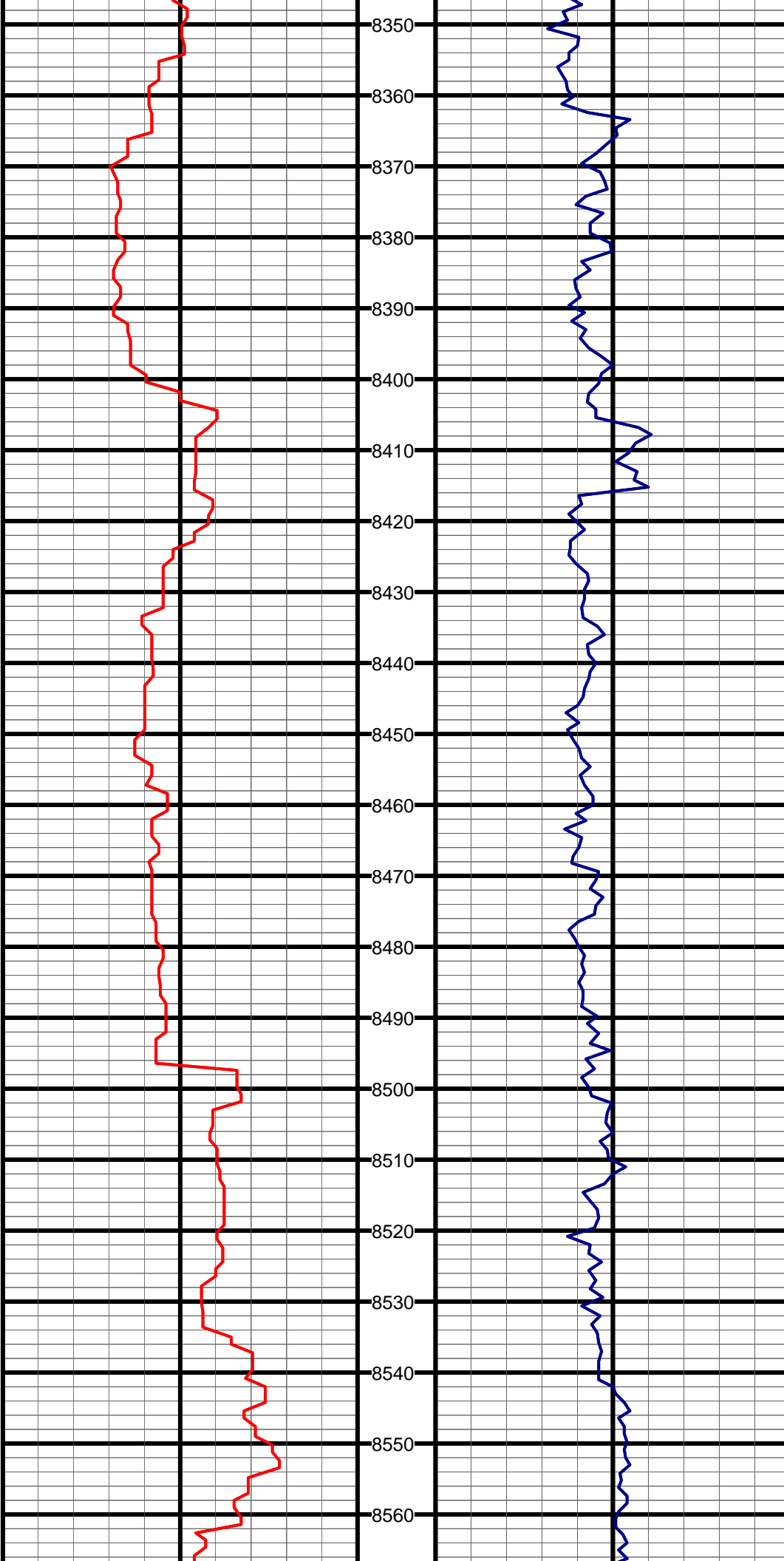
#79 MD:7987.0 TVD:6813.9 I:89.7 A:90.4 VS:1724.9

#80 MD:8081.0 TVD:6813.7 I:90.6 A:89.6 VS:1817.7



#81 MD:8176.0 TVD:6812.5 I:90.8 A:89.0 VS:1911.3

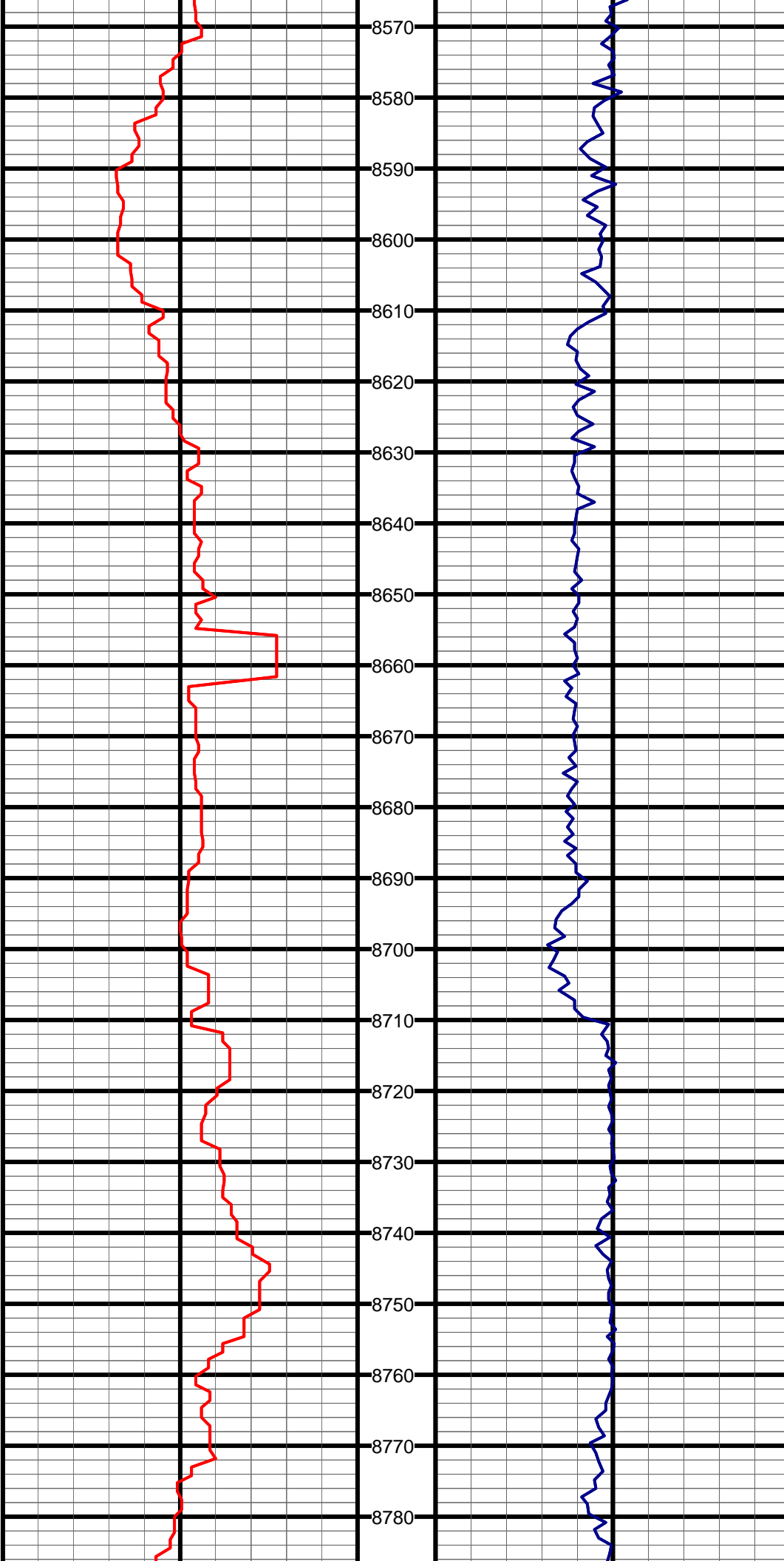
#82 MD:8271.0 TVD:6810.4 I:91.7 A:89.7 VS:2004.8



#83 MD:8366.0 TVD:6809.1 I:89.9 A:89.7 VS:2098.5

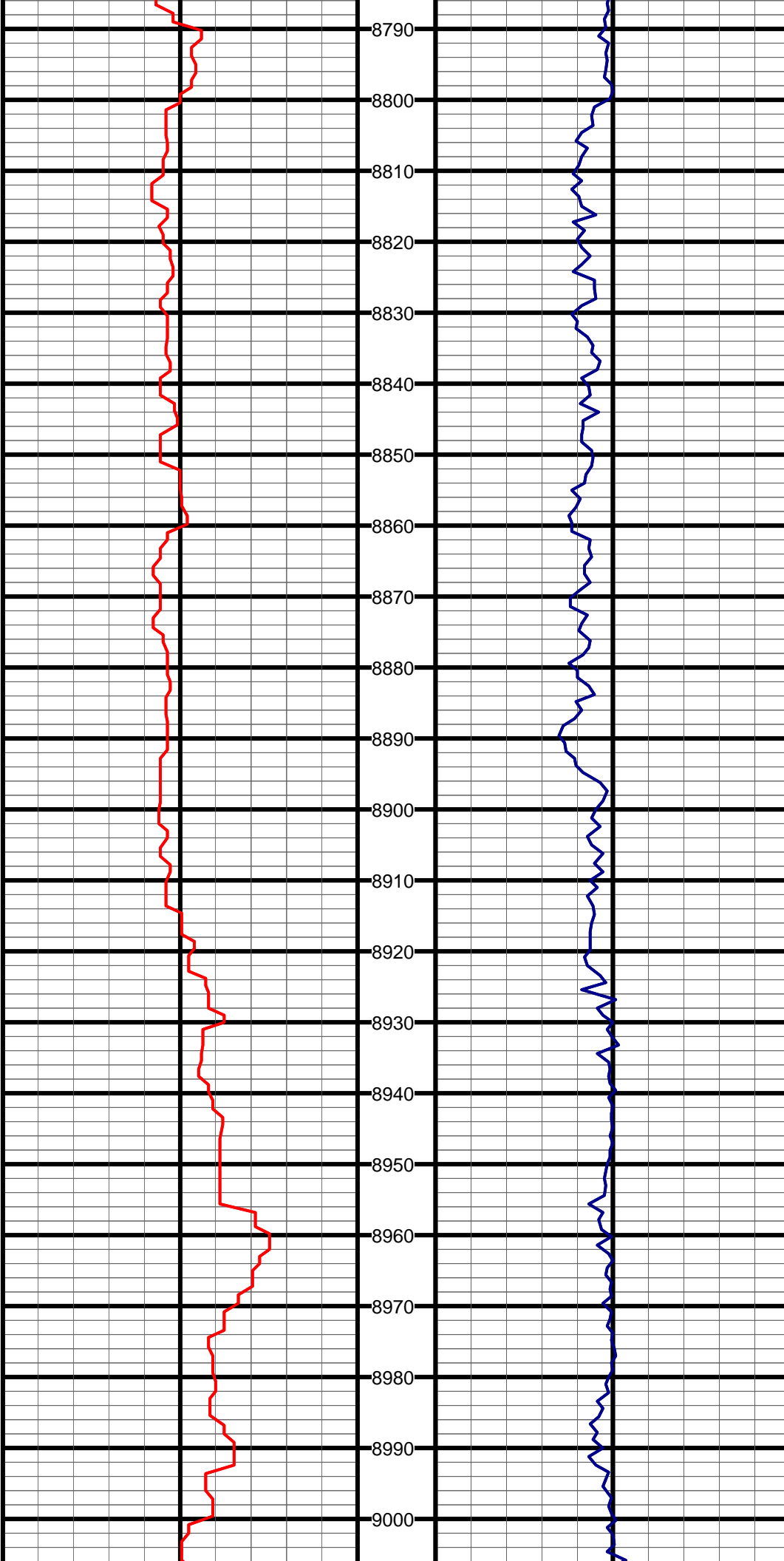
#84 MD:8461.0 TVD:6809.0 I:90.2 A:89.6 VS:2192.1

#85 MD:8556.0 TVD:6808.7 I:90.2 A:89.4 VS:2285.7



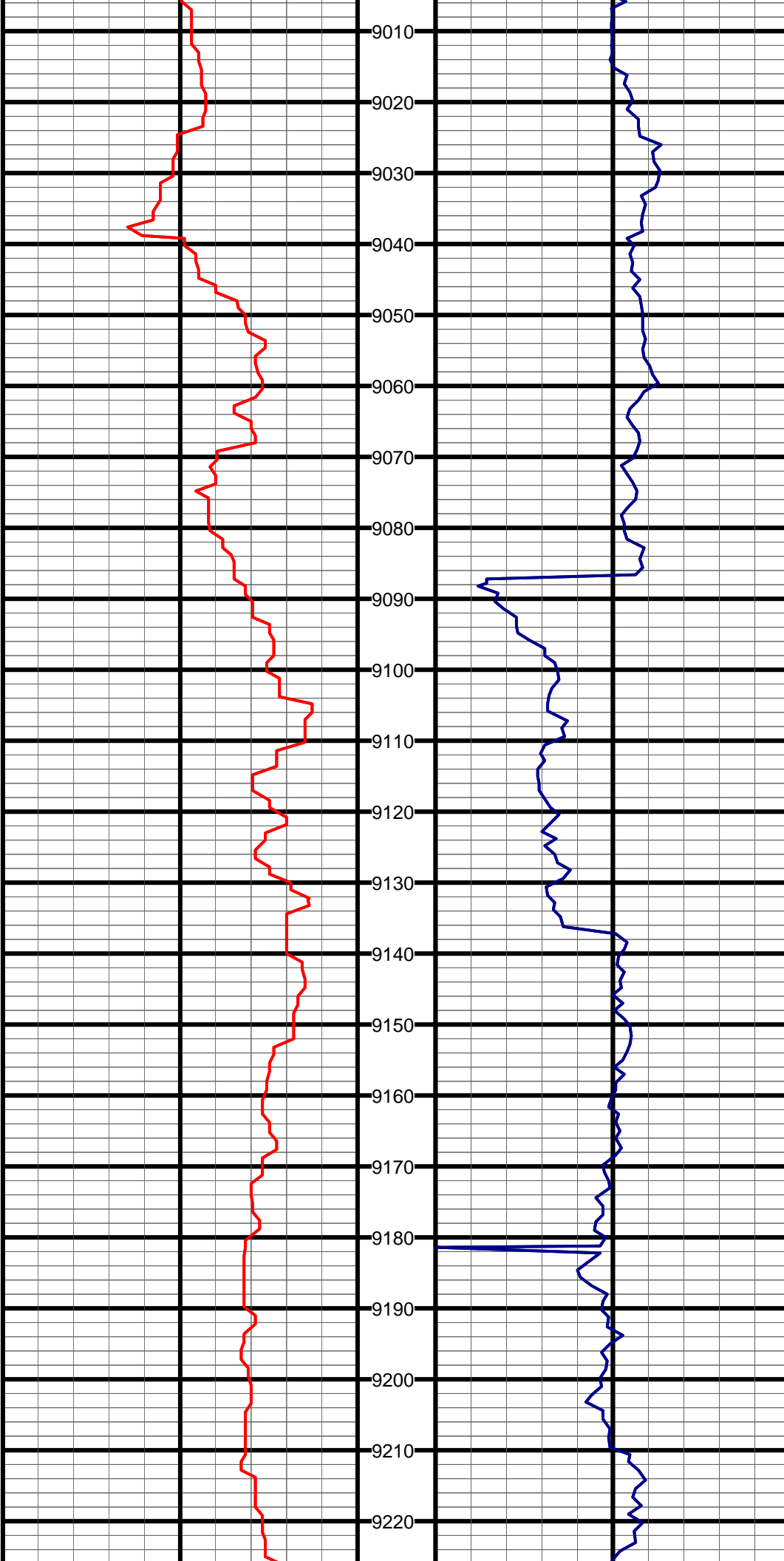
#86 MD:8651.0 TVD:6807.7 I:91.0 A:89.4 VS:2379.3

#87 MD:8746.0 TVD:6806.1 I:90.9 A:89.2 VS:2472.9



#88 MD:8840.0 TVD:6803.8 I:91.9 A:89.4 VS:2565.4

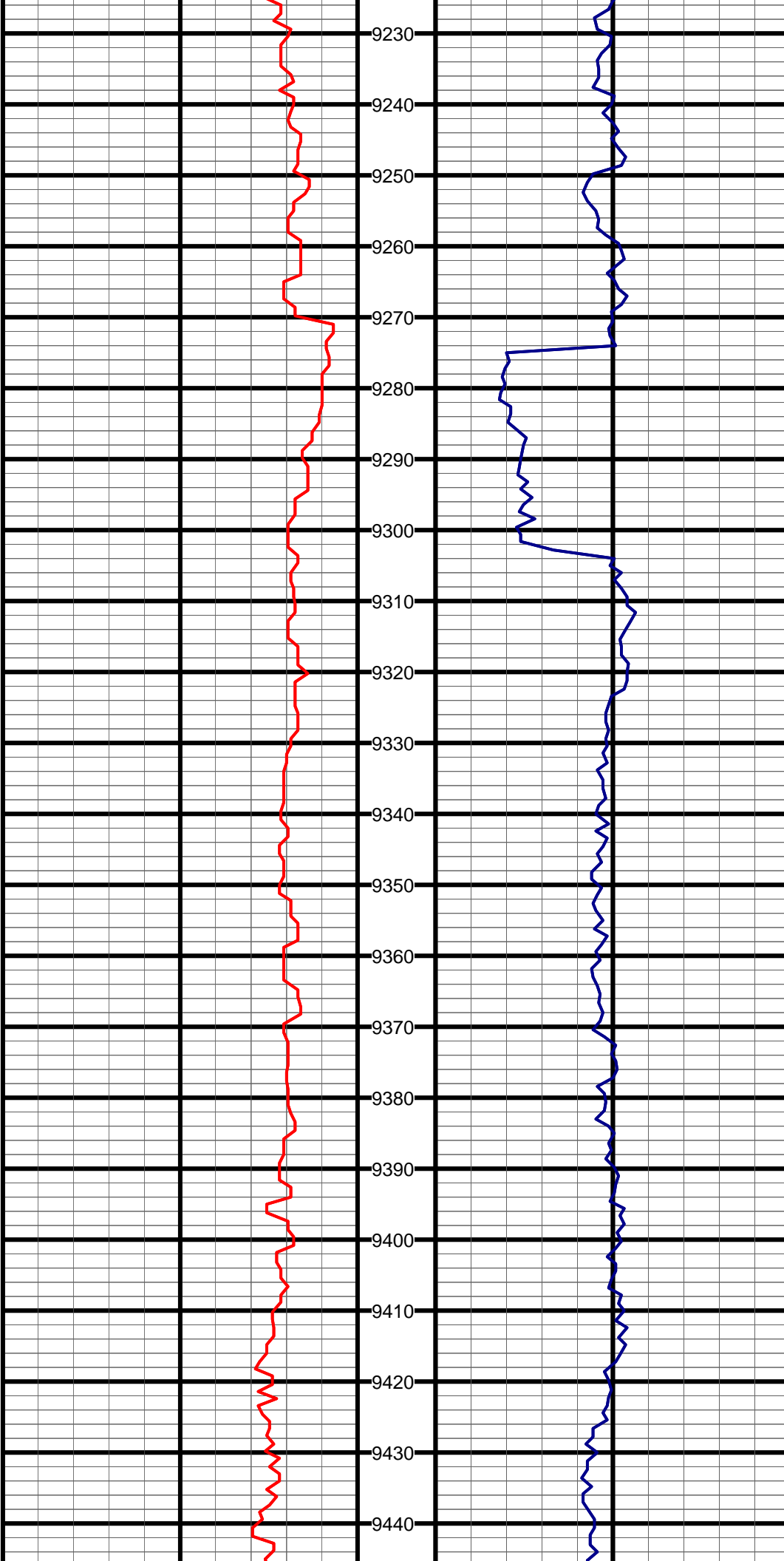
#89 MD:8935.0 TVD:6800.3 I:92.4 A:89.2 VS:2658.9



#90 MD:9030.0 TVD:6795.5 I:93.4 A:89.0 VS:2752.3

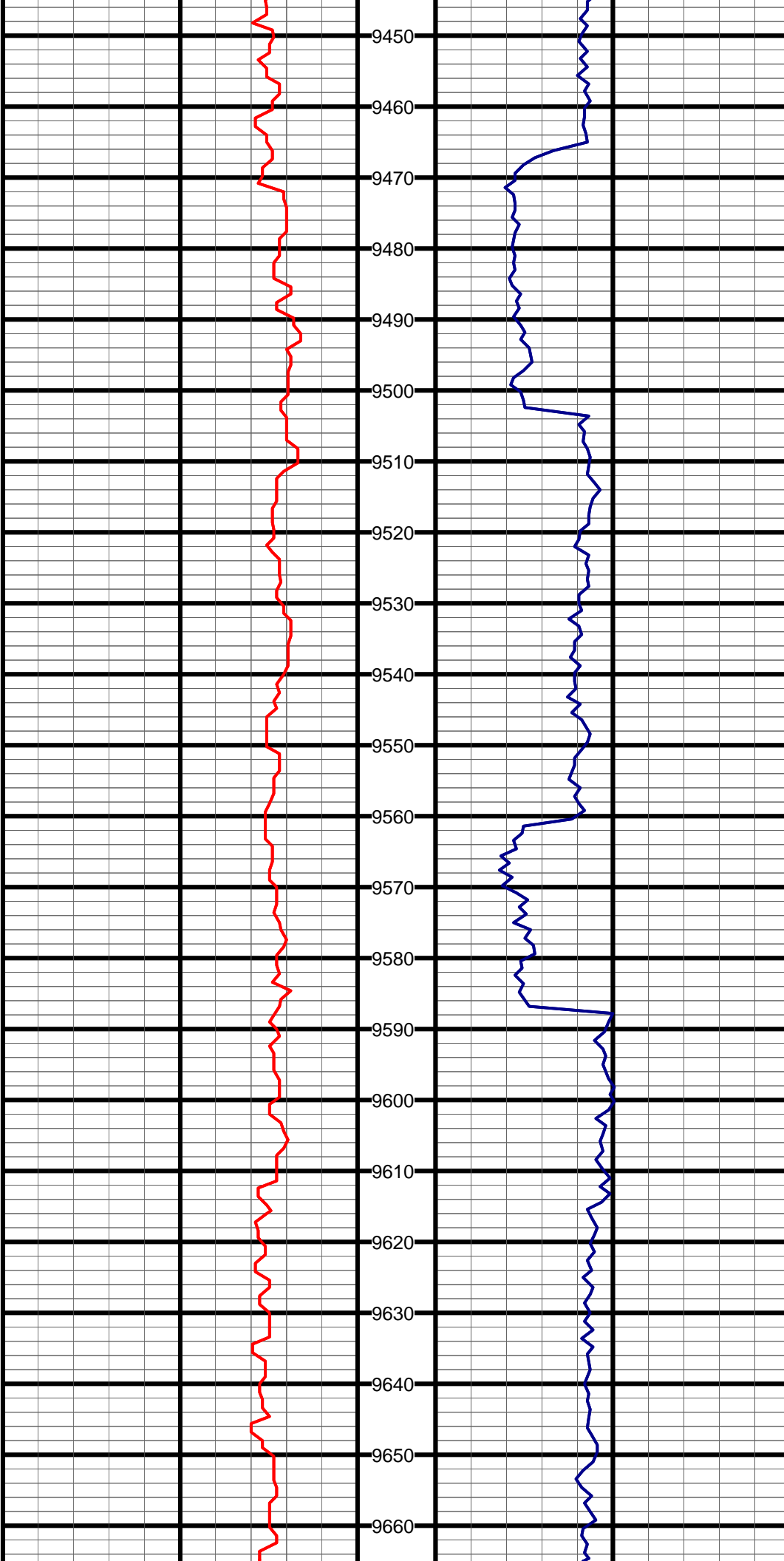
#91 MD:9125.0 TVD:6791.4 I:91.5 A:88.0 VS:2845.5

#92 MD:9220.0 TVD:6788.7 I:91.8 A:88.0 VS:2938.6



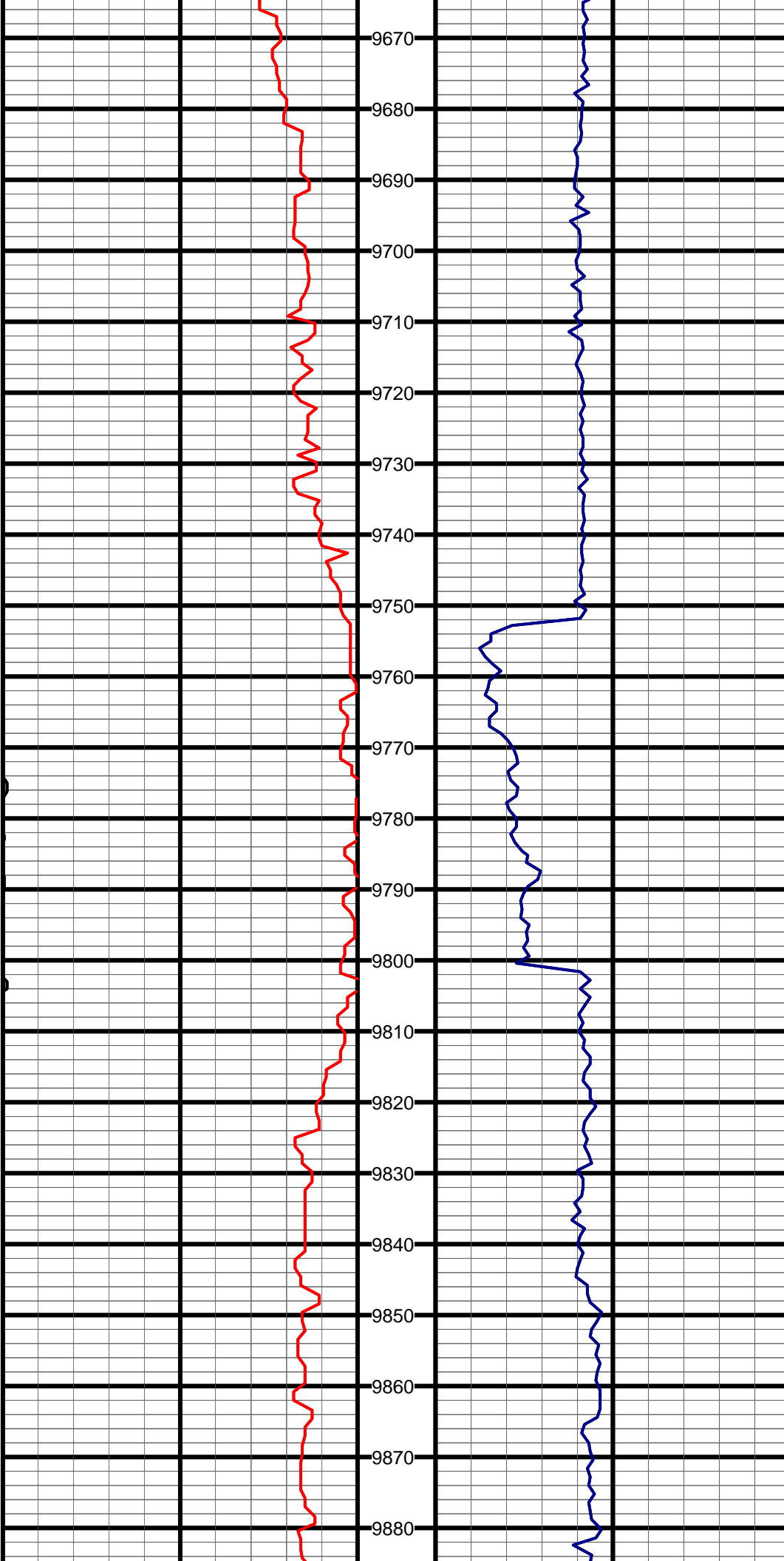
#93 MD:9315.0 TVD:6786.6 I:90.7 A:87.4 VS:3031.7

#94 MD:9410.0 TVD:6784.7 I:91.6 A:86.9 VS:3124.5



#95 MD:9505.0 TVD:6782.9 I:90.5 A:87.3 VS:3217.4

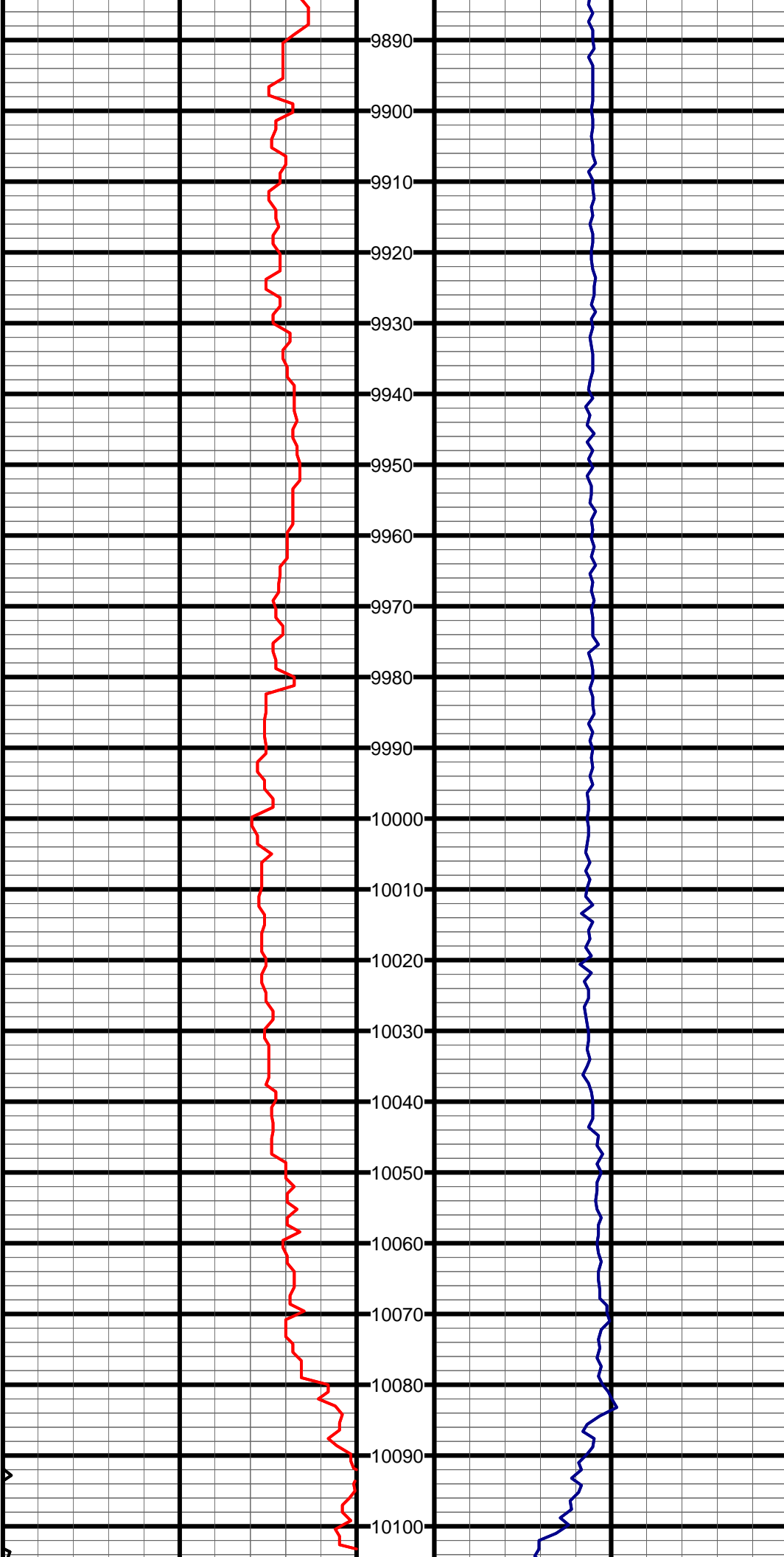
#96 MD:9599.0 TVD:6782.5 I:90.0 A:87.6 VS:3309.4



#97 MD:9694.0 TVD:6781.3 I:91.5 A:88.2 VS:3402.5

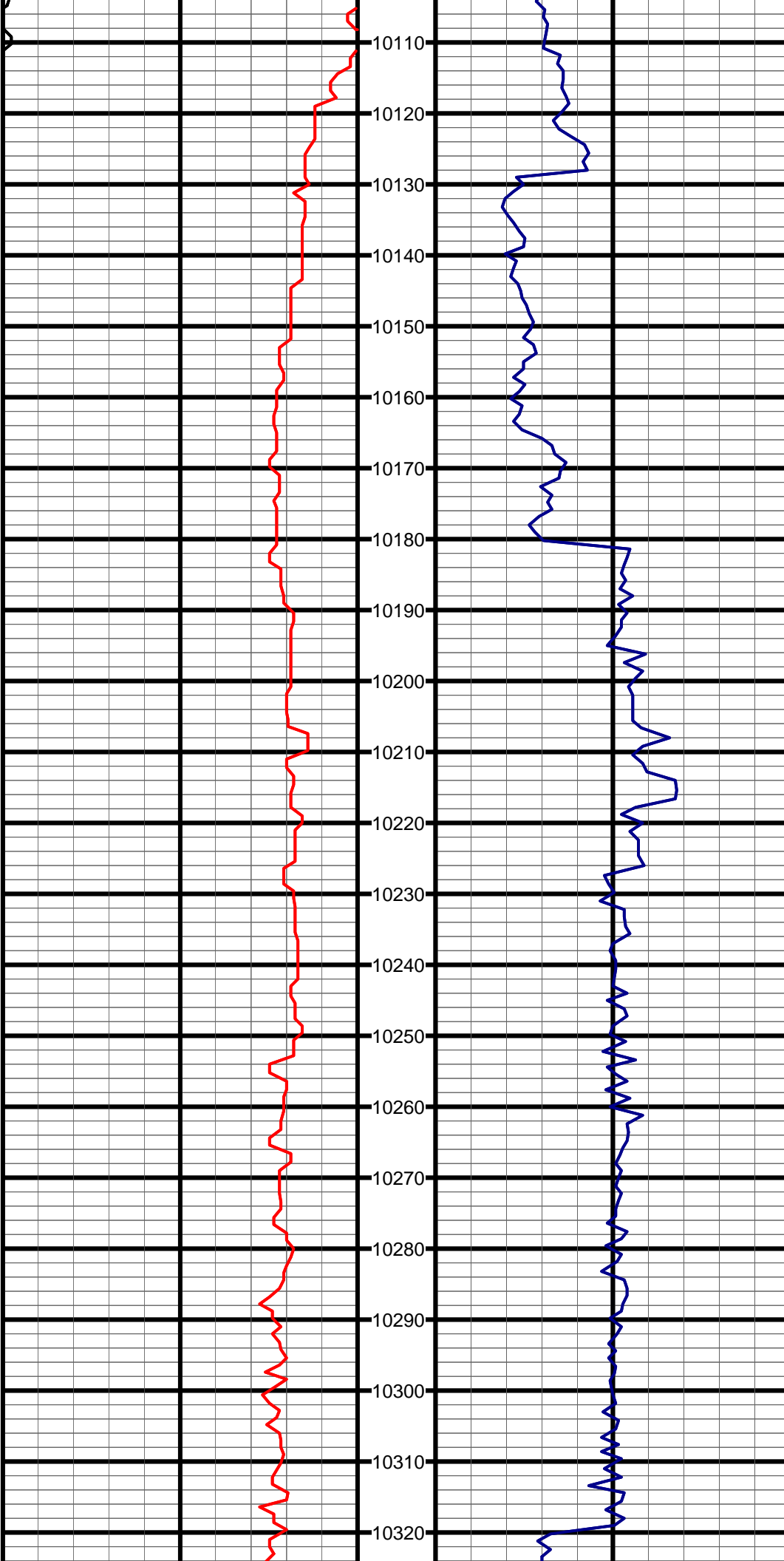
#98 MD:9789.0 TVD:6780.0 I:90.0 A:88.5 VS:3495.8

#99 MD:9884.0 TVD:6780.0 I:90.0 A:88.3 VS:3589.1



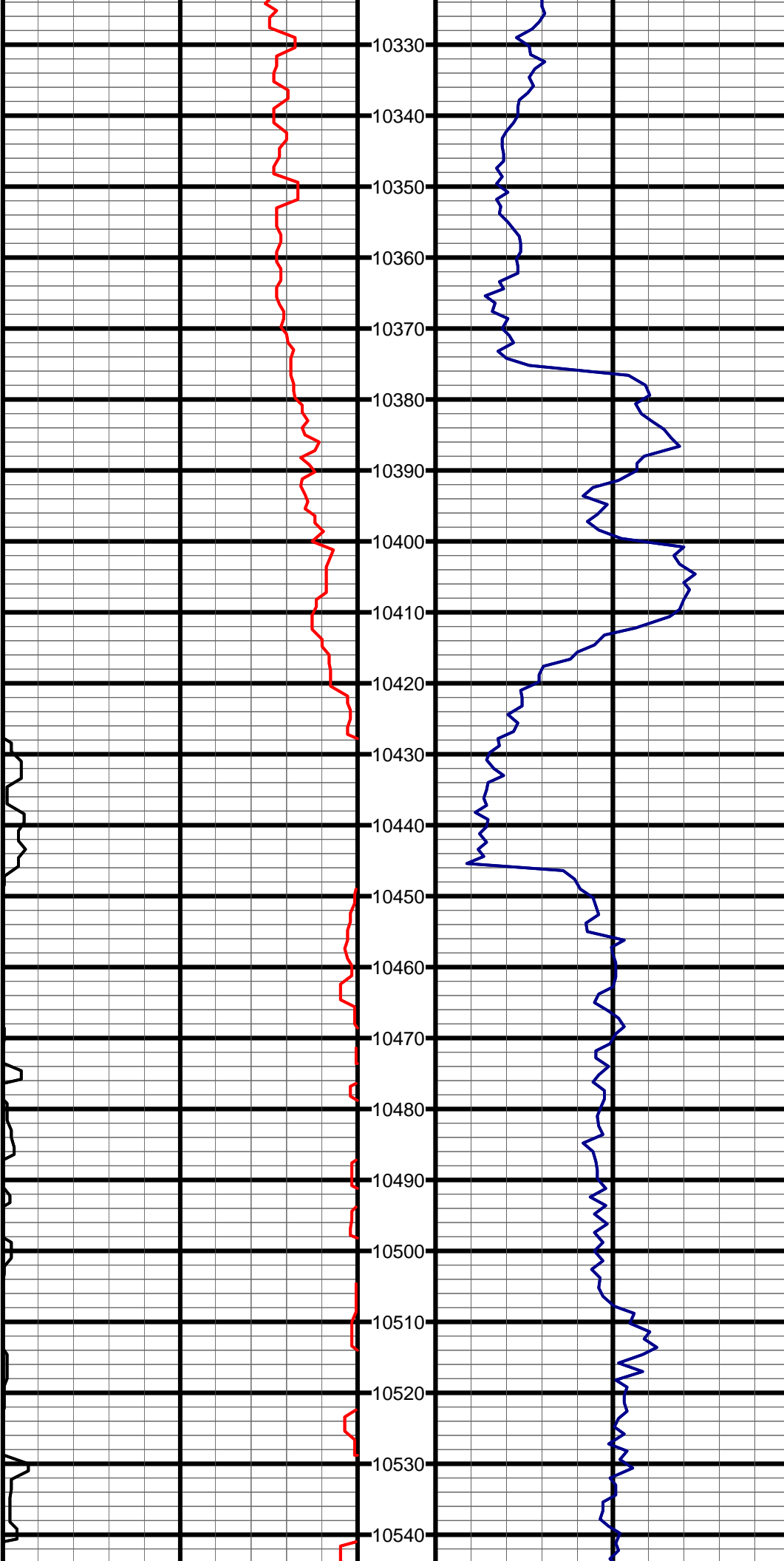
#100 MD:9979.0 TVD:6779.7 I:90.4 A:87.6 VS:3682.2

#101 MD:10074.0 TVD:6777.8 I:91.9 A:88.2 VS:3775.3



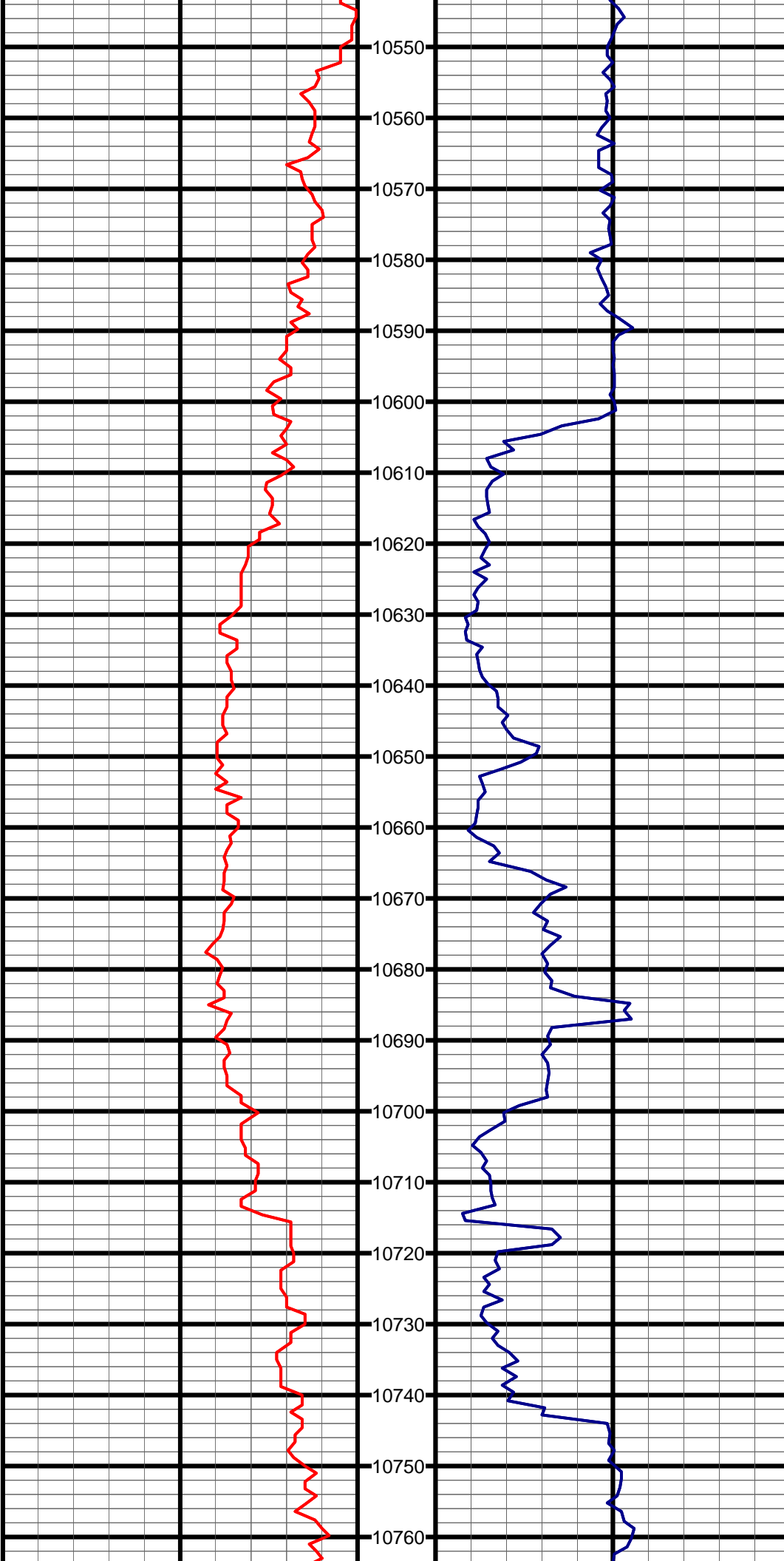
#102 MD:10169.0 TVD:6776.2 I:90.0 A:87.3 VS:3868.4

#103 MD:10263.0 TVD:6775.0 I:91.5 A:88.7 VS:3960.5



#104 MD:10358.0 TVD:6773.8 I:90.0 A:88.2 VS:4053.8

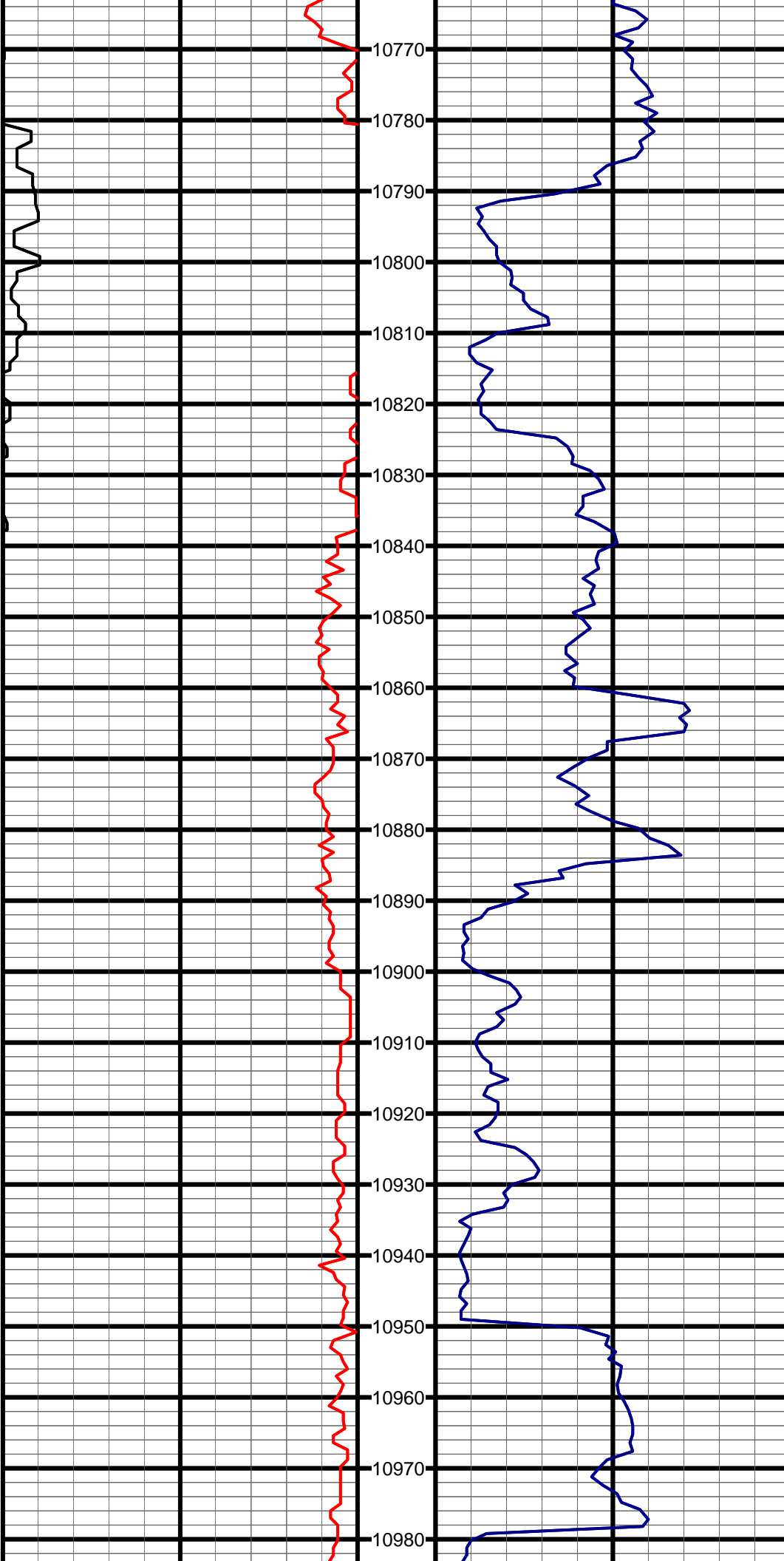
#105 MD:10453.0 TVD:6773.6 I:90.2 A:87.6 VS:4147.0



#106 MD:10548.0 TVD:6772.0 I:91.7 A:88.0 VS:4240.0

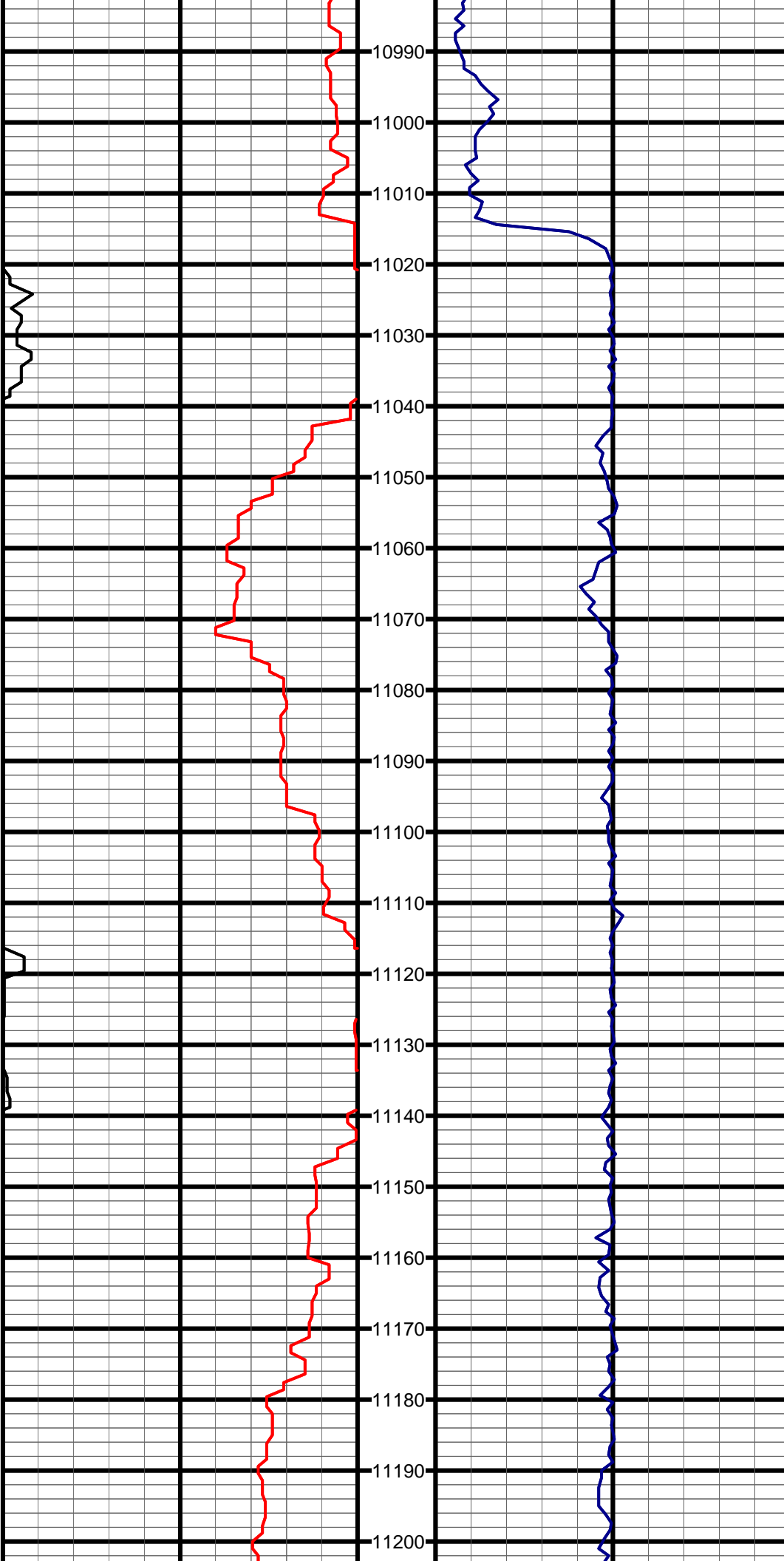
#107 MD:10643.0 TVD:6769.6 I:91.2 A:88.0 VS:4333.2

#108 MD:10738.0 TVD:6768.3 I:90.4 A:88.5 VS:4426.4



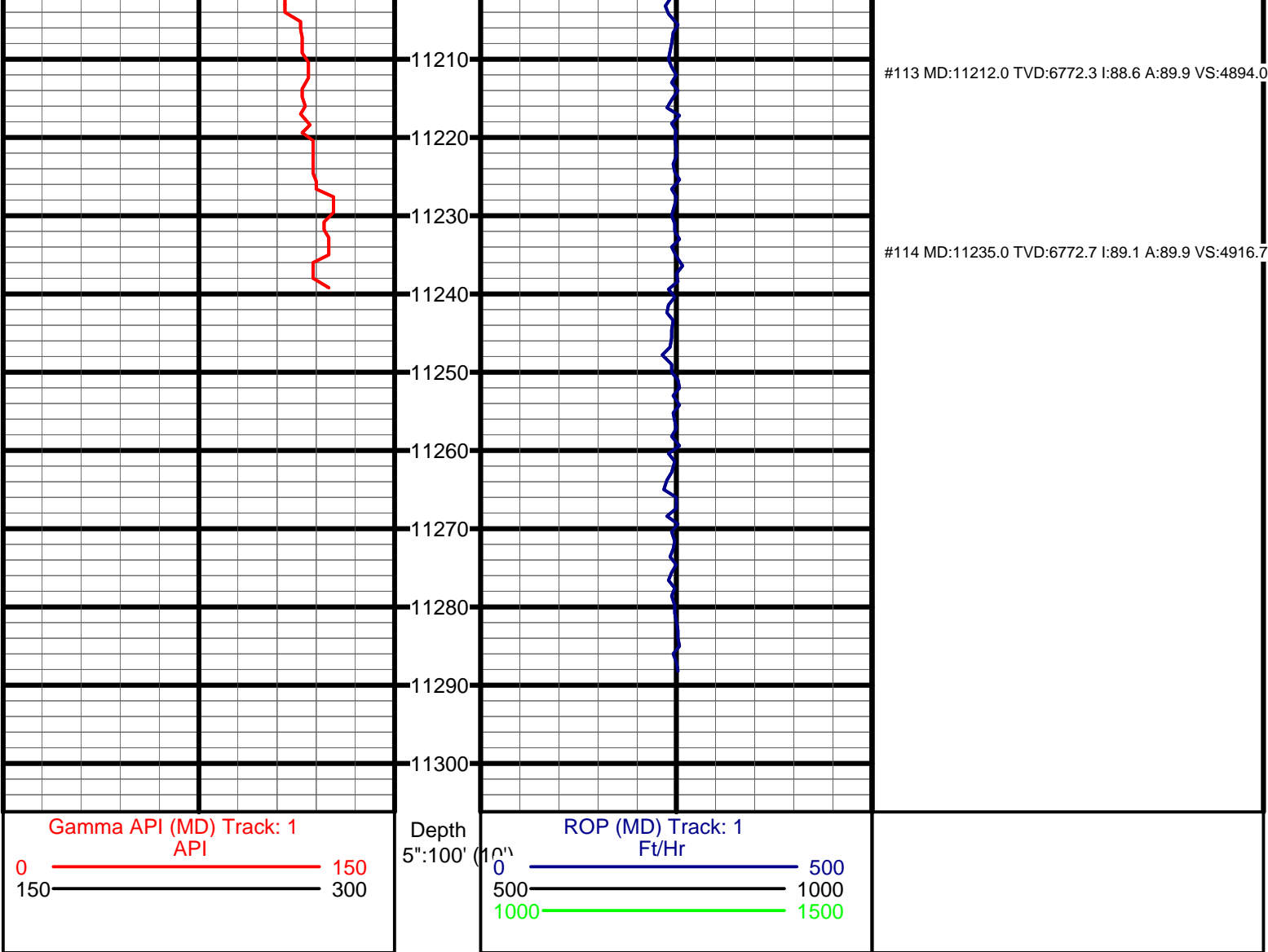
#109 MD:10833.0 TVD:6767.0 I:91.1 A:90.1 VS:4519.9

#110 MD:10927.0 TVD:6765.5 I:90.8 A:90.1 VS:4612.7



#111 MD:11022.0 TVD:6766.6 I:87.8 A:90.4 VS:4706.5

#112 MD:11117.0 TVD:6769.8 I:88.4 A:90.1 VS:4800.3





KAUFMAN PC GL20-68HN FINAL 1" MD
(Scale: 1"=100' (100'))

Company: NOBLE ENERGY, INC. State: COLORADO
Well: KAUFMAN PC GL20-68HN County: WELD
Field: WILDCAT Country: USA
Well ID: 05-123-35887-00
Job Number: RM-12938
Location: LAT: 40° 54' 53.964 N / LONG: 104° 7' 33.708 W
Operator 1: CHRIS ABBOTT Elev KB: 5.312'
Operator 2: TROY MARDESEN Elev DF: N/A
Elev GL: 5.282'

Comment 1: TIE INTO SURFACE CASING AT 1,279'
Comment 2:
Comment 3:
Comment 4:
Comment 5:

Hole Data			Casing Record			
Size	From	To	Size	From	To	
13 3/4"	0'	1,289'	9 5/8"	0	1,279'	
8 3/4"	1,289'	7,304'	7"	1,279'	7,290'	
6 1/8"	7,304'	11,290'				
Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5	
Tool S/N	2422	2422	2422	2422	1836	
Cal Factor	3.875	3.875	3.875	2.25	2.036	
Gamma Offset	36	36	36	49	49	
Start Depth	1,289'	6,167'	7,114'	7,304'	7,756'	
Start Date	12/15/2012	12/16/2012	12/17/2012	12/20/2012	12/20/2012	
Start Time	10:00	16:00	16:00	03:00	22:30	
End Depth	6,167'	7,114'	7,304'	7,756'	11,290'	
End Date	12/16/2012	12/17/2012	12/17/12	12/20/12	12/22/2012	
End Time	07:00	04:30	21:00	13:00	12:00	

