

Company: Noble Energy Inc
Well Name: Fiscus Federal LD15-77HN

API: 05-123-37367

Rig Id: Precision 828

State: Colorado

County/Parish: Weld

Country: USA

Survey Company: Ensign Directional

Job number: 05-123-37367

Company Man 1 Gary Stapleton

Directional Driller 1 Tyler Batchelder

Directional Driller 2 Matt Mason

MWD 1 Mark Bigler

MWD 2 Derek Saykally

Log measurements: Gamma

Depth measured from: KB

Maximum temperature:

Depth Date
Start: 1220 ft 10/28/2014
End: 9006 ft 11/1/2014

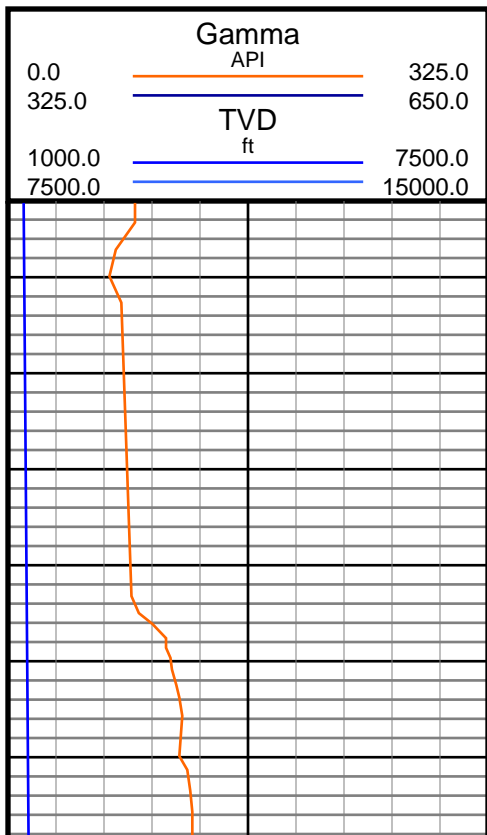
Casing Depth Size
Surface: 1215 9.625
Intermediate: 6002 7

Mud Type: Water Based
Density:
Viscosity:
Rm: Rmf: Rmc:

Elevations
KB: 4755
GL: 4739
DF: 4755

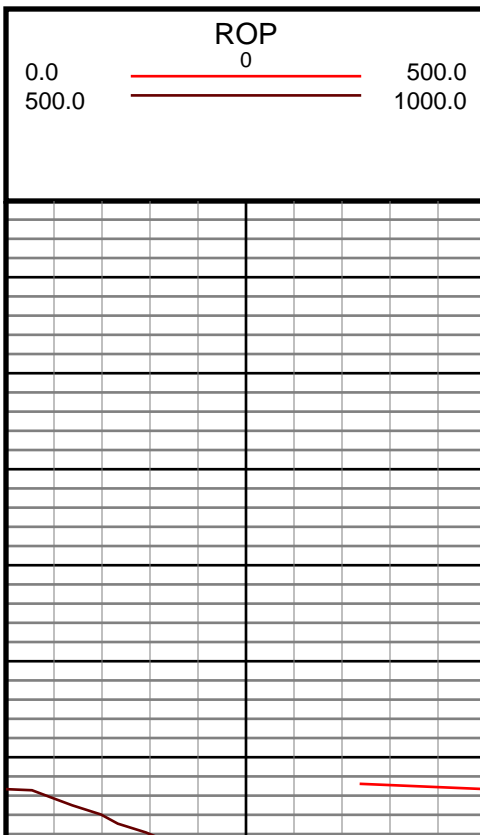
Run	Bit Size	Gamma	Survey	Offsets	Start	End	Start	End	Dates
1	8 3/4	60.71	55.71	1220	6002	9006	10/28/2014	10/29/2014	
2	6 1/8	61.20	56.20	6002			10/30/2014	11/1/2014	
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Ensign Directional uses its best efforts to provide its customers with accurate information and interpretations in conjunction with services performed but will not be held liable or responsible for the accuracy of such information or interpretation.

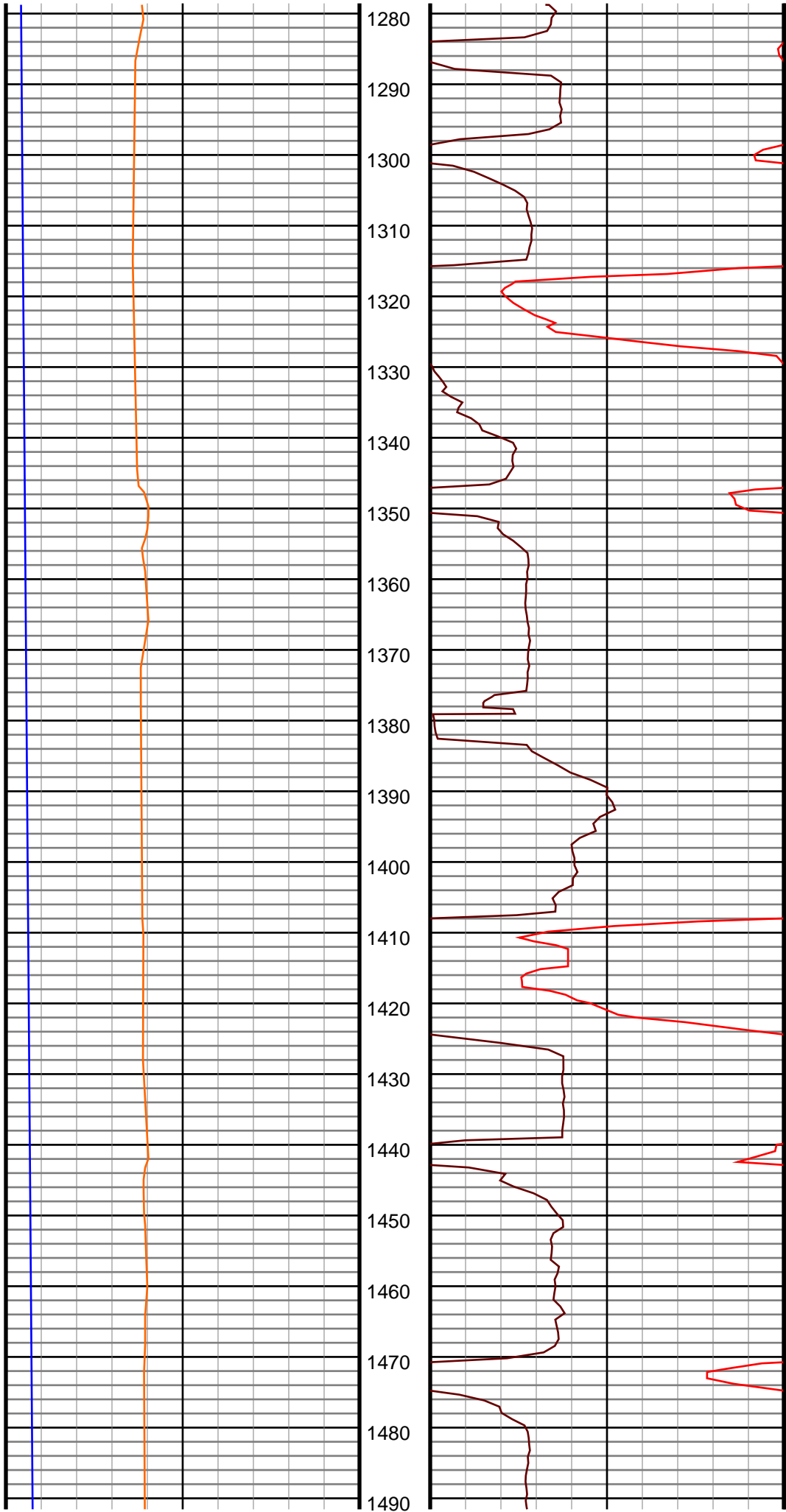


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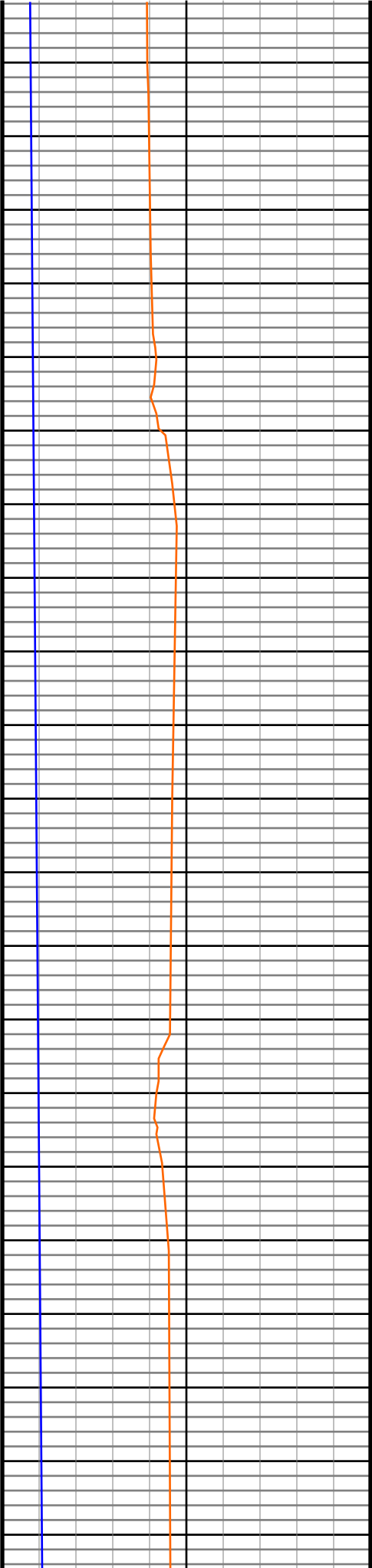


#4 MD(1255.00) Inc(1.5) Azm(101.9) TVD(1254.89)
VS(-7.55) NS(7.32) EW(7.73) TEMP(69.8)

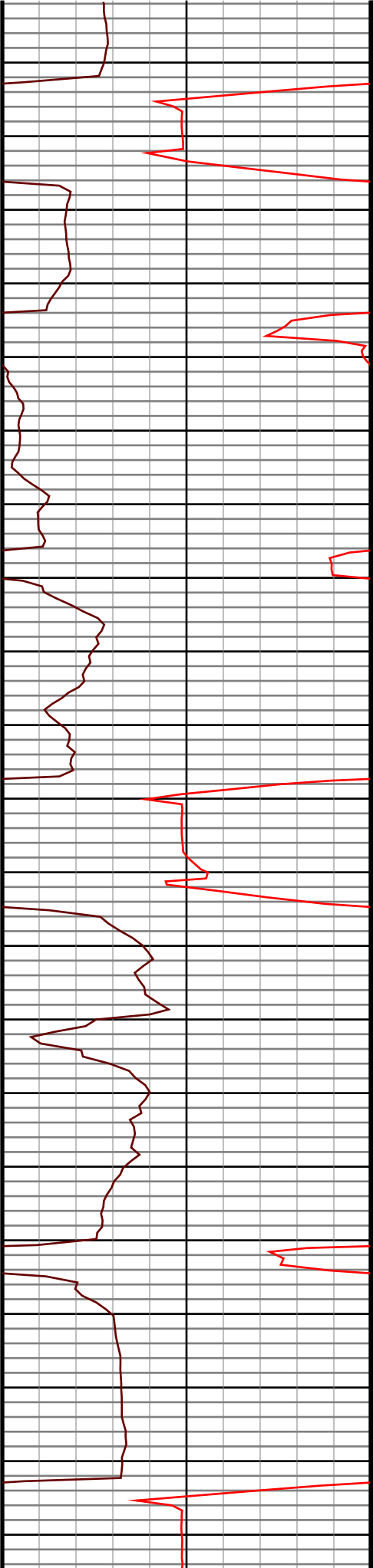


#5 MD(1349.00) Inc(1.1) Azm(312.7) TVD(1348.88)
VS(-7.93) NS(7.68) EW(8.28) TEMP(69.8)

#6 MD(1443.00) Inc(2.3) Azm(331.3) TVD(1442.84)
VS(-10.15) NS(9.95) EW(6.71) TEMP(69.8)

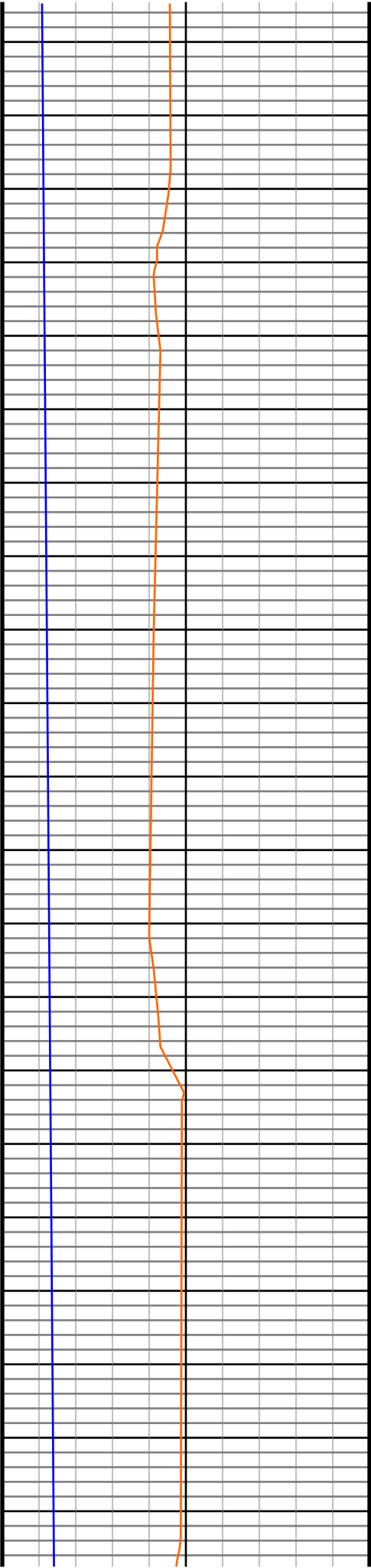


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#7 MD(1538.00) Inc(3.1) Azm(320.2) TVD(1537.73)
VS(-13.71) NS(13.59) EW(4.15) TEMP(69.8)

#8 MD(1631.00) Inc(4.7) Azm(307.3) TVD(1630.52)
VS(-17.81) NS(17.83) EW(-0.49) TEMP(69.8)



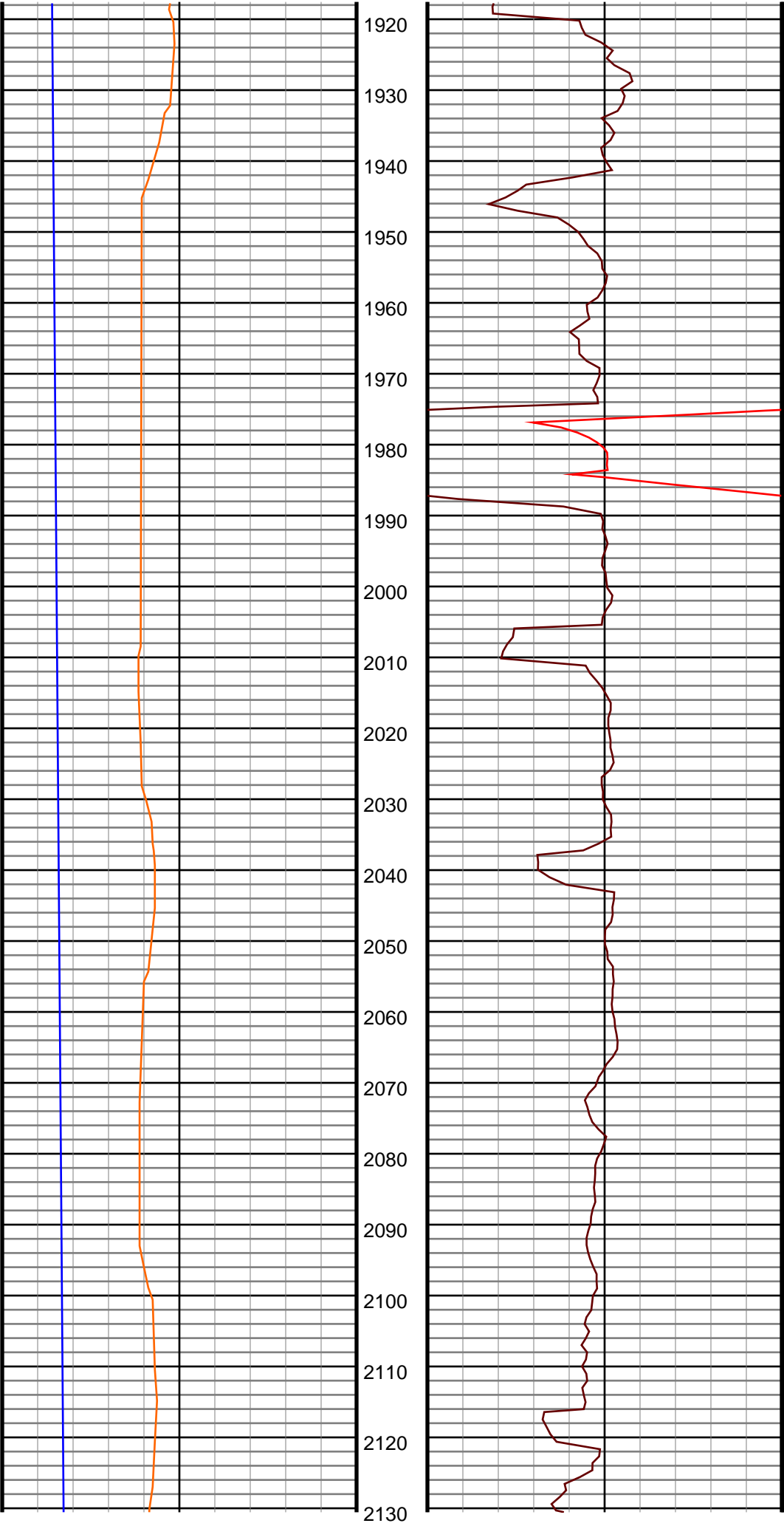
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#9 MD(1726.00) Inc(6.1) Azm(301.9) TVD(1725.09)
VS(-22.61) NS(22.86) EW(-7.88) TEMP(78.8)

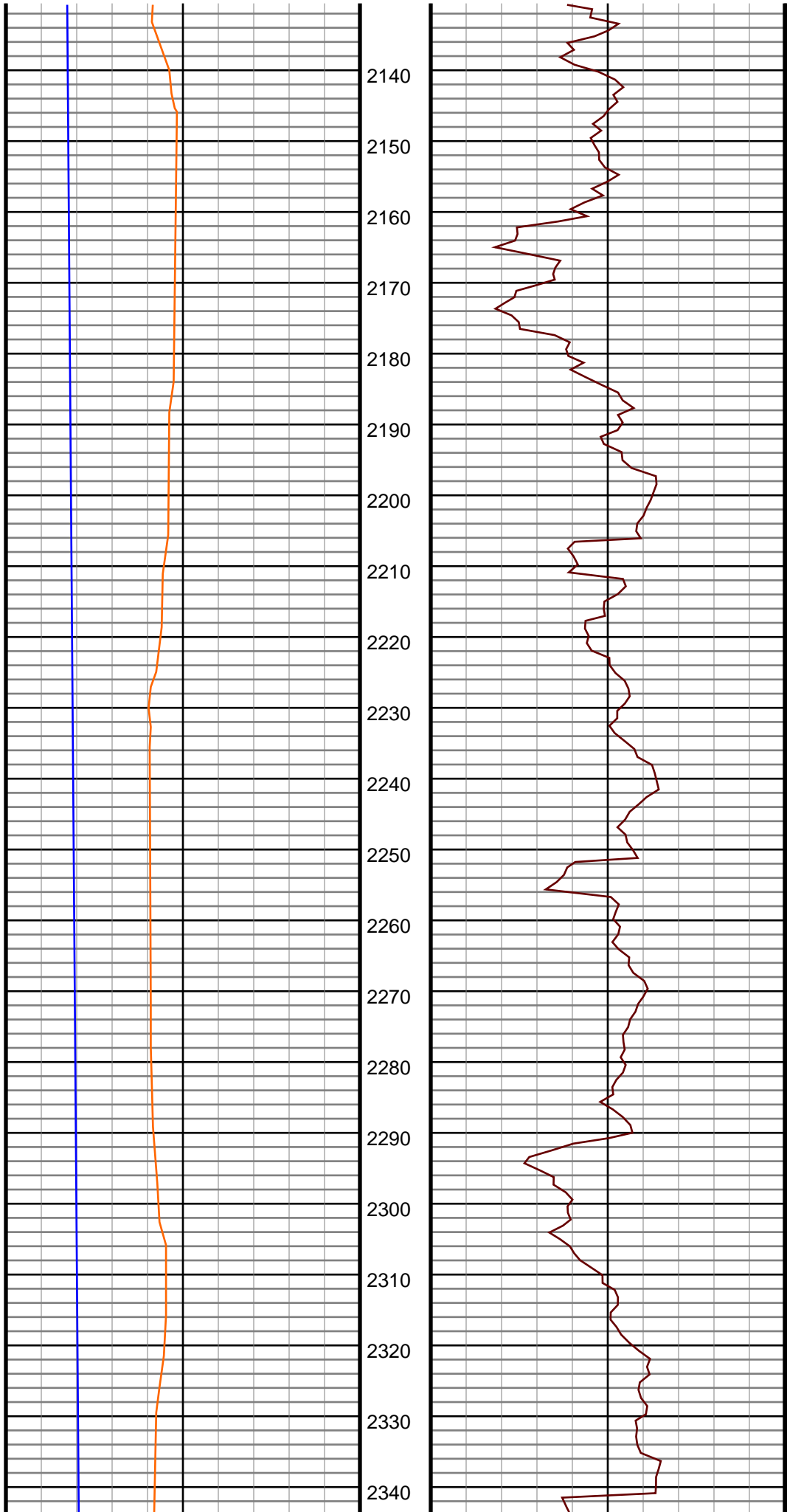
#10 MD(1821.00) Inc(8.0) Azm(298.6) TVD(1819.37)
VS(-28.14) NS(28.69) EW(-17.97) TEMP(80.6)

#11 MD(1916.00) Inc(7.2) Azm(293.5) TVD(1913.54)
VS(-33.33) NS(34.23) EW(-29.23) TEMP(80.6)



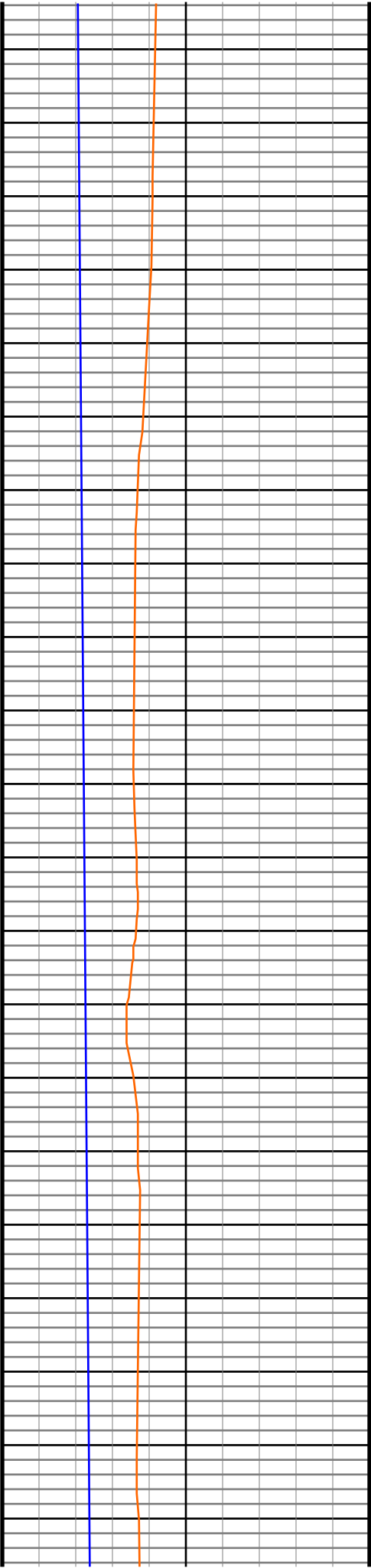
#12 MD(2014.00) Inc(8.3) Azm(305.8) TVD(2010.65)
VS(-39.57) NS(40.82) EW(-40.60) TEMP(80.6)

#13 MD(2103.00) Inc(8.0) Azm(298.3) TVD(2098.75)
VS(-45.94) NS(47.51) EW(-51.26) TEMP(84.2)

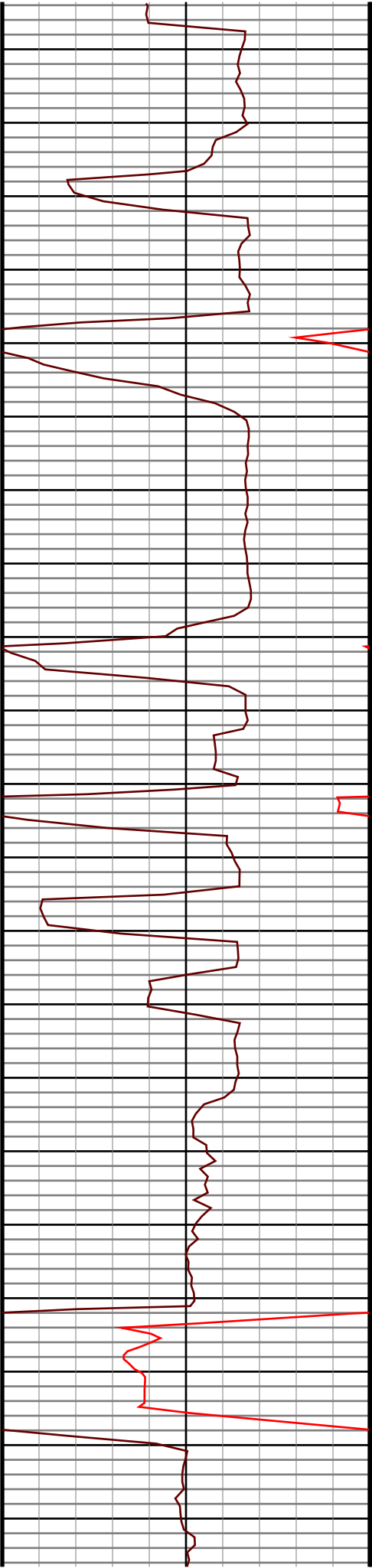


#14 MD(2193.00) Inc(7.5) Azm(296.6) TVD(2187.93)
VS(-51.21) NS(53.11) EW(-62.03) TEMP(86.0)

#15 MD(2283.00) Inc(7.4) Azm(294.3) TVD(2277.17)
VS(-55.91) NS(58.13) EW(-72.56) TEMP(86.0)



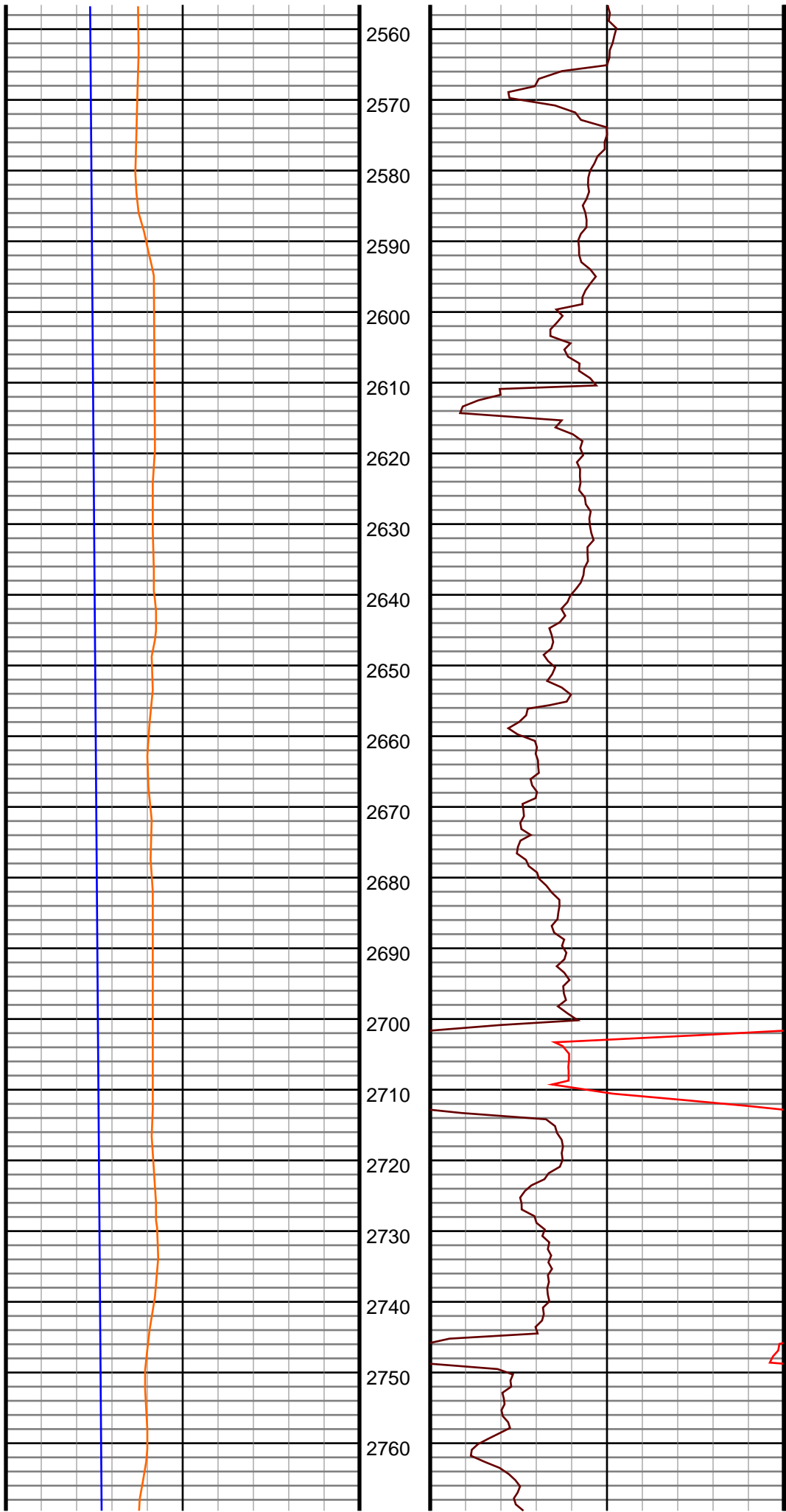
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#16 MD(2373.00) Inc(7.3) Azm(292.9) TVD(2366.43)
VS(-60.20) NS(62.74) EW(-83.11) TEMP(87.8)

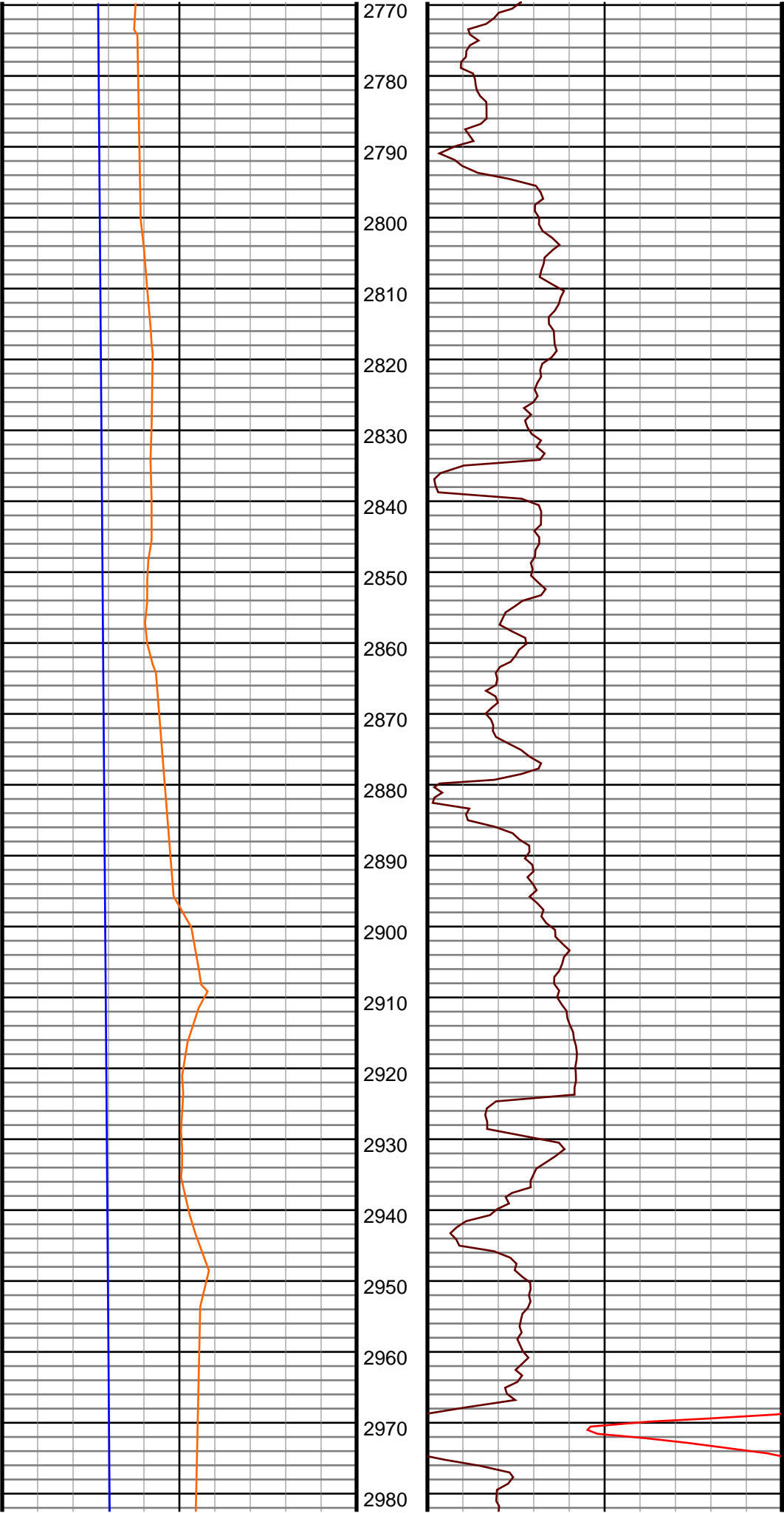
#17 MD(2463.00) Inc(6.3) Azm(288.4) TVD(2455.80)
VS(-63.68) NS(66.52) EW(-93.07) TEMP(87.8)

#18 MD(2552.00) Inc(7.4) Azm(300.1) TVD(2544.16)
VS(-67.81) NS(70.94) EW(-102.66) TEMP(89.6)



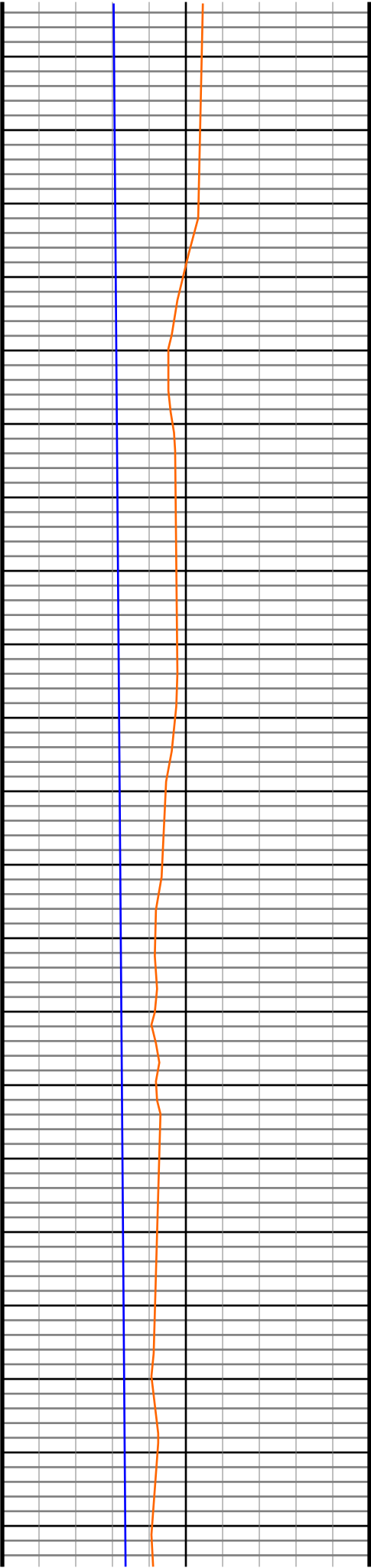
#19 MD(2642.00) Inc(7.4) Azm(298.5) TVD(2633.41)
VS(-73.17) NS(76.61) EW(-112.77) TEMP(91.4)

#20 MD(2732.00) Inc(7.7) Azm(311.0) TVD(2722.64)
VS(-79.60) NS(83.33) EW(-122.41) TEMP(93.2)

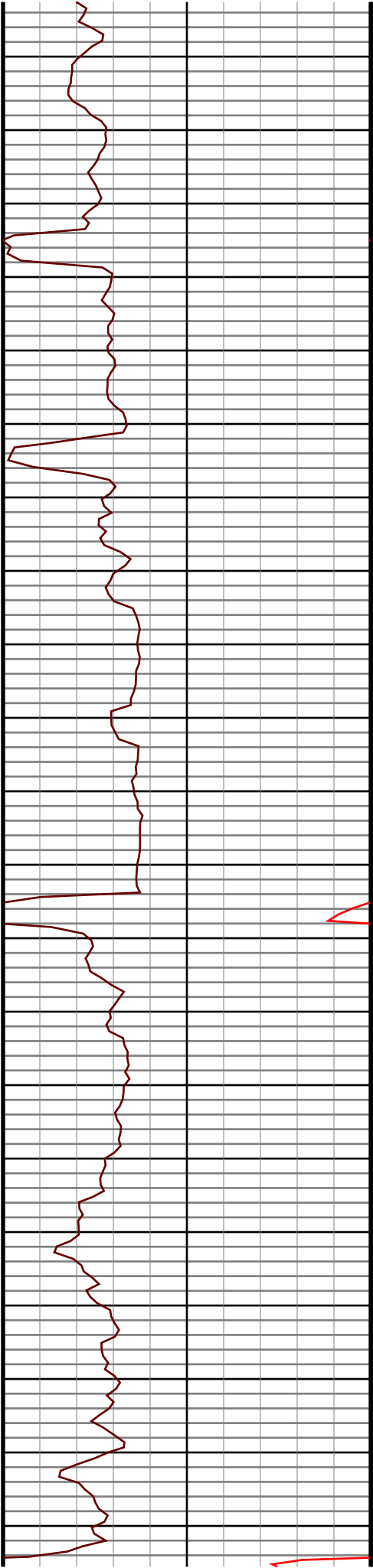


#21 MD(2822.00) Inc(7.5) Azm(307.8) TVD(2811.85)
VS(-86.87) NS(90.89) EW(-131.60) TEMP(95.0)

#22 MD(2912.00) Inc(7.3) Azm(304.0) TVD(2901.10)
VS(-93.38) NS(97.68) EW(-140.99) TEMP(97.0)



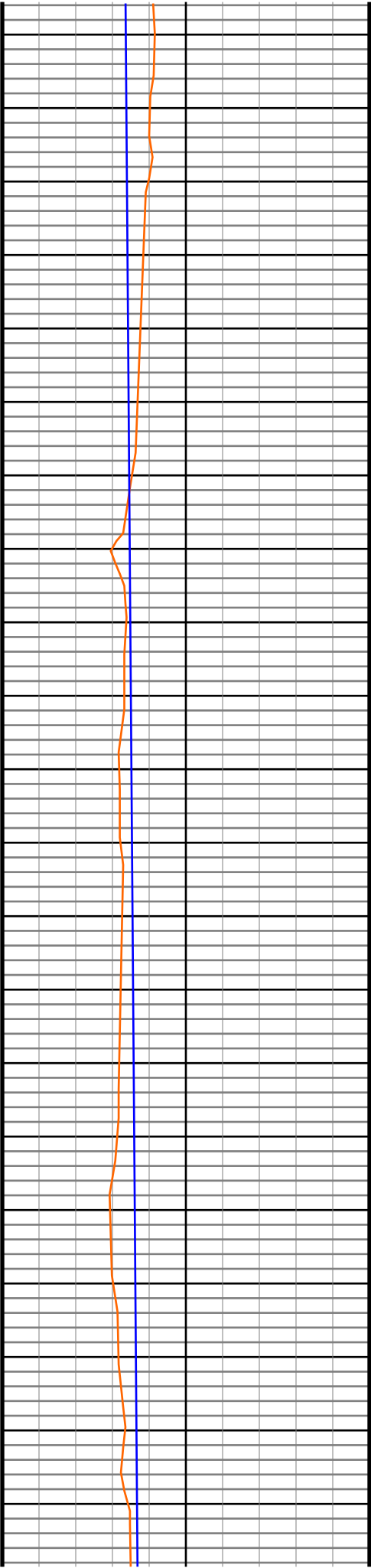
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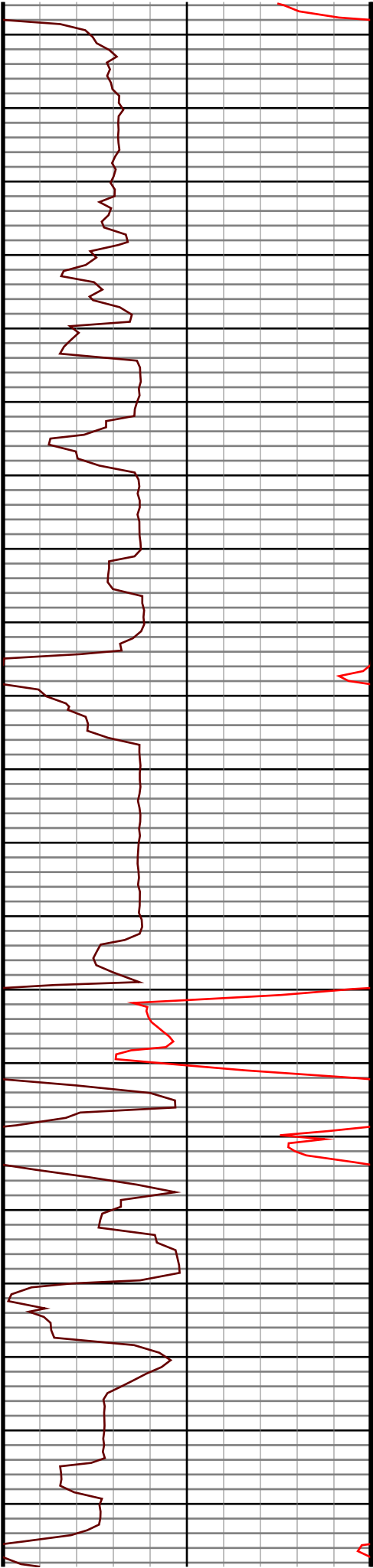
#23 MD(3002.00) Inc(7.6) Azm(302.0) TVD(2990.34)
VS(-99.44) NS(104.04) EW(-150.77) TEMP(96.8)

#24 MD(3091.00) Inc(7.4) Azm(299.4) TVD(3078.58)
VS(-105.06) NS(109.97) EW(-160.76) TEMP(98.6)

#25 MD(3181.00) Inc(7.4) Azm(296.4) TVD(3167.83)
VS(-110.17) NS(115.39) EW(-171.00) TEMP(100.4)

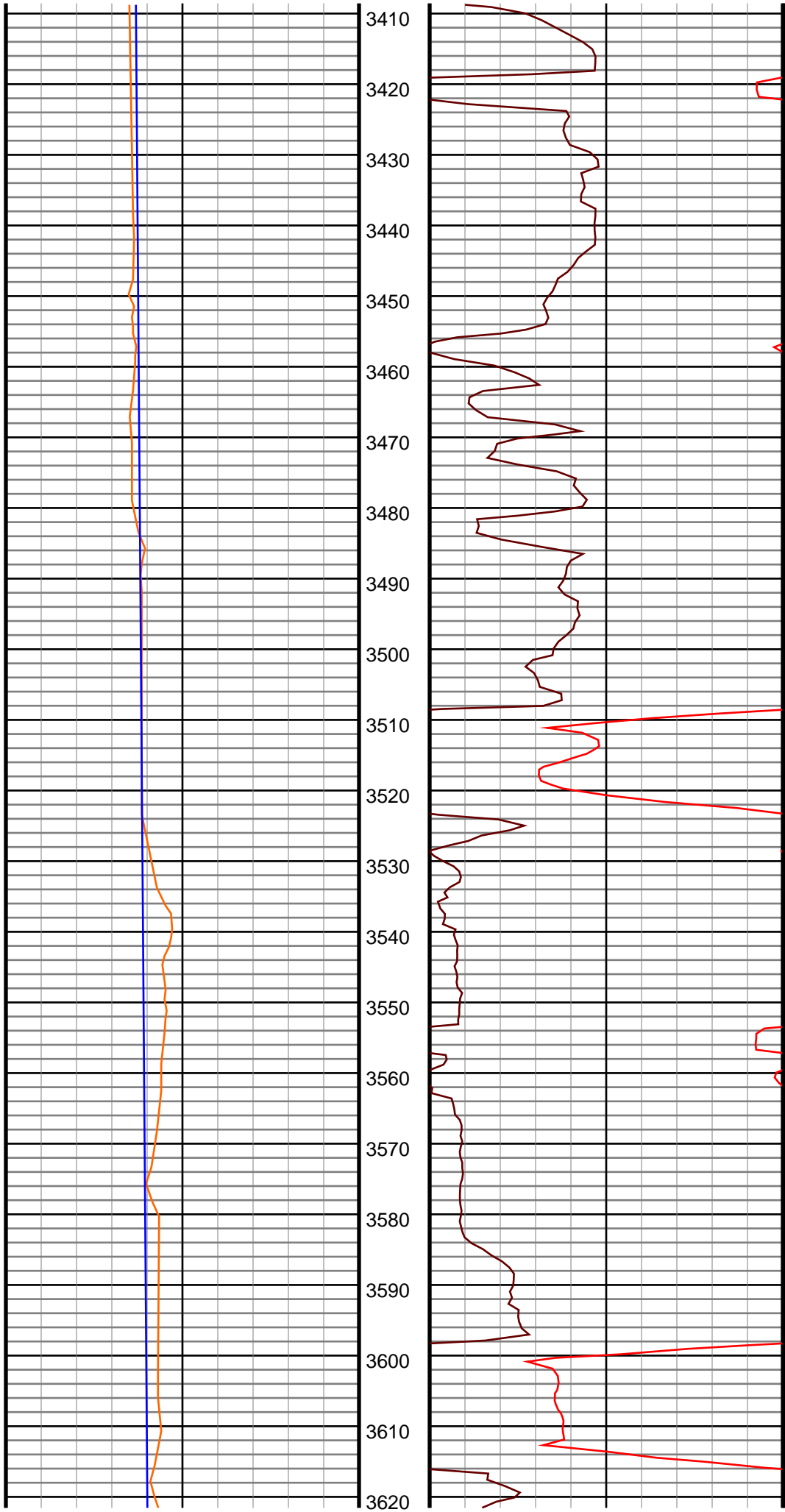


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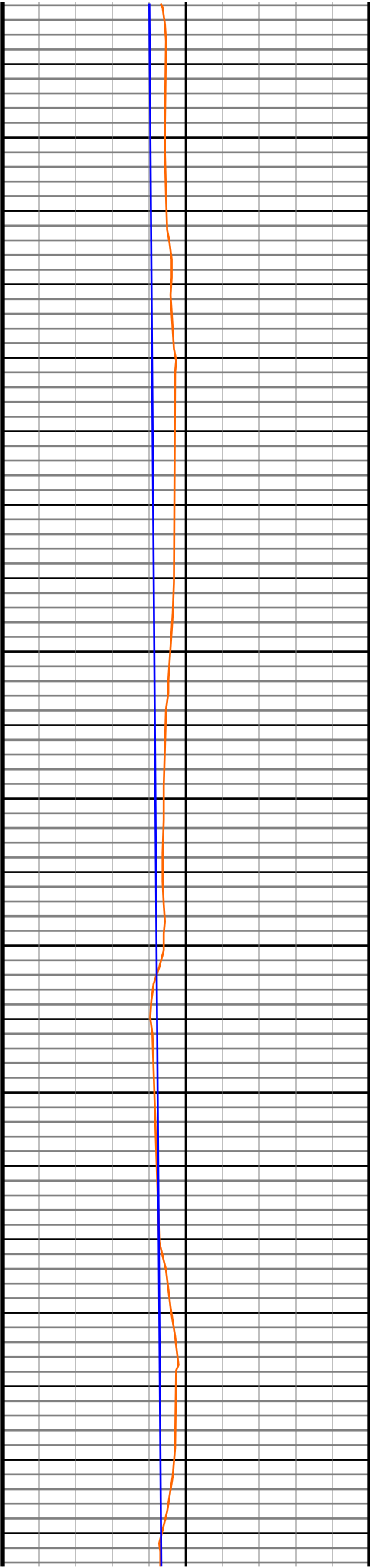
#26 MD(3271.00) Inc(7.6) Azm(294.6) TVD(3257.06)
VS(-114.91) NS(120.44) EW(-181.60) TEMP(102.2)

#27 MD(3361.00) Inc(7.1) Azm(299.4) TVD(3346.32)
VS(-119.80) NS(125.65) EW(-191.86) TEMP(104.0)

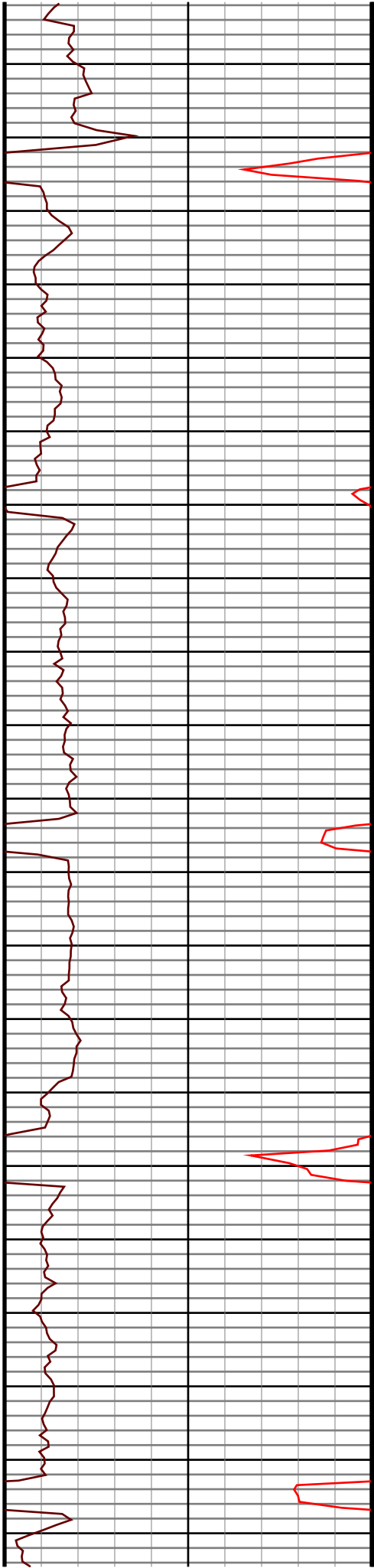


#28 MD(3451.00) Inc(7.1) Azm(299.1) TVD(3435.63)
VS(-124.94) NS(131.09) EW(-201.56) TEMP(104.0)

#29 MD(3541.00) Inc(7.7) Azm(301.1) TVD(3524.88)
VS(-130.46) NS(136.91) EW(-211.59) TEMP(105.8)



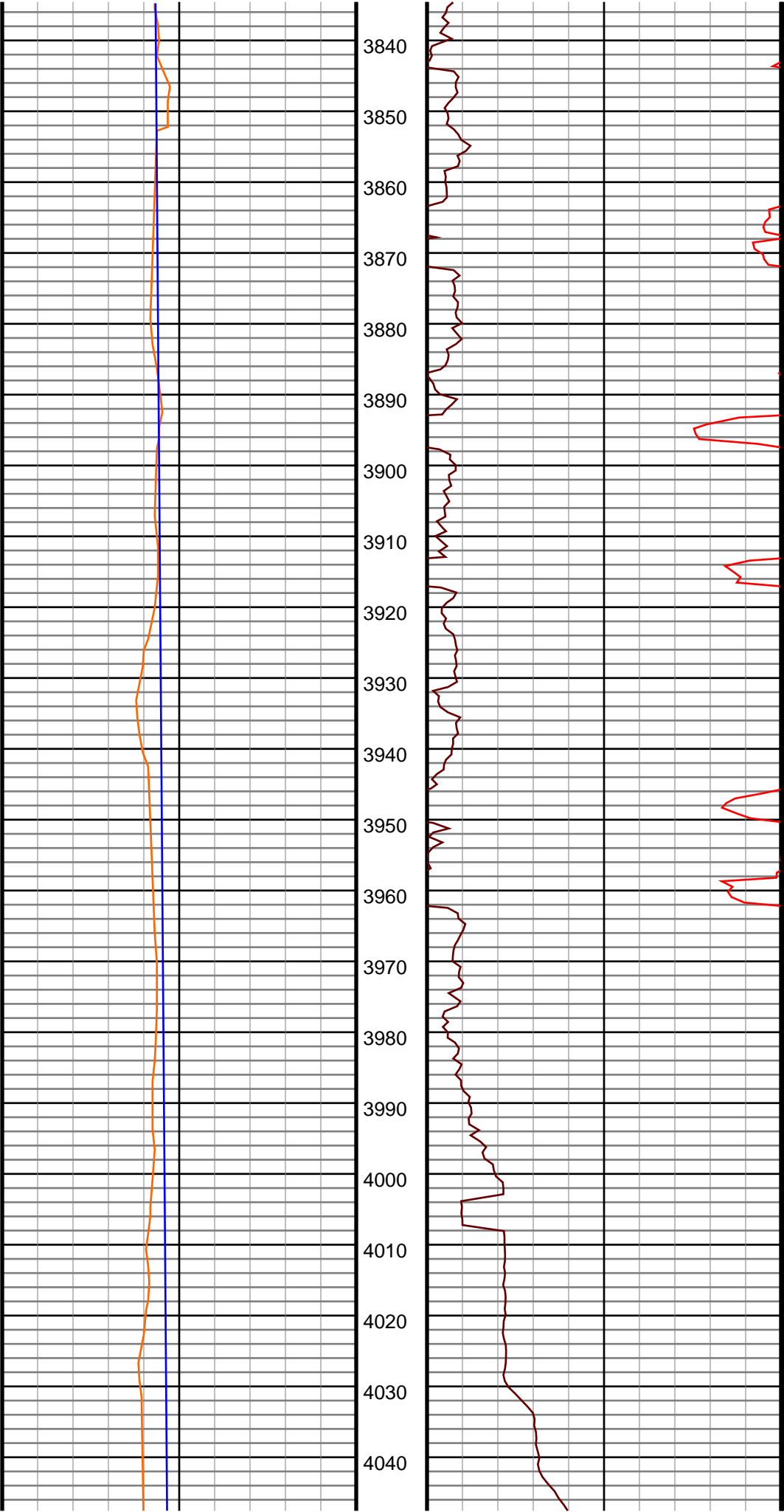
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#30 MD(3630.00) Inc(8.1) Azm(314.6) TVD(3613.04)
VS(-137.65) NS(144.39) EW(-221.16) TEMP(107.6)

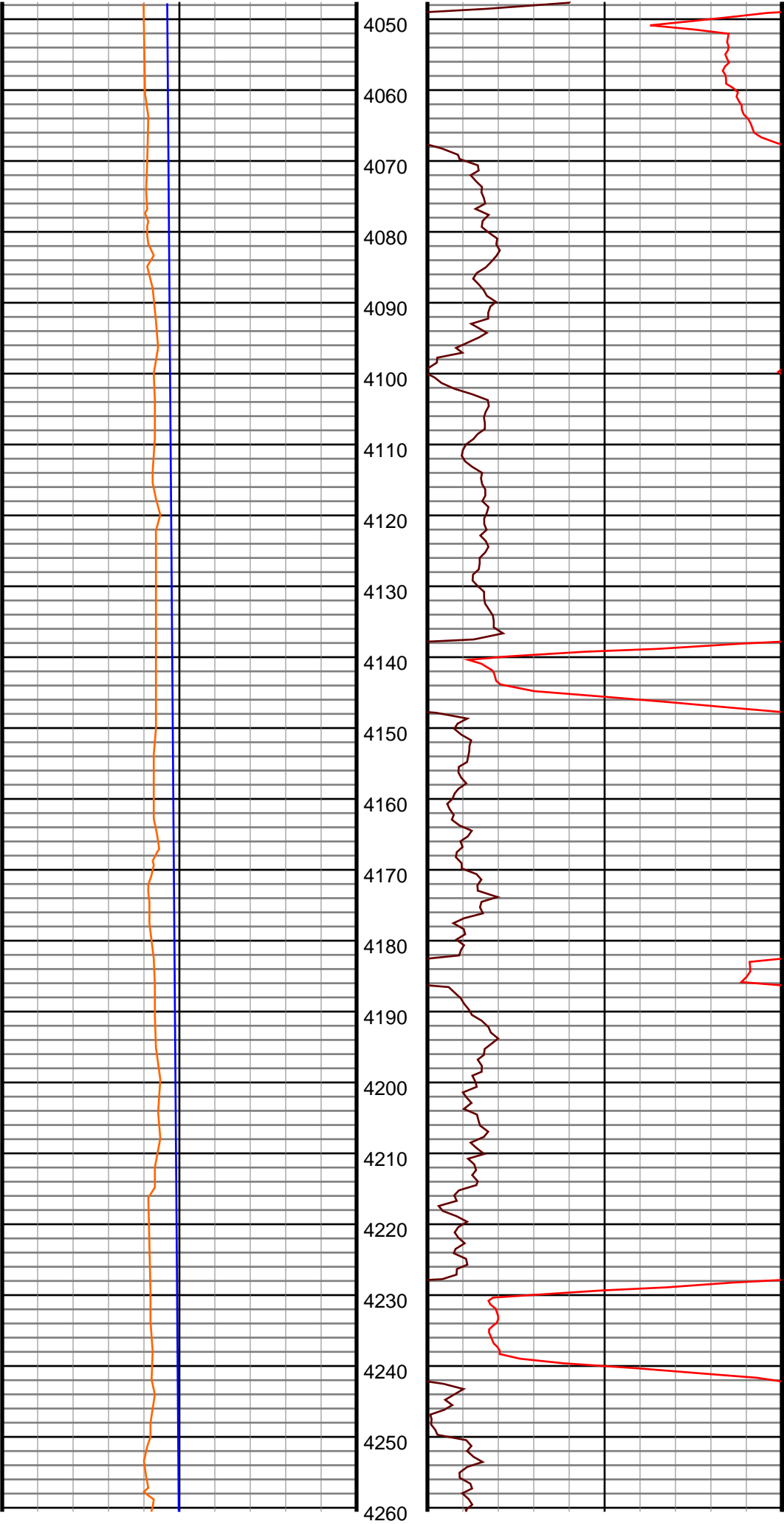
#31 MD(3720.00) Inc(7.7) Azm(312.3) TVD(3702.19)
VS(-145.88) NS(152.90) EW(-230.13) TEMP(109.4)

#32 MD(3810.00) Inc(7.3) Azm(311.0) TVD(3791.42)
VS(-153.42) NS(160.71) EW(-238.91) TEMP(111.2)



#33 MD(3900.00) Inc(7.3) Azm(309.2) TVD(3880.69)
VS(-160.52) NS(168.07) EW(-247.65) TEMP(113.0)

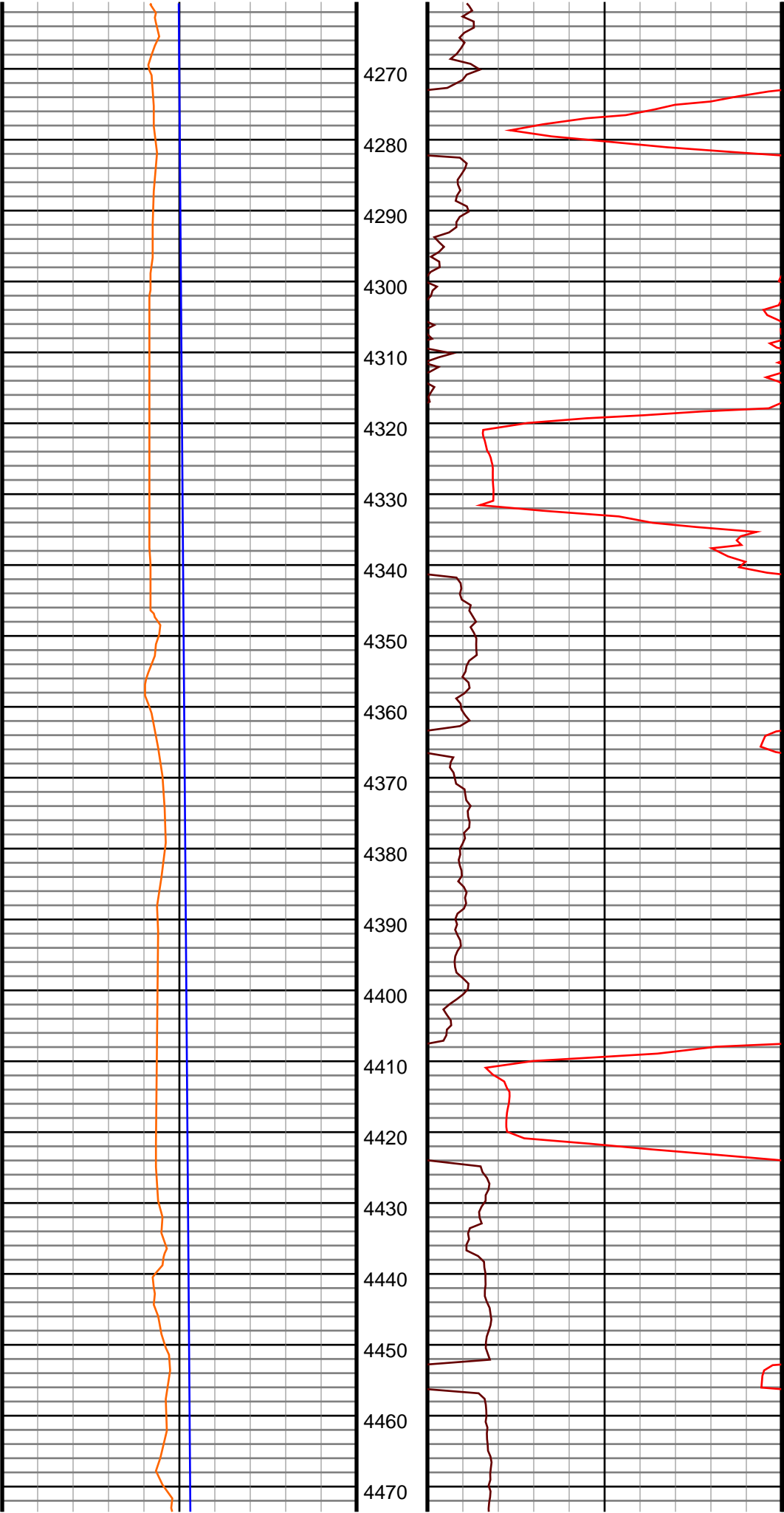
#34 MD(3990.00) Inc(7.5) Azm(309.7) TVD(3969.94)
VS(-167.61) NS(175.44) EW(-256.60) TEMP(114.8)



#35 MD(4080.00) Inc(7.2) Azm(307.2) TVD(4059.20)
VS(-174.50) NS(182.60) EW(-265.62) TEMP(114.8)

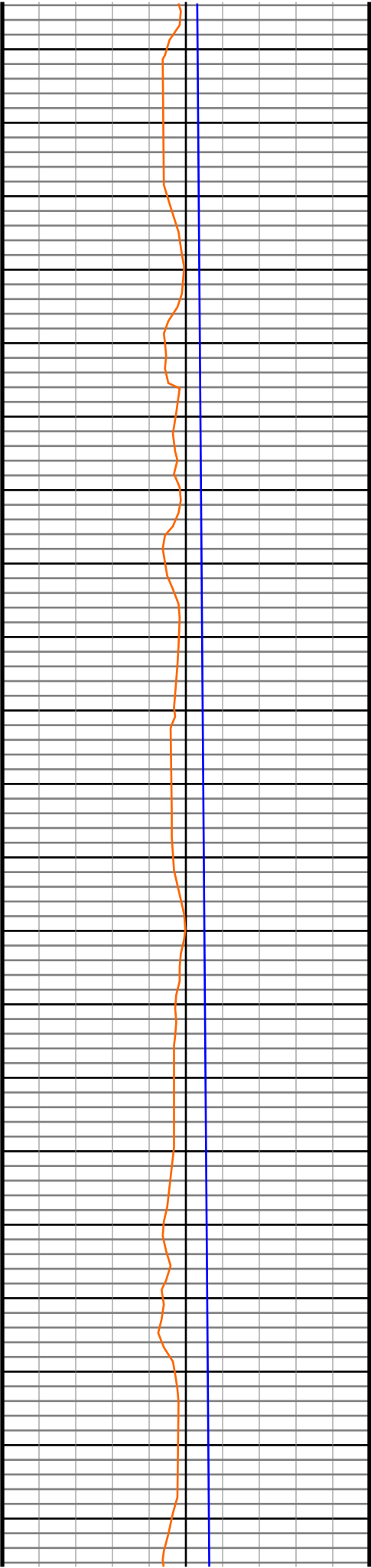
#36 MD(4169.00) Inc(7.3) Azm(294.4) TVD(4147.50)
VS(-179.92) NS(188.31) EW(-275.21) TEMP(114.8)

#37 MD(4259.00) Inc(6.1) Azm(286.1) TVD(4236.88)
VS(-183.31) NS(192.00) EW(-285.01) TEMP(118.4)

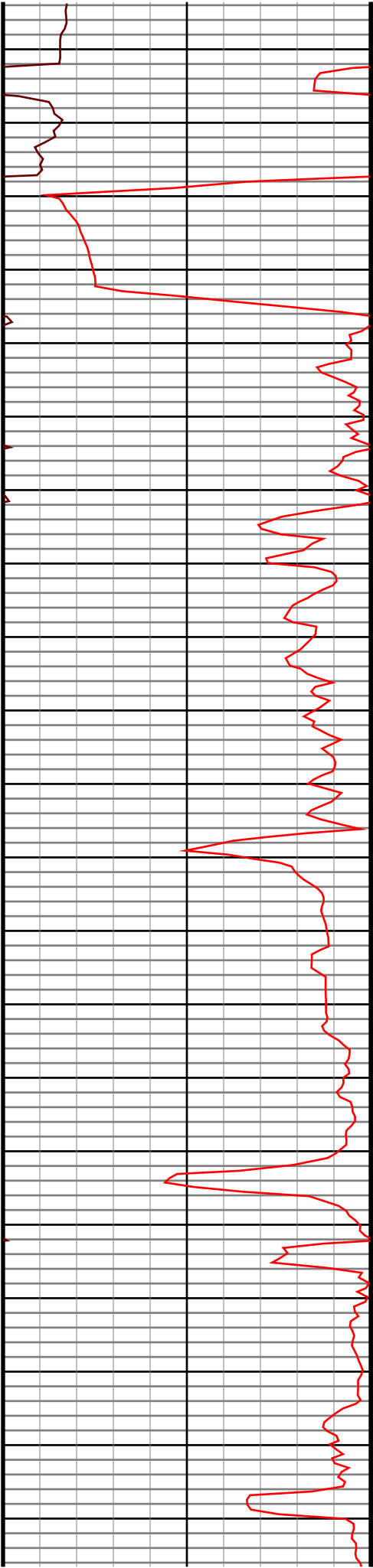


#38 MD(4349.00) Inc(3.8) Azm(284.8) TVD(4326.54)
VS(-185.17) NS(194.09) EW(-292.49) TEMP(116.6)

#39 MD(4439.00) Inc(2.9) Azm(261.3) TVD(4416.39)
VS(-185.43) NS(194.50) EW(-297.62) TEMP(118.4)

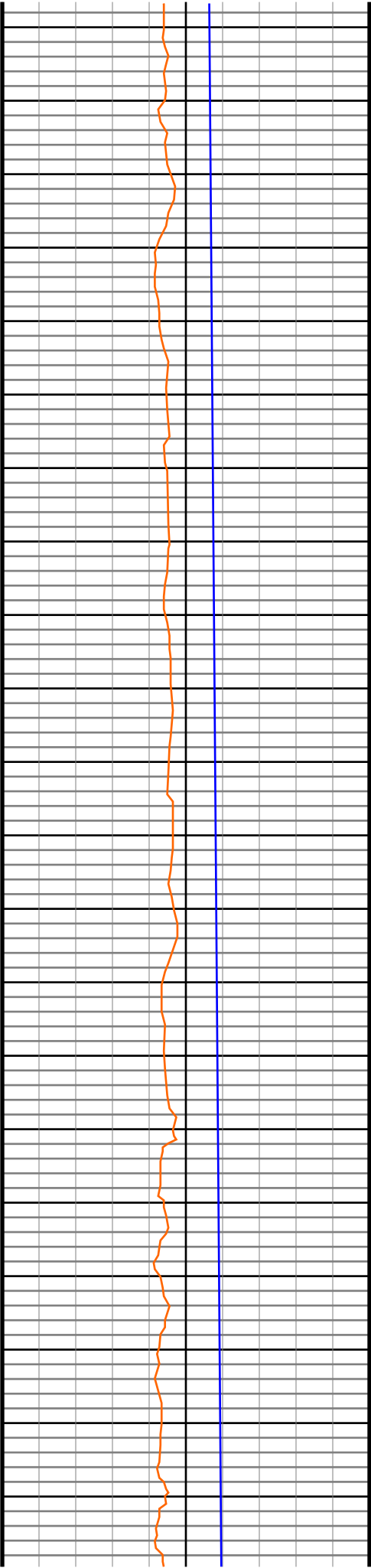


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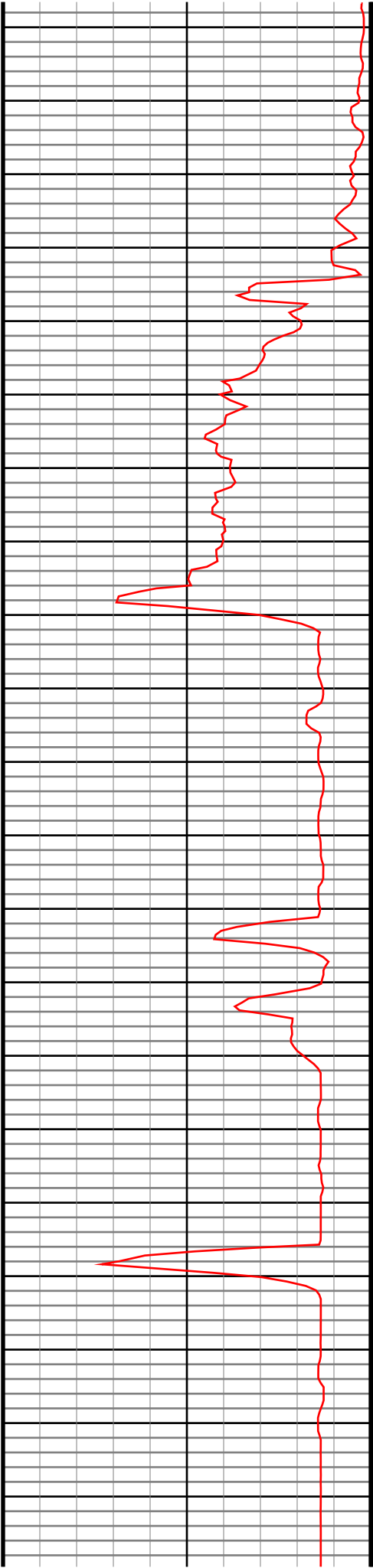


#40 MD(4529.00) Inc(0.2) Azm(154.9) TVD(4506.35)
VS(-184.88) NS(194.02) EW(-299.81) TEMP(116.6)

#41 MD(4619.00) Inc(0.8) Azm(197.7) TVD(4596.35)
VS(-184.13) NS(193.28) EW(-299.93) TEMP(120.2)



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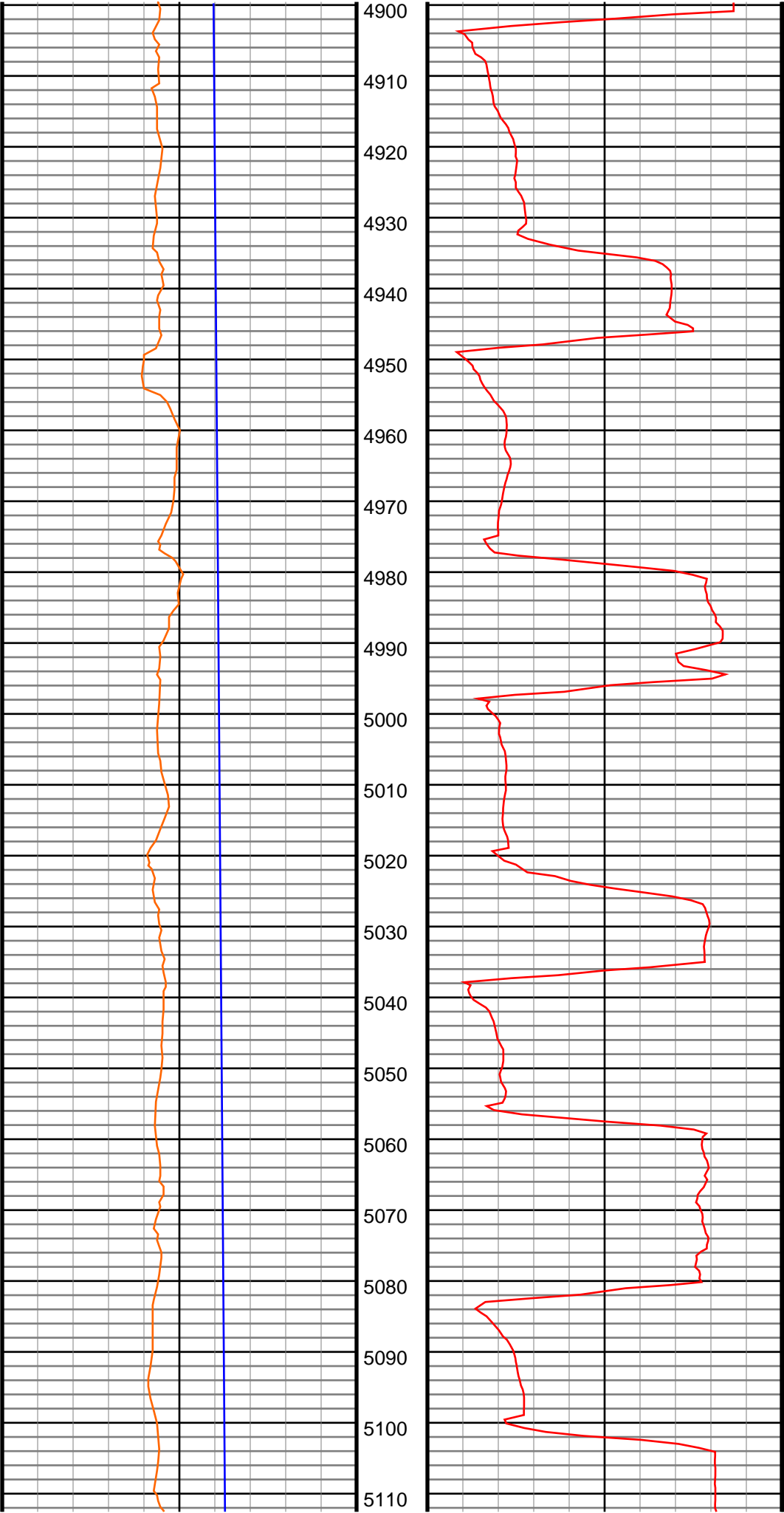


#42 MD(4708.00) Inc(0.5) Azm(188.6) TVD(4685.34)
VS(-183.15) NS(192.30) EW(-300.18) TEMP(120.2)

#43 MD(4798.00) Inc(0.5) Azm(209.1) TVD(4775.34)
VS(-182.41) NS(191.57) EW(-300.43) TEMP(122.0)

#44 MD(4843.00) Inc(0.3) Azm(205.1) TVD(4820.34)
VS(-182.13) NS(191.29) EW(-300.57) TEMP(123.8)

#45 MD(4888.00) Inc(0.6) Azm(190.5) TVD(4865.34)
VS(-181.79) NS(190.95) EW(-300.67) TEMP(123.8)



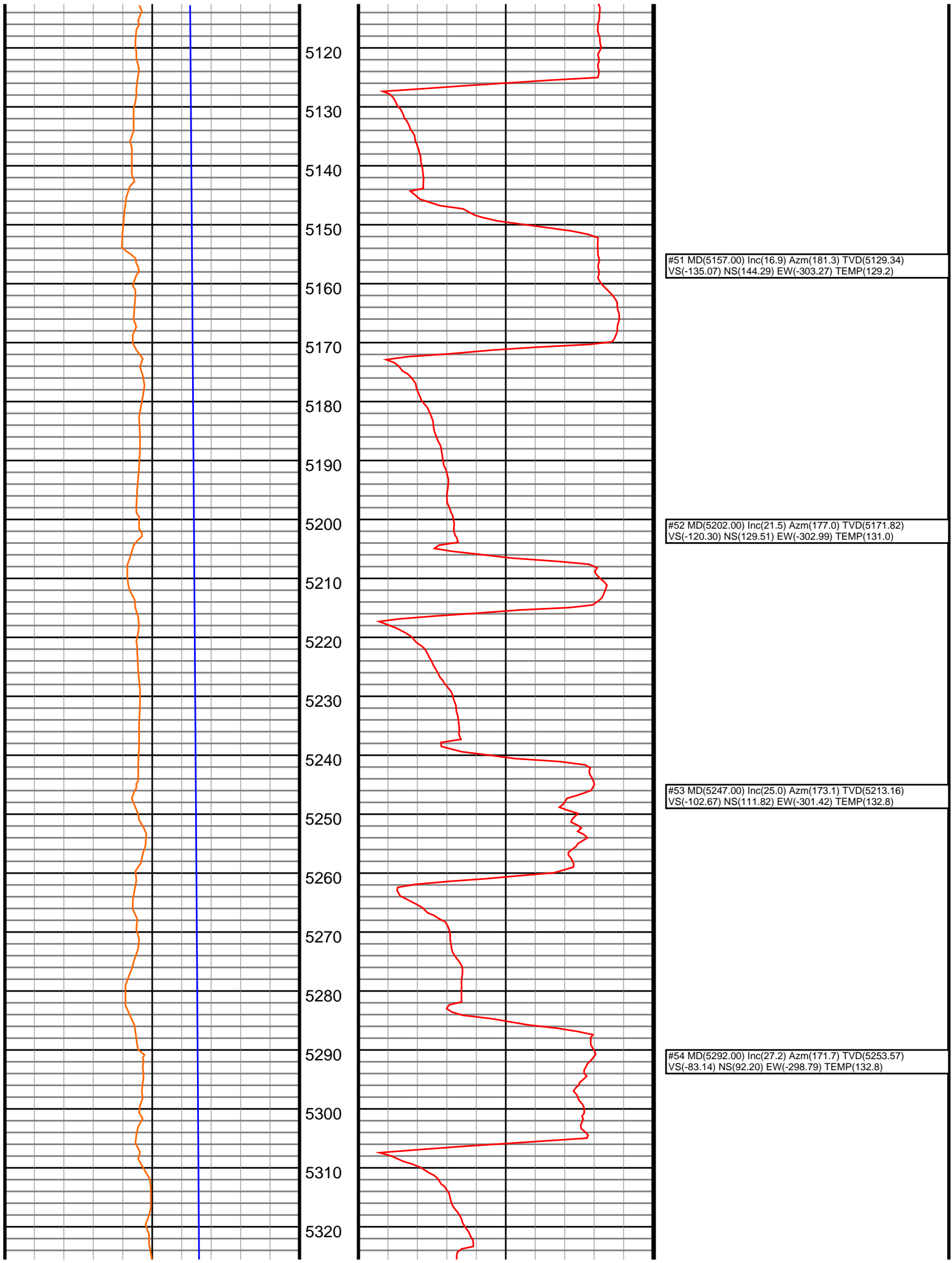
#46 MD(4933.00) Inc(4.4) Azm(180.0) TVD(4910.29)
VS(-179.83) NS(188.99) EW(-300.71) TEMP(125.6)

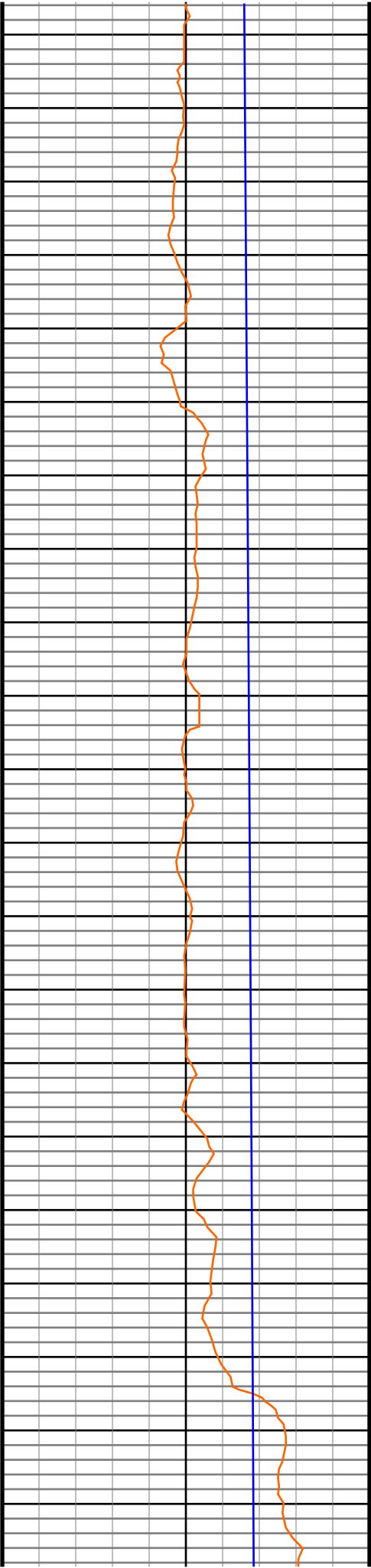
#47 MD(4978.00) Inc(8.1) Azm(178.3) TVD(4955.01)
VS(-174.94) NS(184.10) EW(-300.62) TEMP(125.6)

#48 MD(5023.00) Inc(11.0) Azm(187.6) TVD(4999.38)
VS(-167.50) NS(176.67) EW(-301.09) TEMP(127.4)

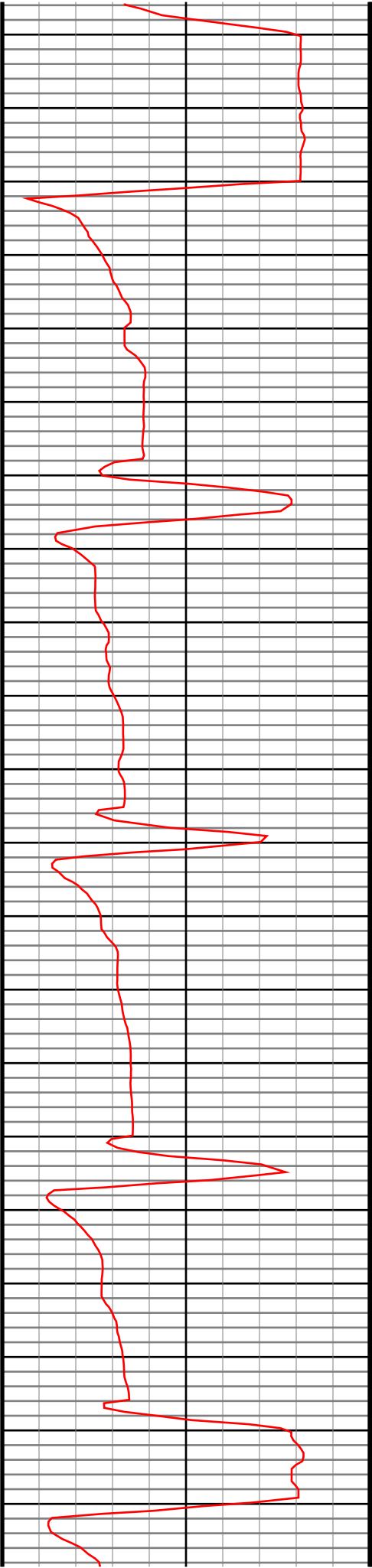
#49 MD(5067.00) Inc(13.2) Azm(183.0) TVD(5042.41)
VS(-158.30) NS(167.49) EW(-301.91) TEMP(127.4)

#50 MD(5112.00) Inc(14.9) Azm(184.7) TVD(5086.06)
VS(-147.39) NS(156.59) EW(-302.65) TEMP(129.2)





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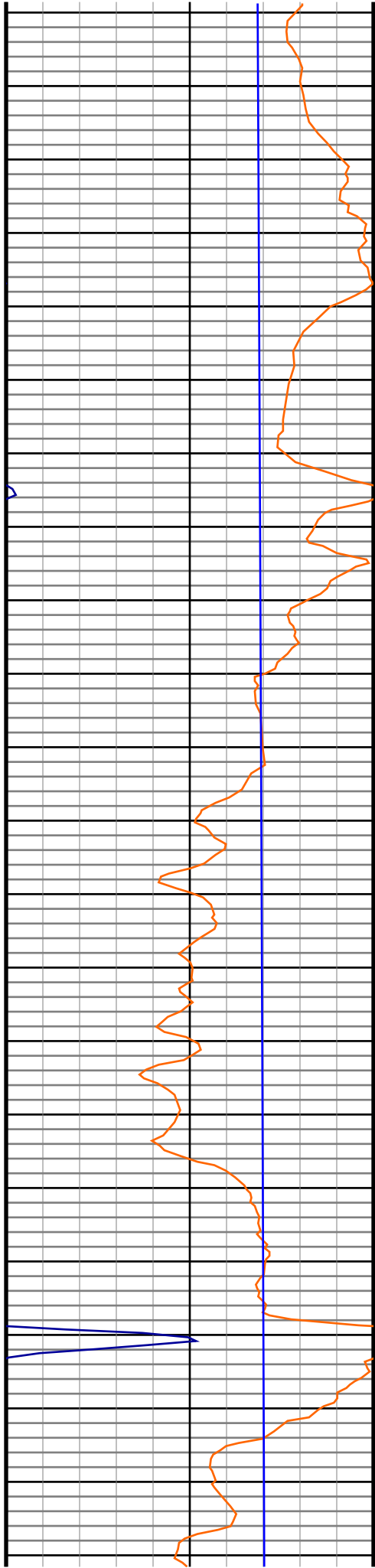
#55 MD(5337.00) Inc(28.4) Azm(172.7) TVD(5293.38)
VS(-62.44) NS(71.41) EW(-295.94) TEMP(134.6)

#56 MD(5382.00) Inc(31.3) Azm(175.9) TVD(5332.41)
VS(-40.24) NS(49.13) EW(-293.75) TEMP(134.6)

#57 MD(5427.00) Inc(36.4) Azm(178.9) TVD(5369.77)
VS(-15.26) NS(24.10) EW(-292.65) TEMP(134.6)

#58 MD(5472.00) Inc(42.4) Azm(181.0) TVD(5404.53)
VS(13.28) NS(-4.44) EW(-292.66) TEMP(136.4)

#59 MD(5517.00) Inc(47.8) Azm(180.1) TVD(5436.28)
VS(45.13) NS(-36.30) EW(-292.96) TEMP(138.2)



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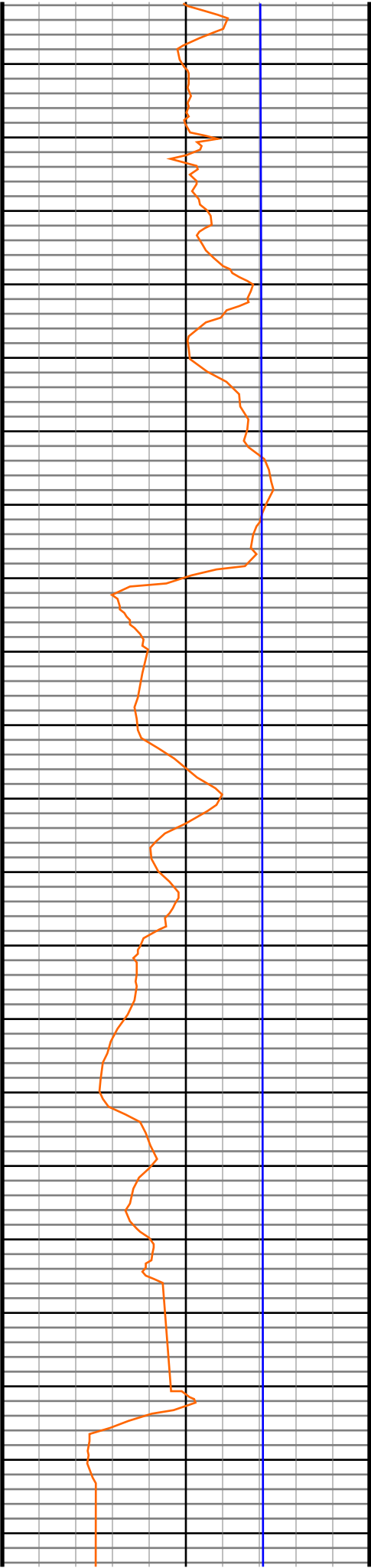
#60 MD(5562.00) Inc(51.6) Azm(177.4) TVD(5465.39)
VS(79.39) NS(-70.60) EW(-292.19) TEMP(140.0)

#61 MD(5607.00) Inc(55.6) Azm(176.3) TVD(5492.08)
VS(115.47) NS(-106.76) EW(-290.19) TEMP(140.0)

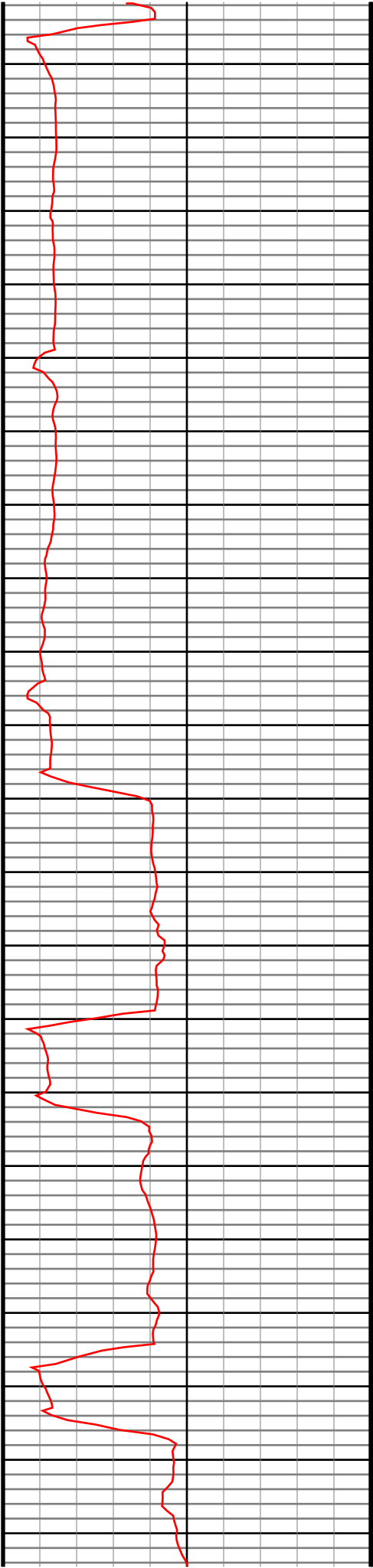
#62 MD(5651.00) Inc(57.6) Azm(177.8) TVD(5516.30)
VS(152.08) NS(-143.44) EW(-288.30) TEMP(141.8)

#63 MD(5697.00) Inc(58.1) Azm(179.7) TVD(5540.78)
VS(190.97) NS(-182.38) EW(-287.45) TEMP(136.4)

#64 MD(5741.00) Inc(61.7) Azm(180.3) TVD(5562.85)
VS(229.01) NS(-220.44) EW(-287.46) TEMP(136.4)



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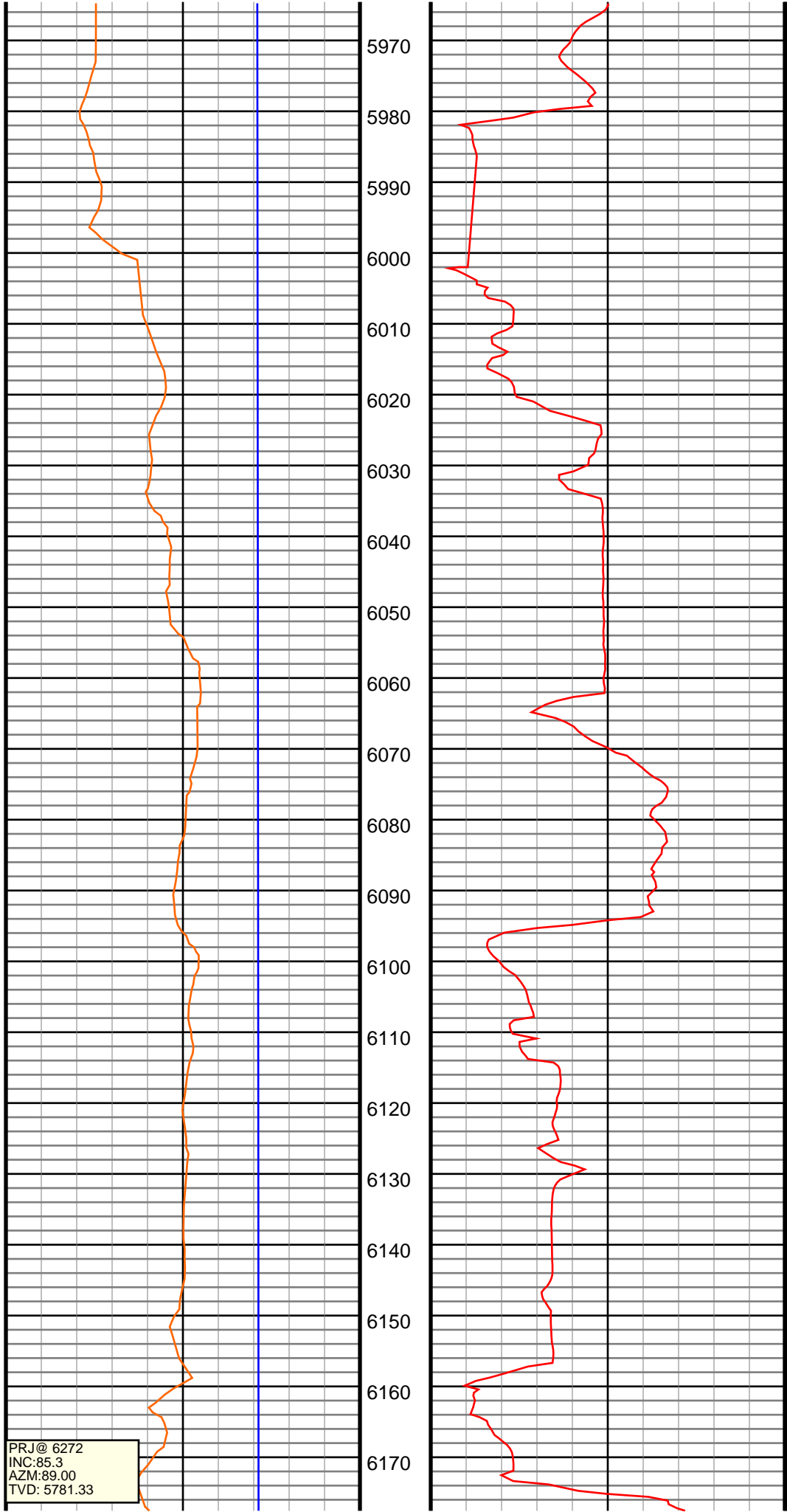
#65 MD(5786.00) Inc(68.5) Azm(180.3) TVD(5581.78)
VS(269.79) NS(-261.23) EW(-287.67) TEMP(141.8)

#66 MD(5831.00) Inc(77.0) Azm(178.7) TVD(5595.12)
VS(312.70) NS(-304.16) EW(-287.28) TEMP(141.8)

#67 MD(5876.00) Inc(80.7) Azm(177.5) TVD(5603.82)
VS(356.75) NS(-348.28) EW(-285.82) TEMP(143.6)

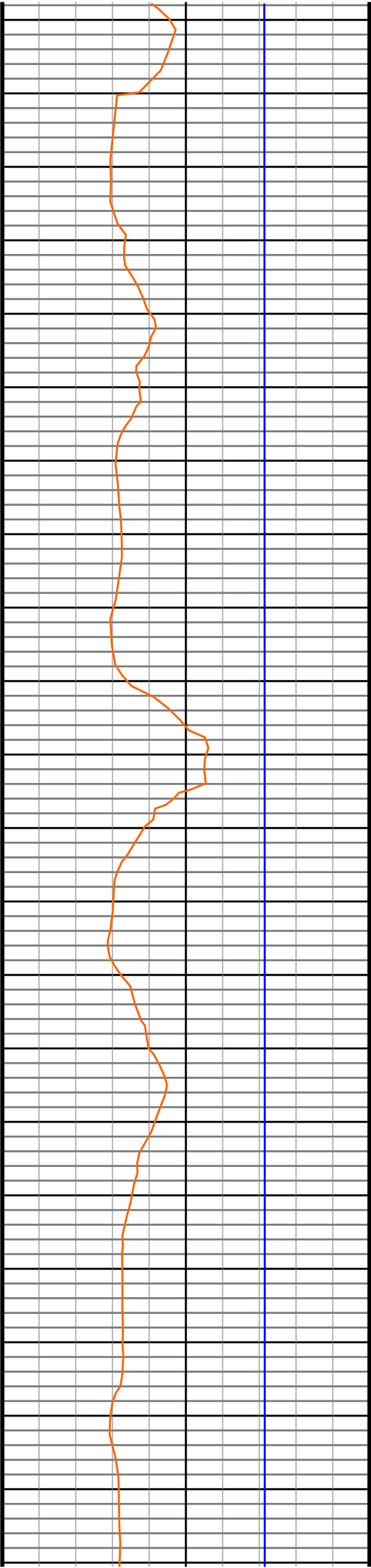
#68 MD(5921.00) Inc(82.5) Azm(178.0) TVD(5610.39)
VS(401.16) NS(-392.76) EW(-284.07) TEMP(143.6)

#69 MD(5944.00) Inc(83.1) Azm(178.1) TVD(5613.27)
VS(423.93) NS(-415.57) EW(-283.29) TEMP(143.6)

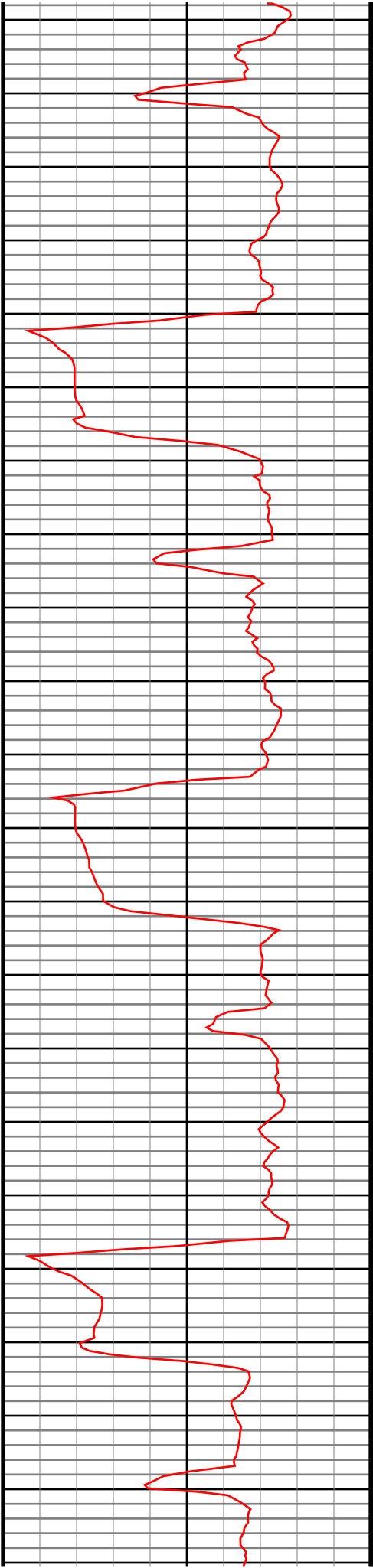


#70 MD(6037.00) Inc(83.0) Azm(178.3) TVD(5624.53)
VS(516.07) NS(-507.84) EW(-280.39) TEMP(150.8)

#71 MD(6131.00) Inc(84.5) Azm(178.1) TVD(5634.76)
VS(609.33) NS(-601.23) EW(-277.46) TEMP(150.8)

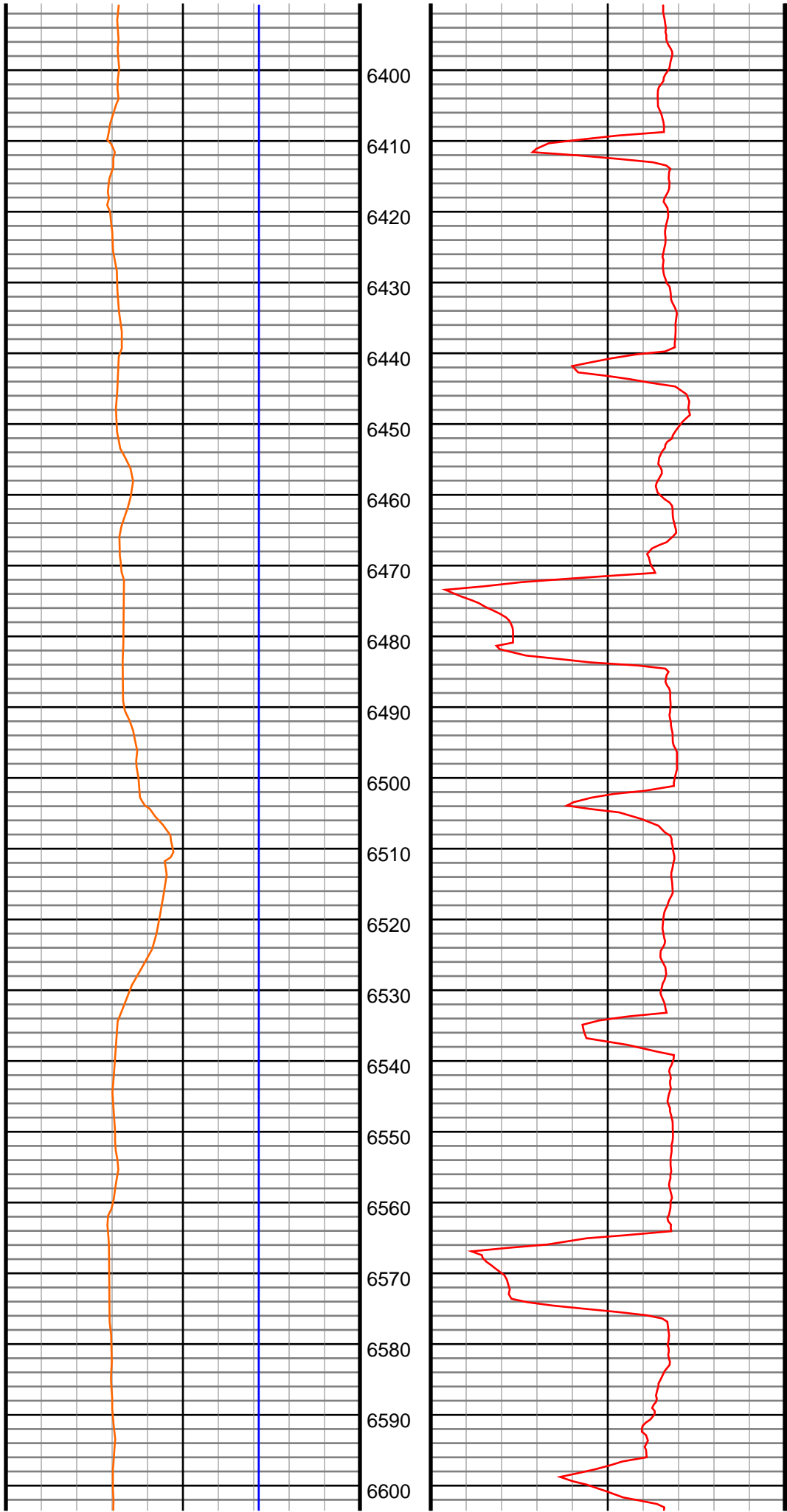


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#72 MD(6224.00) Inc(86.4) Azm(178.5) TVD(5642.14)
VS(701.87) NS(-693.89) EW(-274.71) TEMP(152.6)

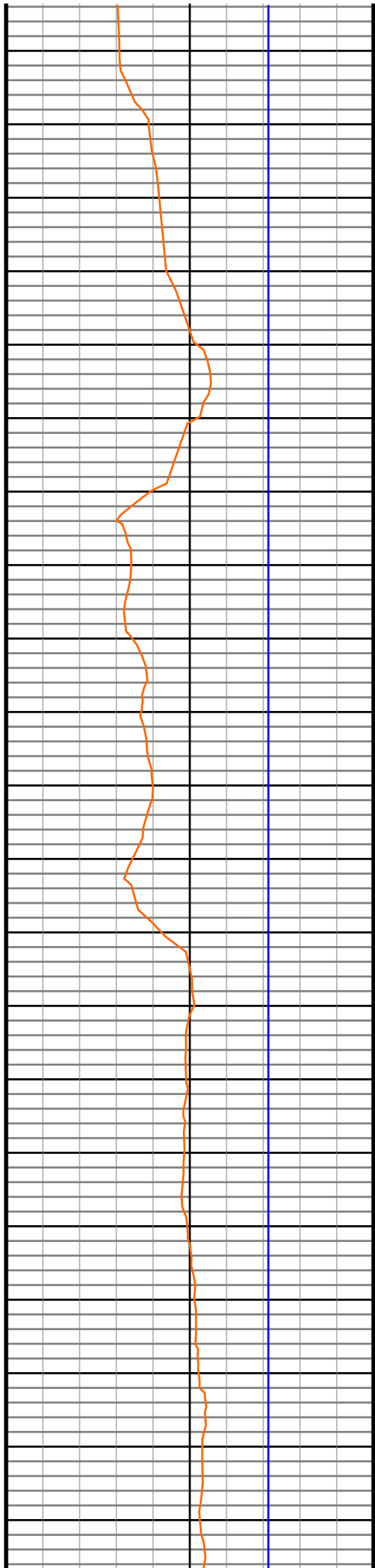
#73 MD(6317.00) Inc(88.7) Azm(178.8) TVD(5646.11)
VS(794.64) NS(-786.77) EW(-272.52) TEMP(154.4)



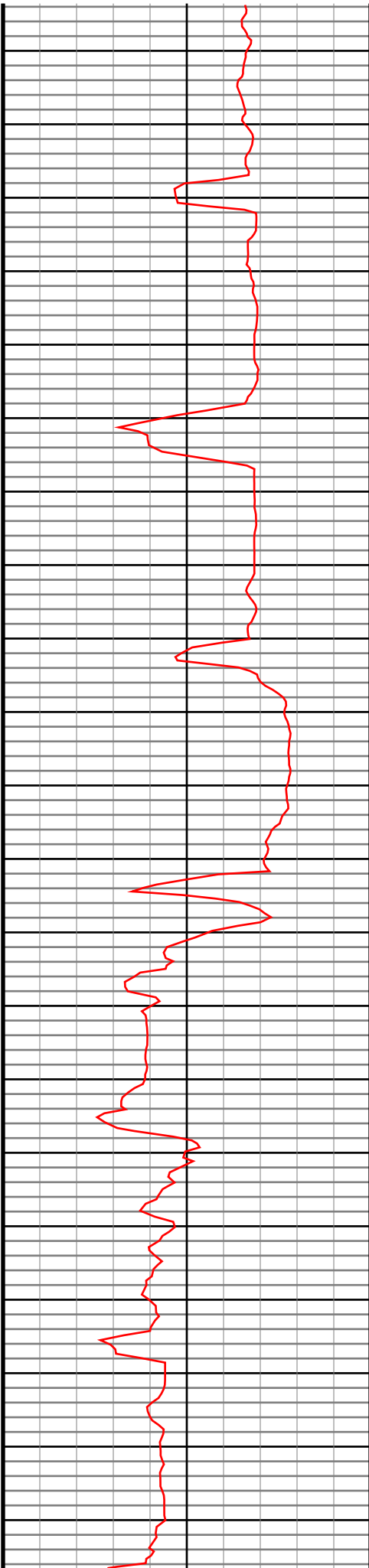
#74 MD(6411.00) Inc(91.6) Azm(178.8) TVD(5645.87)
VS(888.51) NS(-880.74) EW(-270.55) TEMP(152.6)

#75 MD(6504.00) Inc(91.7) Azm(176.8) TVD(5643.19)
VS(981.25) NS(-973.63) EW(-266.98) TEMP(152.6)

#76 MD(6598.00) Inc(90.2) Azm(176.1) TVD(5641.63)
VS(1074.83) NS(-1067.43) EW(-261.16) TEMP(154.4)

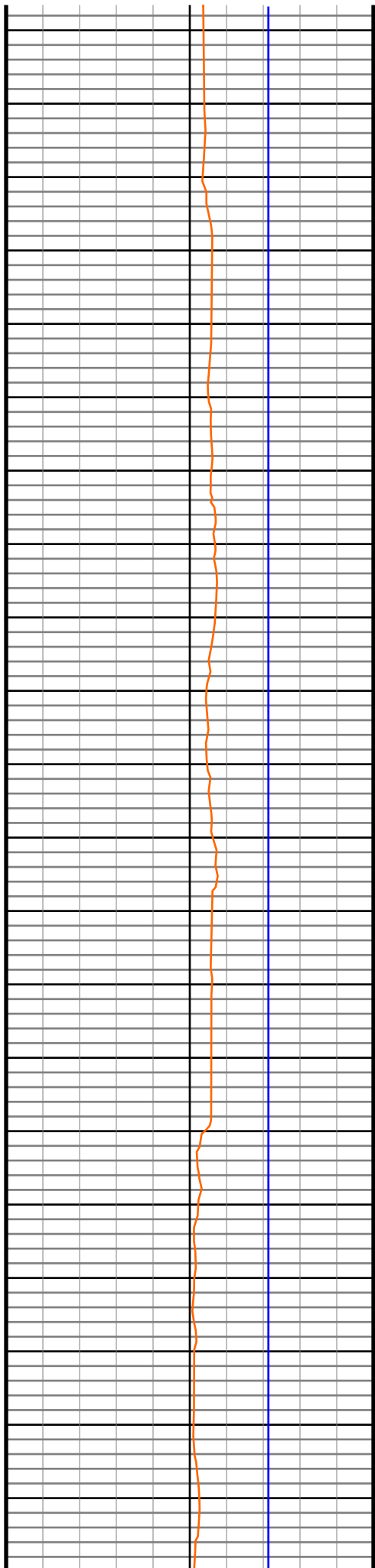


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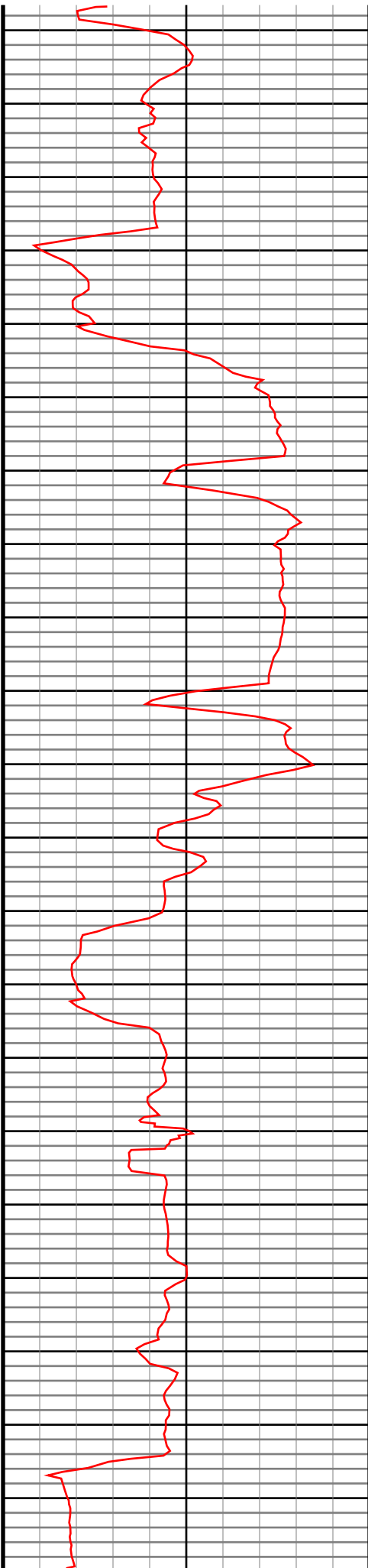


#77 MD(6690.00) Inc(90.4) Azm(175.9) TVD(5641.15)
VS(1166.37) NS(-1159.21) EW(-254.75) TEMP(158.0)

#78 MD(6784.00) Inc(90.1) Azm(175.5) TVD(5640.74)
VS(1259.85) NS(-1252.94) EW(-247.70) TEMP(161.6)

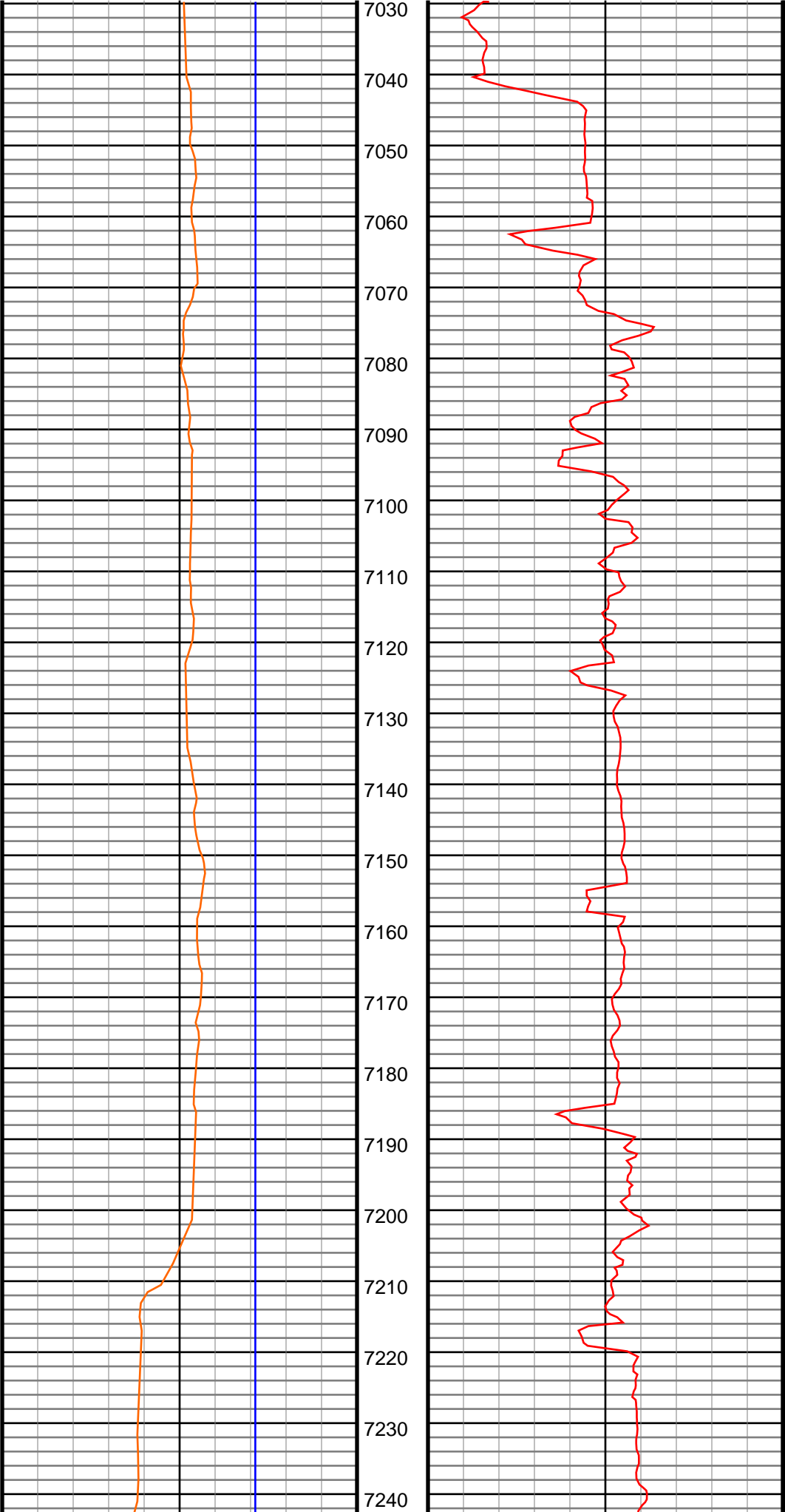


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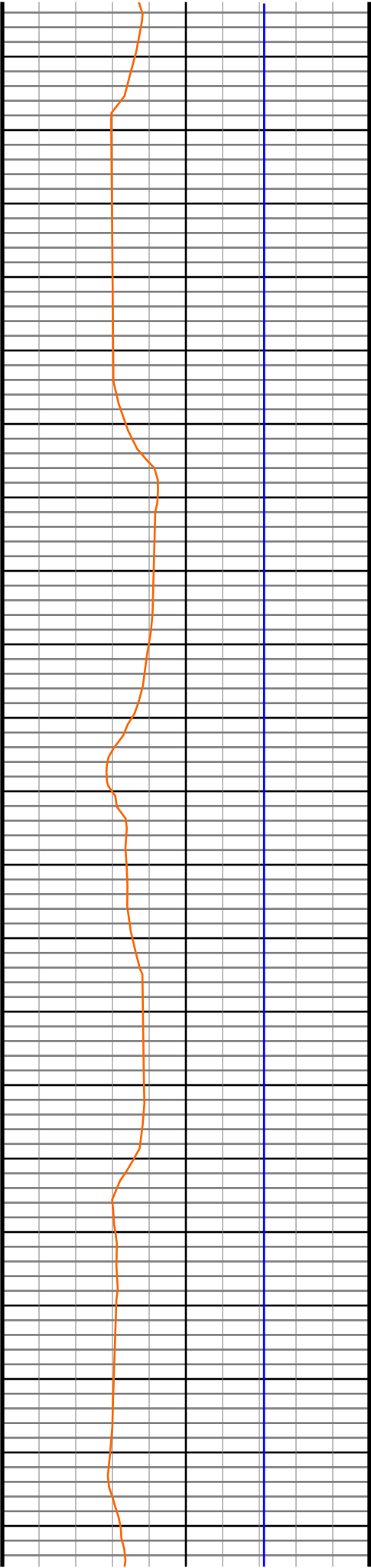
#79 MD(6878.00) Inc(90.0) Azm(175.9) TVD(5640.66)
VS(1353.33) NS(-1346.68) EW(-240.65) TEMP(161.6)

#80 MD(6972.00) Inc(89.5) Azm(176.9) TVD(5641.07)
VS(1446.92) NS(-1440.49) EW(-234.75) TEMP(168.8)

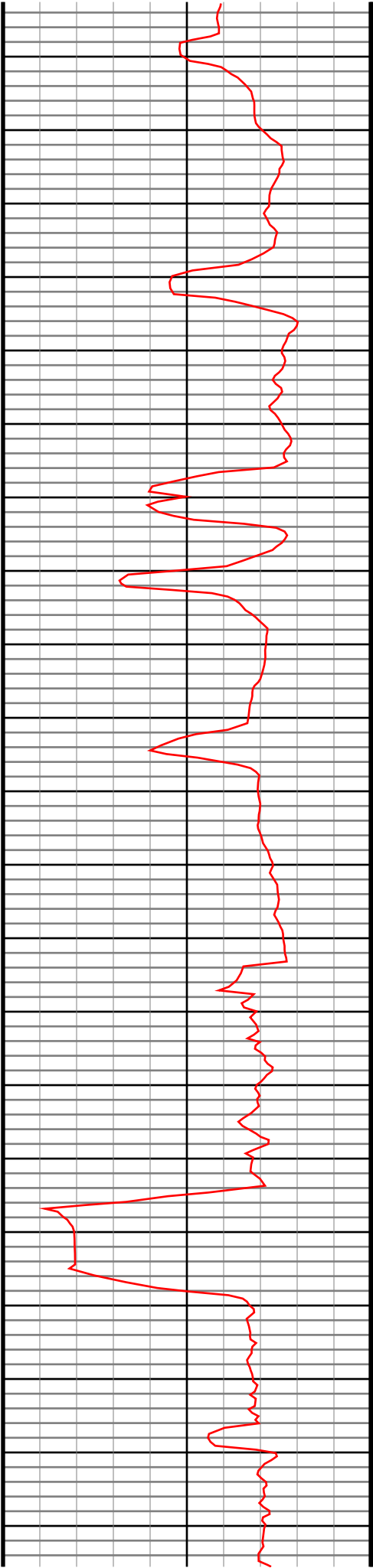


#81 MD(7066.00) Inc(91.4) Azm(177.7) TVD(5640.33)
VS(1540.63) NS(-1534.38) EW(-230.32) TEMP(167.0)

#82 MD(7160.00) Inc(91.1) Azm(178.1) TVD(5638.28)
VS(1634.40) NS(-1628.29) EW(-226.88) TEMP(170.6)

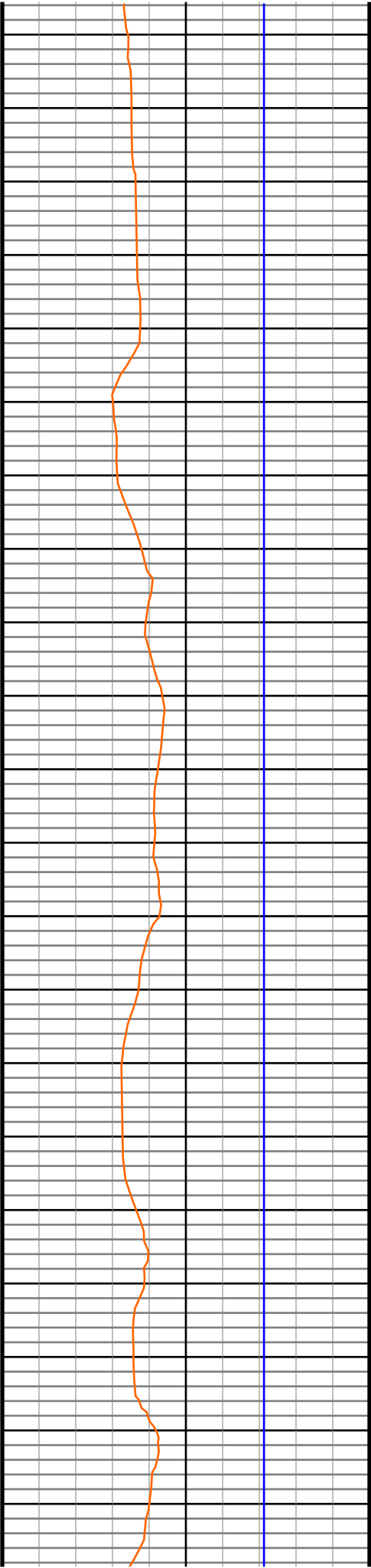


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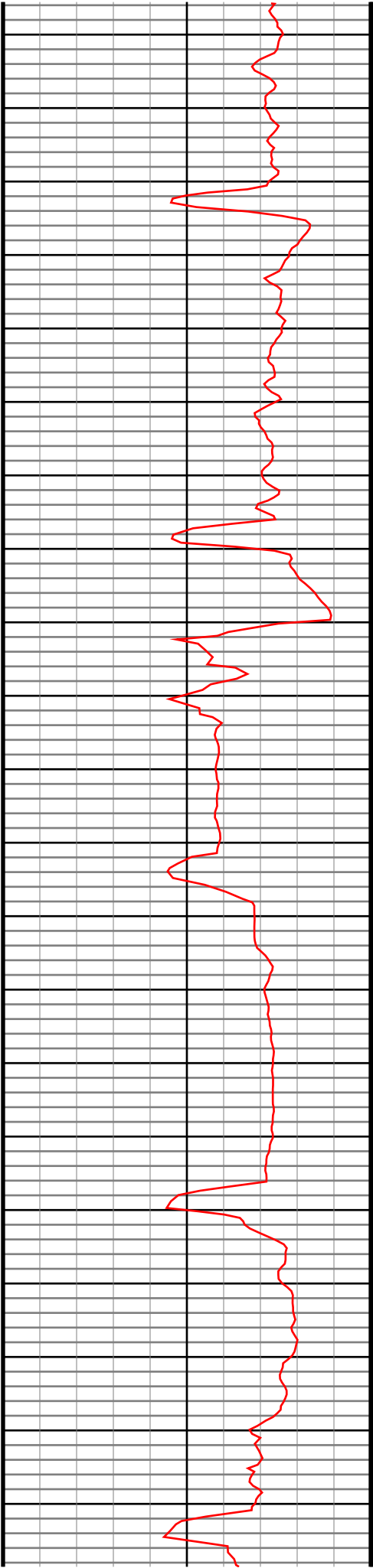


#83 MD(7254.00) Inc(91.5) Azm(177.9) TVD(5636.14)
VS(1728.18) NS(-1722.21) EW(-223.60) TEMP(174.2)

#84 MD(7347.00) Inc(91.4) Azm(177.4) TVD(5633.79)
VS(1820.91) NS(-1815.10) EW(-219.78) TEMP(176.0)



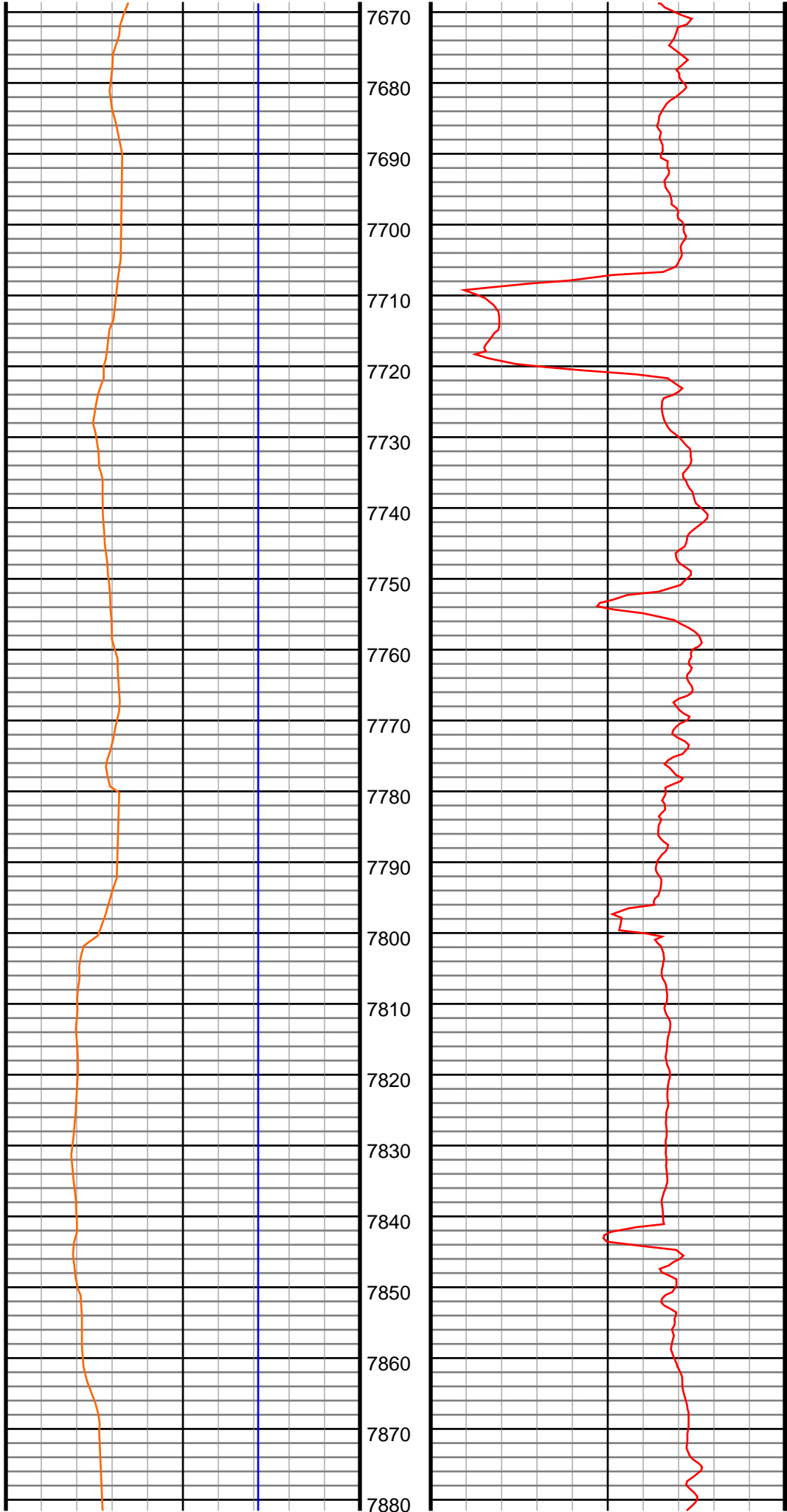
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#85 MD(7469.00) Inc(89.8) Azm(177.6) TVD(5632.51)
VS(1942.57) NS(-1936.97) EW(-214.46) TEMP(176.0)

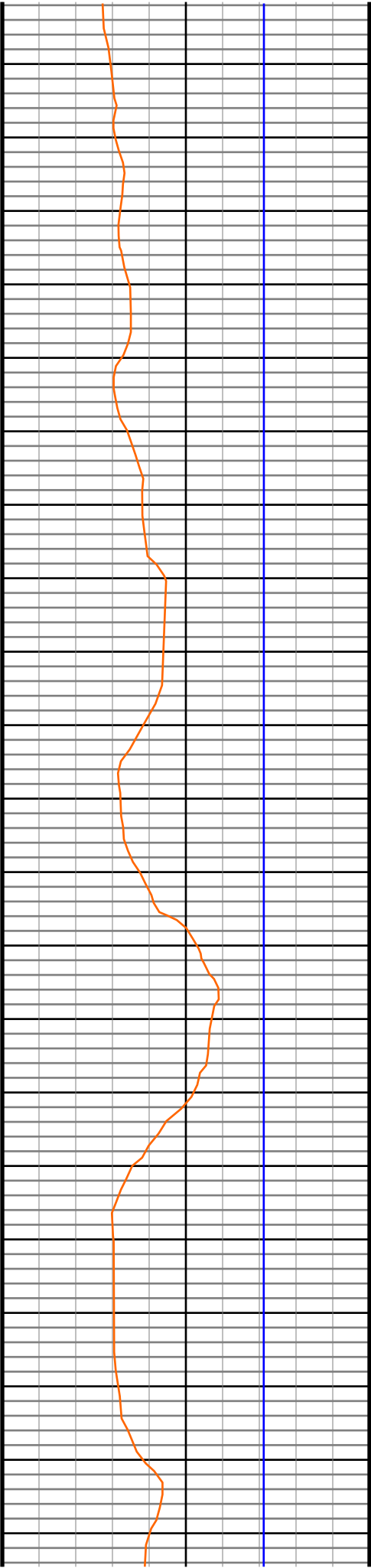
#86 MD(7559.00) Inc(90.1) Azm(177.7) TVD(5632.59)
VS(2032.34) NS(-2026.90) EW(-210.77) TEMP(179.6)

#87 MD(7649.00) Inc(89.9) Azm(177.3) TVD(5632.59)
VS(2122.09) NS(-2116.81) EW(-206.85) TEMP(181.4)

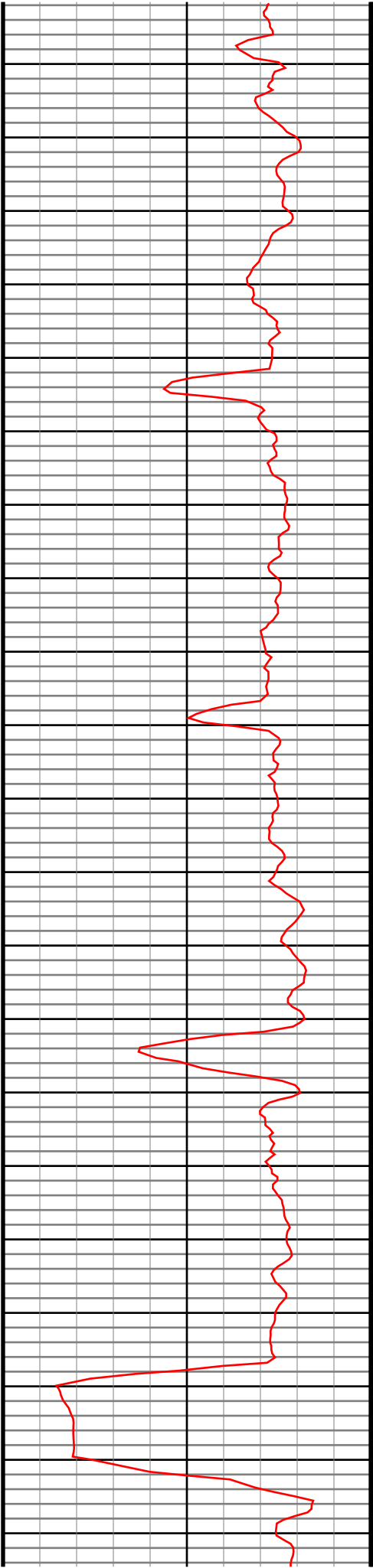


#88 MD(7738.00) Inc(90.2) Azm(179.9) TVD(5632.51)
VS(2210.95) NS(-2205.78) EW(-204.67) TEMP(181.4)

#89 MD(7828.00) Inc(90.5) Azm(179.8) TVD(5631.96)
VS(2300.90) NS(-2295.78) EW(-204.44) TEMP(183.2)

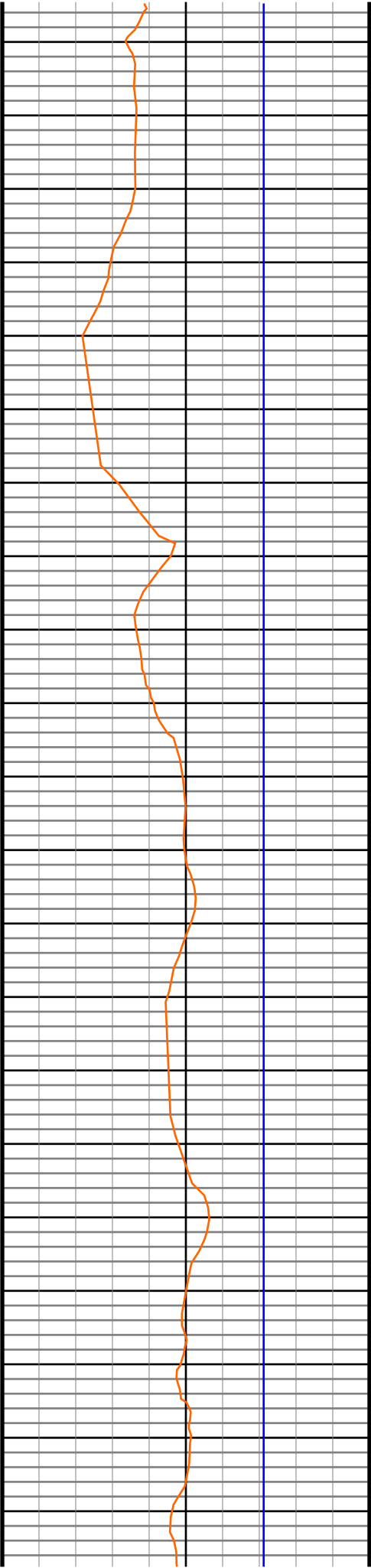


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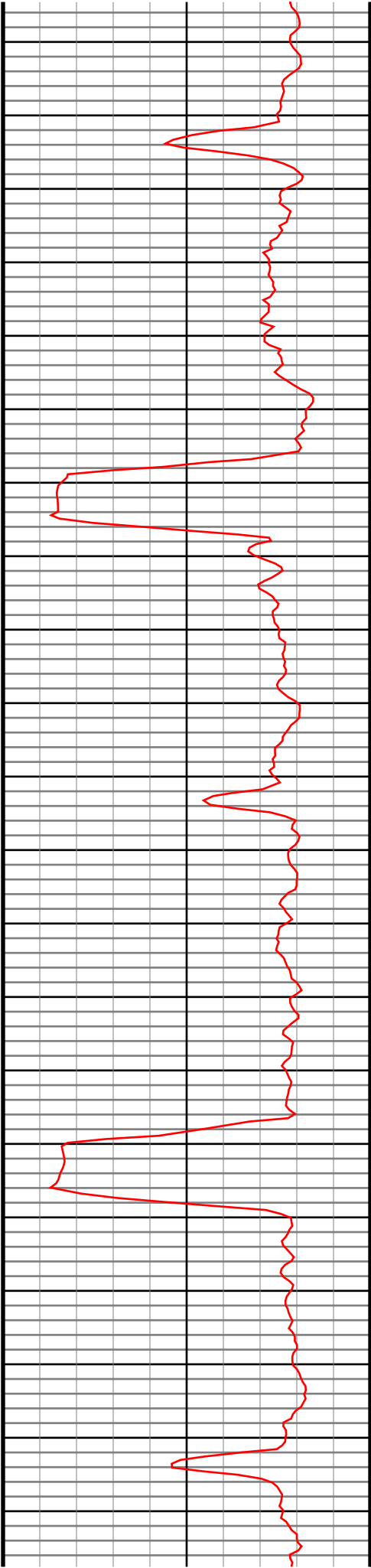


#90 MD(7918.00) Inc(90.7) Azm(179.8) TVD(5631.02)
VS(2390.85) NS(-2385.77) EW(-204.12) TEMP(185.0)

#91 MD(8008.00) Inc(91.5) Azm(179.3) TVD(5629.29)
VS(2480.76) NS(-2475.75) EW(-203.42) TEMP(186.8)



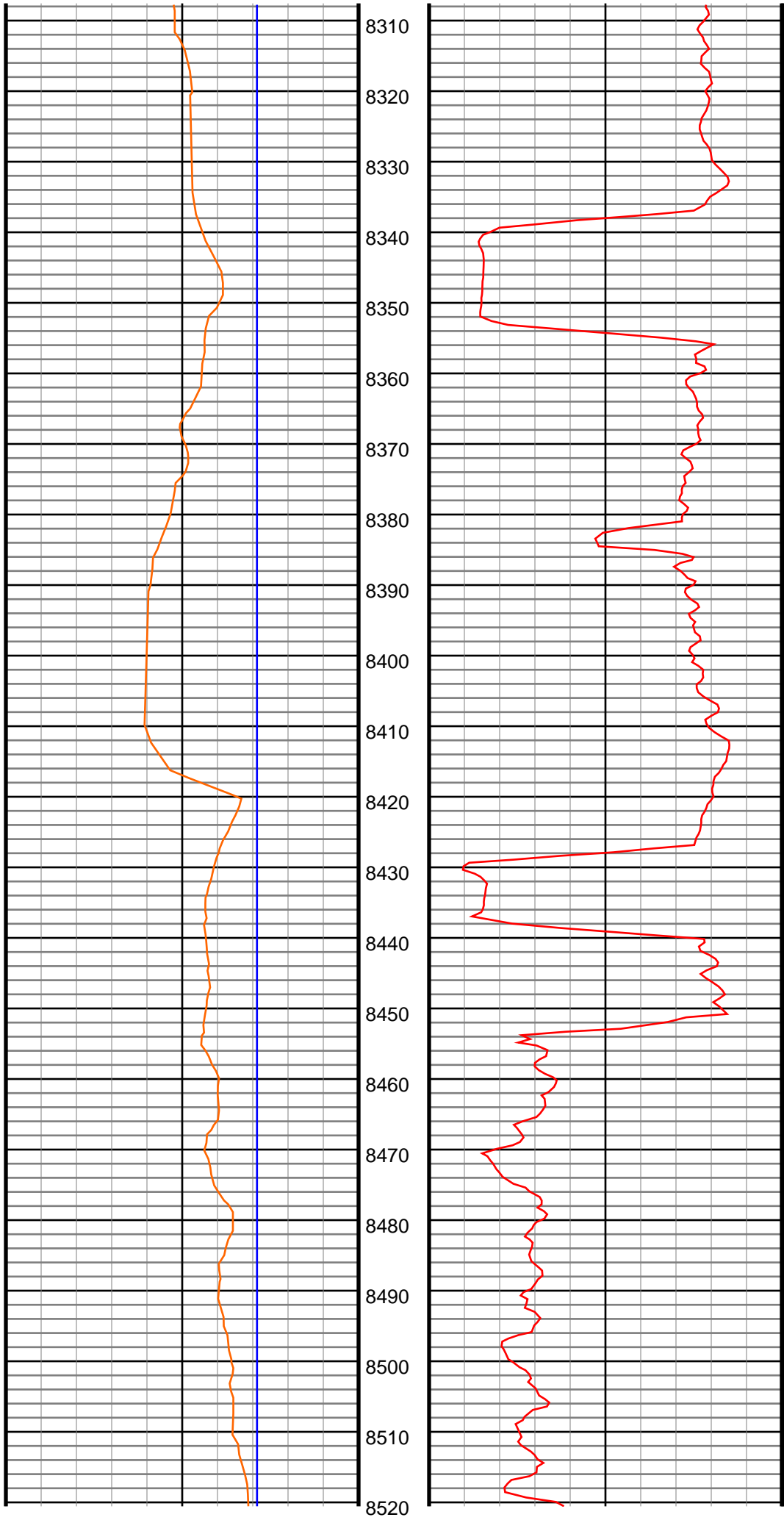
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#92 MD(8098.00) Inc(90.4) Azm(177.9) TVD(5627.80)
VS(2570.61) NS(-2565.71) EW(-201.22) TEMP(186.8)

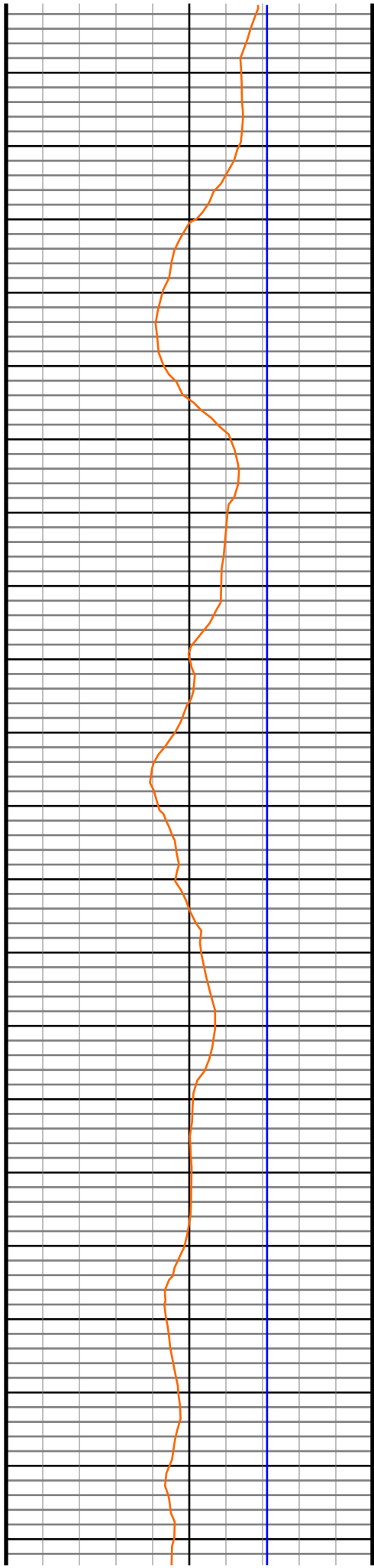
#93 MD(8188.00) Inc(90.3) Azm(177.4) TVD(5627.25)
VS(2660.38) NS(-2655.63) EW(-197.53) TEMP(186.8)

#94 MD(8278.00) Inc(89.9) Azm(175.7) TVD(5627.10)
VS(2750.01) NS(-2745.46) EW(-192.11) TEMP(186.8)

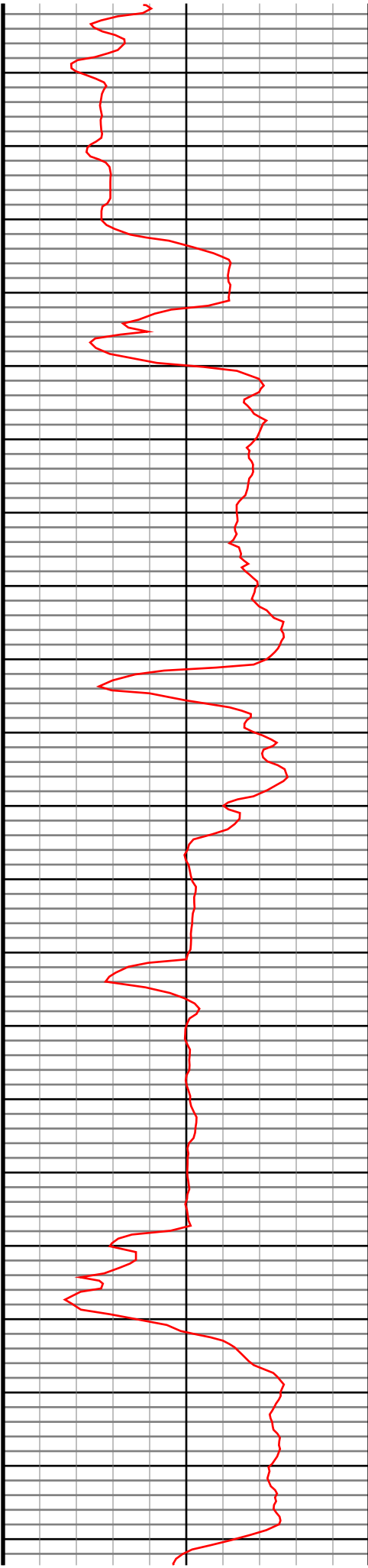


#95 MD(8367.00) Inc(89.9) Azm(177.3) TVD(5627.25)
VS(2838.64) NS(-2834.29) EW(-186.68) TEMP(186.8)

#96 MD(8457.00) Inc(89.2) Azm(178.1) TVD(5627.96)
VS(2928.41) NS(-2924.22) EW(-183.07) TEMP(190.4)



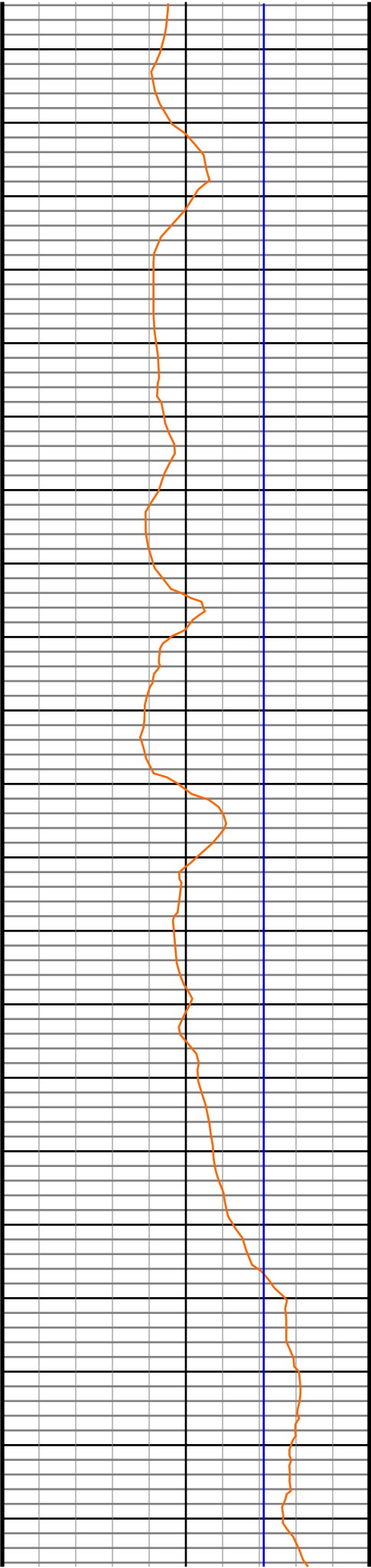
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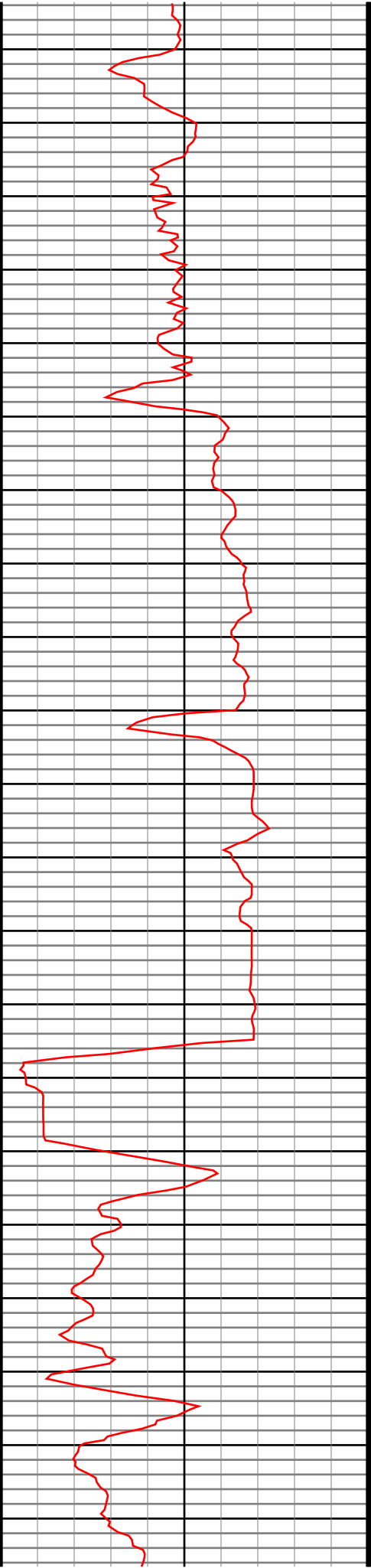
#97 MD(8547.00) Inc(89.2) Azm(178.3) TVD(5629.21)
VS(3018.23) NS(-3014.16) EW(-180.24) TEMP(192.2)

#98 MD(8637.00) Inc(89.7) Azm(177.8) TVD(5630.08)
VS(3108.04) NS(-3104.11) EW(-177.18) TEMP(194.0)

#99 MD(8727.00) Inc(90.2) Azm(177.4) TVD(5630.16)
VS(3197.81) NS(-3194.03) EW(-173.41) TEMP(194.0)

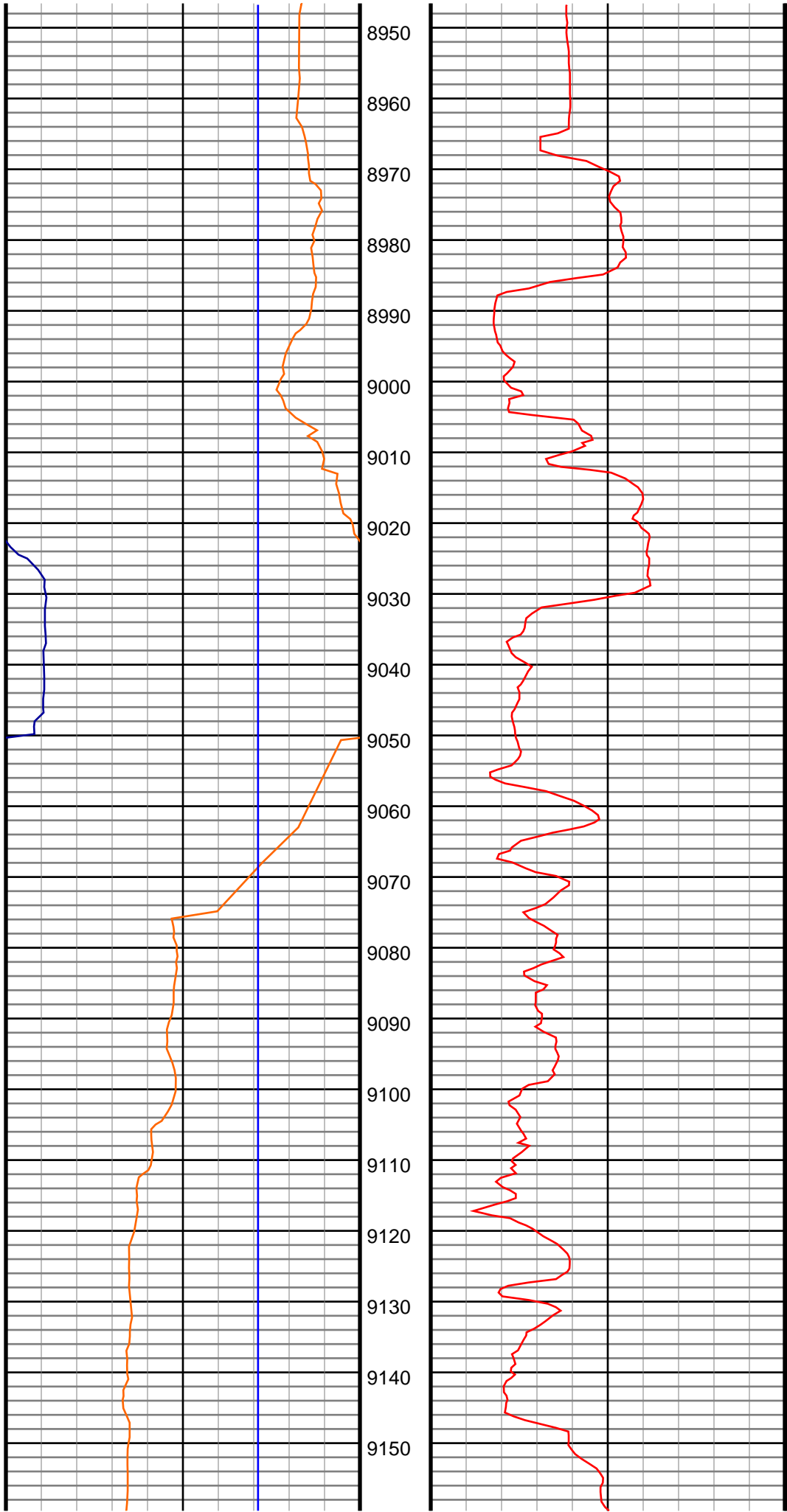


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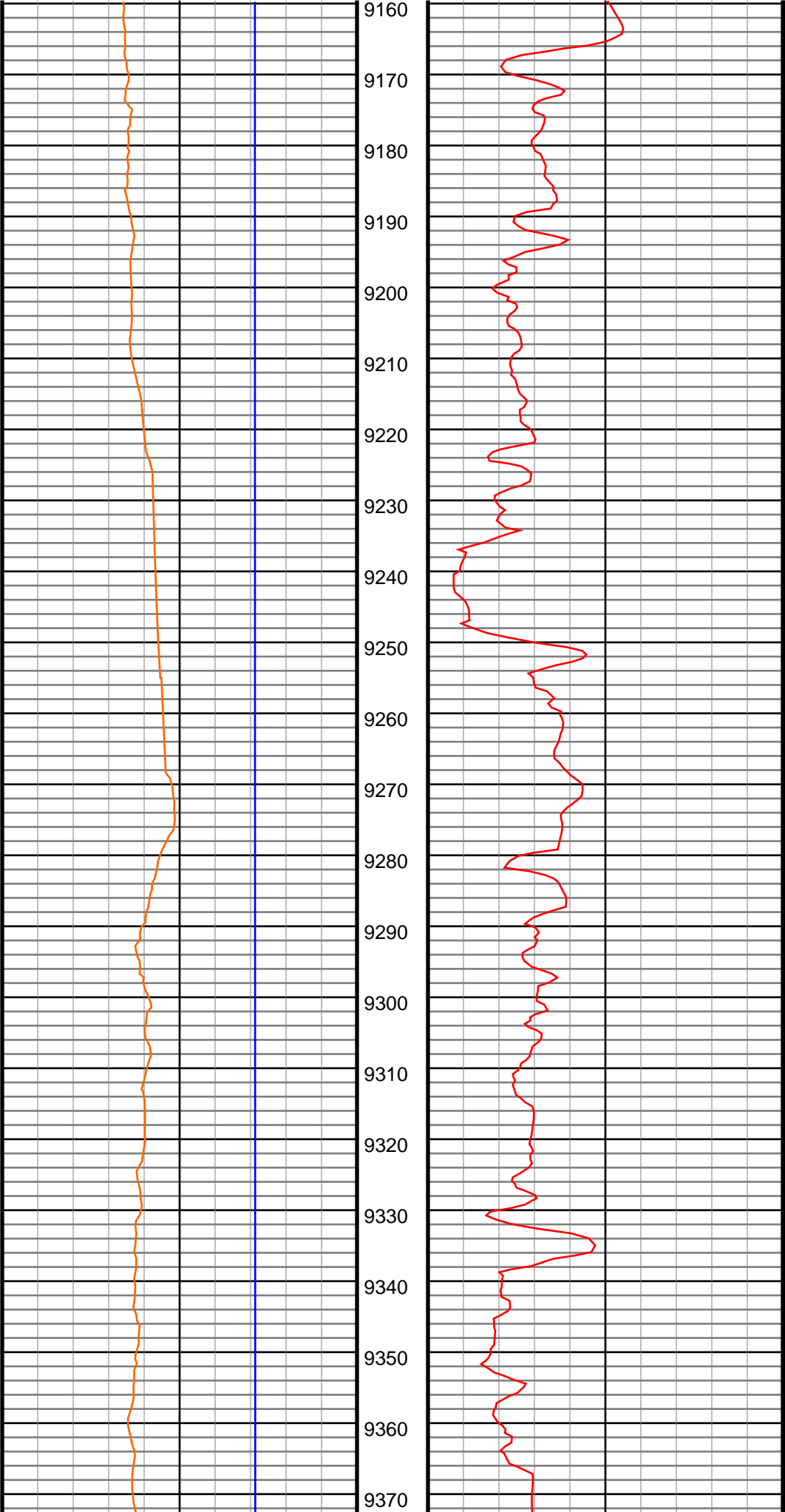
#100 MD(8817.00) Inc(91.2) Azm(176.8) TVD(5629.06)
VS(3287.51) NS(-3283.90) EW(-168.86) TEMP(195.8)

#101 MD(8906.00) Inc(89.7) Azm(178.0) TVD(5628.36)
VS(3376.24) NS(-3372.81) EW(-164.82) TEMP(194.0)



#102 MD(8996.00) Inc(89.6) Azm(177.6) TVD(5628.91)
VS(3466.03) NS(-3462.74) EW(-161.36) TEMP(195.8)

#103 MD(9086.00) Inc(89.9) Azm(177.2) TVD(5629.30)
VS(3555.77) NS(-3552.64) EW(-157.28) TEMP(195.8)



#104 MD(9176.00) Inc(90.0) Azm(177.2) TVD(5629.38)
VS(3645.49) NS(-3642.54) EW(-152.89) TEMP(194.0)

#105 MD(9266.00) Inc(87.8) Azm(177.6) TVD(5631.11)
VS(3735.21) NS(-3732.42) EW(-148.80) TEMP(190.4)

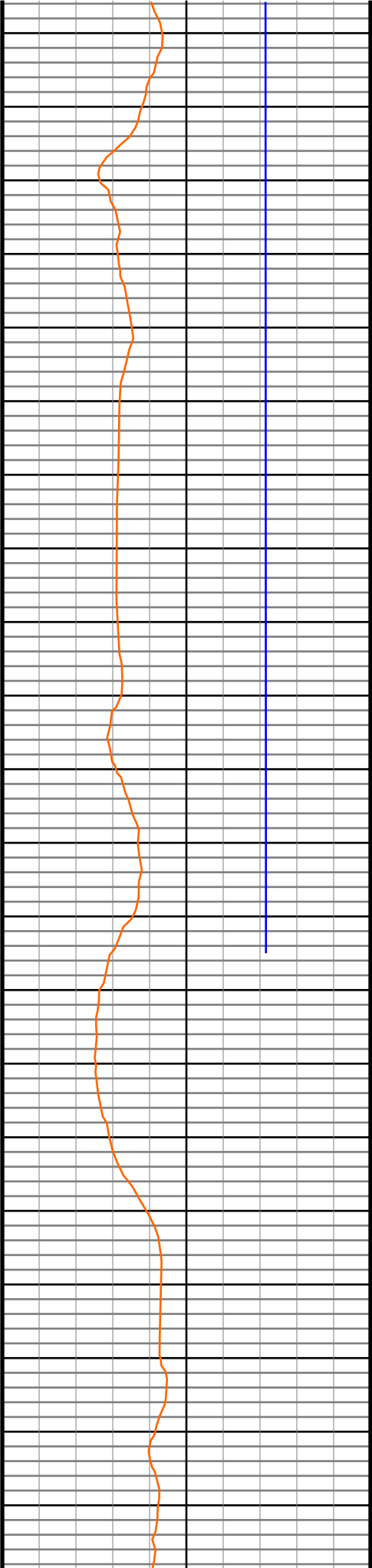
#106 MD(9356.00) Inc(87.2) Azm(177.4) TVD(5635.03)
VS(3824.88) NS(-3822.25) EW(-144.88) TEMP(190.4)

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AZM:89.20
TVD: 5783.39

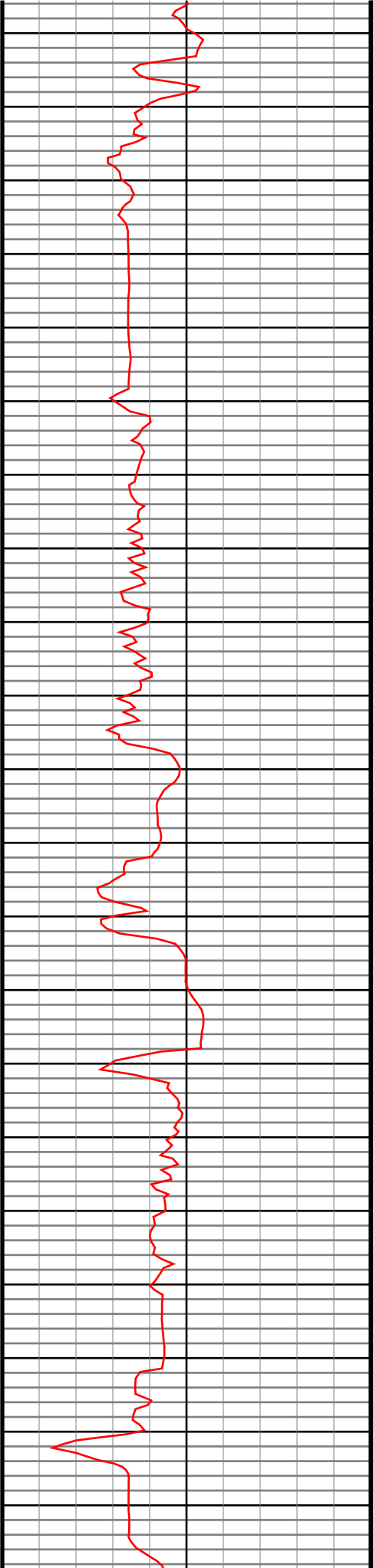
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#107 MD(9446.00) Inc(87.2) Azm(177.7) TVD(5639.43)
VS(3914.54) NS(-3912.06) EW(-141.04) TEMP(192.2)

#108 MD(9536.00) Inc(86.7) Azm(177.0) TVD(5644.22)
VS(4004.14) NS(-4001.84) EW(-136.88) TEMP(195.8)

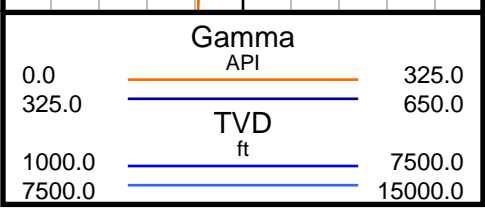


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#109 MD(9625.00) Inc(86.4) Azm(177.4) TVD(5649.57)
VS(4092.71) NS(-4090.57) EW(-132.54) TEMP(197.6)

#110 MD(9715.00) Inc(86.4) Azm(176.5) TVD(5655.22)
VS(4182.21) NS(-4180.26) EW(-127.77) TEMP(197.6)



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