

# Fiscus Federal LD15-77-1HN

**MD**  
1":100'

Company: Noble Energy Inc

Well Name: Fiscus Federal LD15-77-1HN

API: 05-123-37369

Rig Id: Precision 828

State: Colorado

County/Parish: Weld

Country: USA

Survey Company: Ensign Directional

Job number: 05-123-37369

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

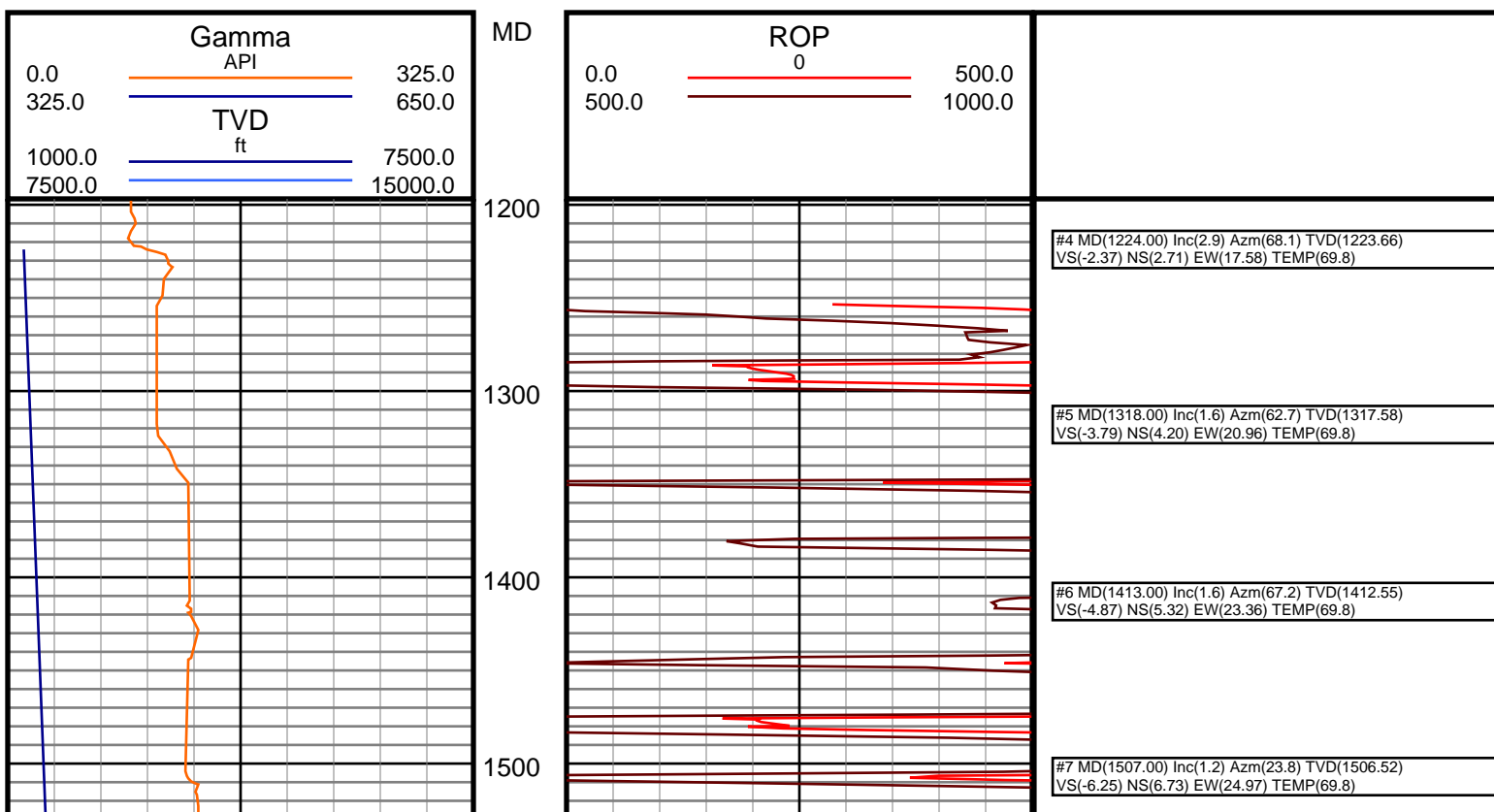
Maximum temperature:

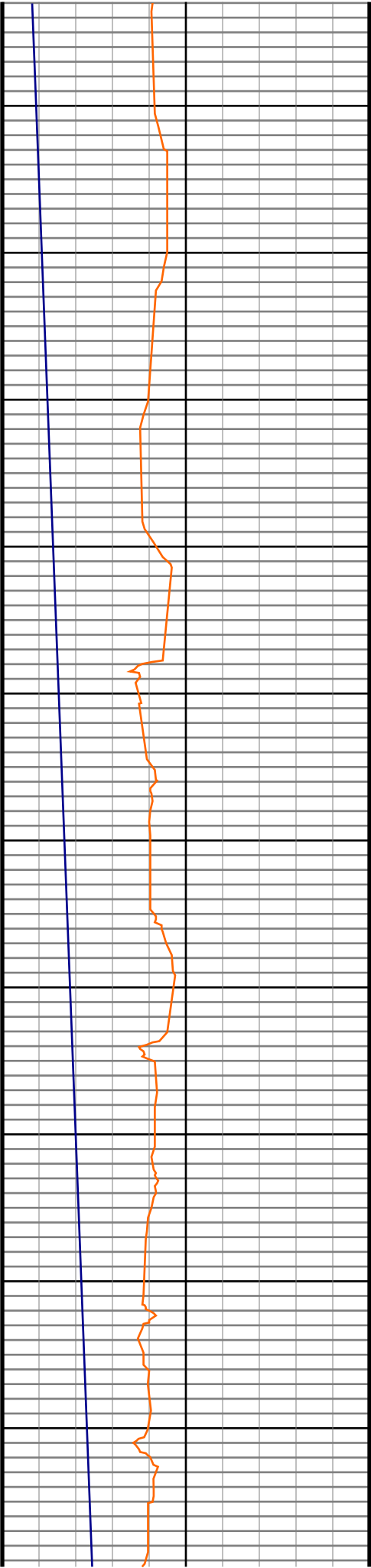
Depth Date  
Start: 1201 ft 11/4/2014  
End: 9990 ft 11/9/2014

Casing	Depth	Size	Mud Type:	Water Based	Elevations
Surface:	1215	9.625	Density:		KB: 4733
Intermediate:	6069	7	Viscosity:		GL: 4717
			Rm:	Rmf:	DF: 4733

Run	Bit Size	Offsets	Gamma	Survey	Start	End	Dates	Start	End
1	8 3/4		61.15	56.15	1201	6074		11/4/2014	11/5/2014
2	6 1/8		61.25	56.25	6074	9990		11/7/2014	11/9/2014
3									
4									
5									
6									
7									
8									
9									
10									

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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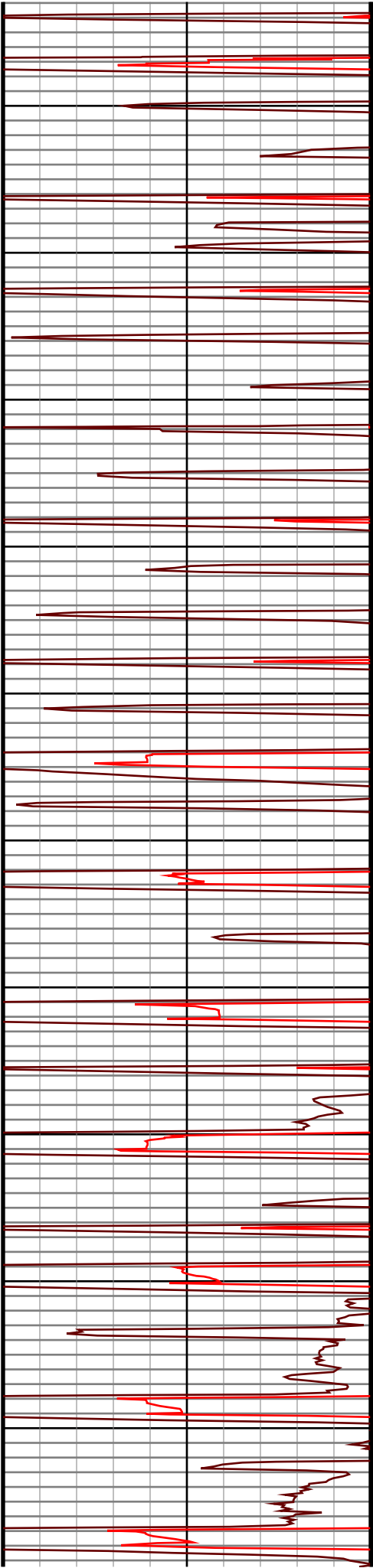
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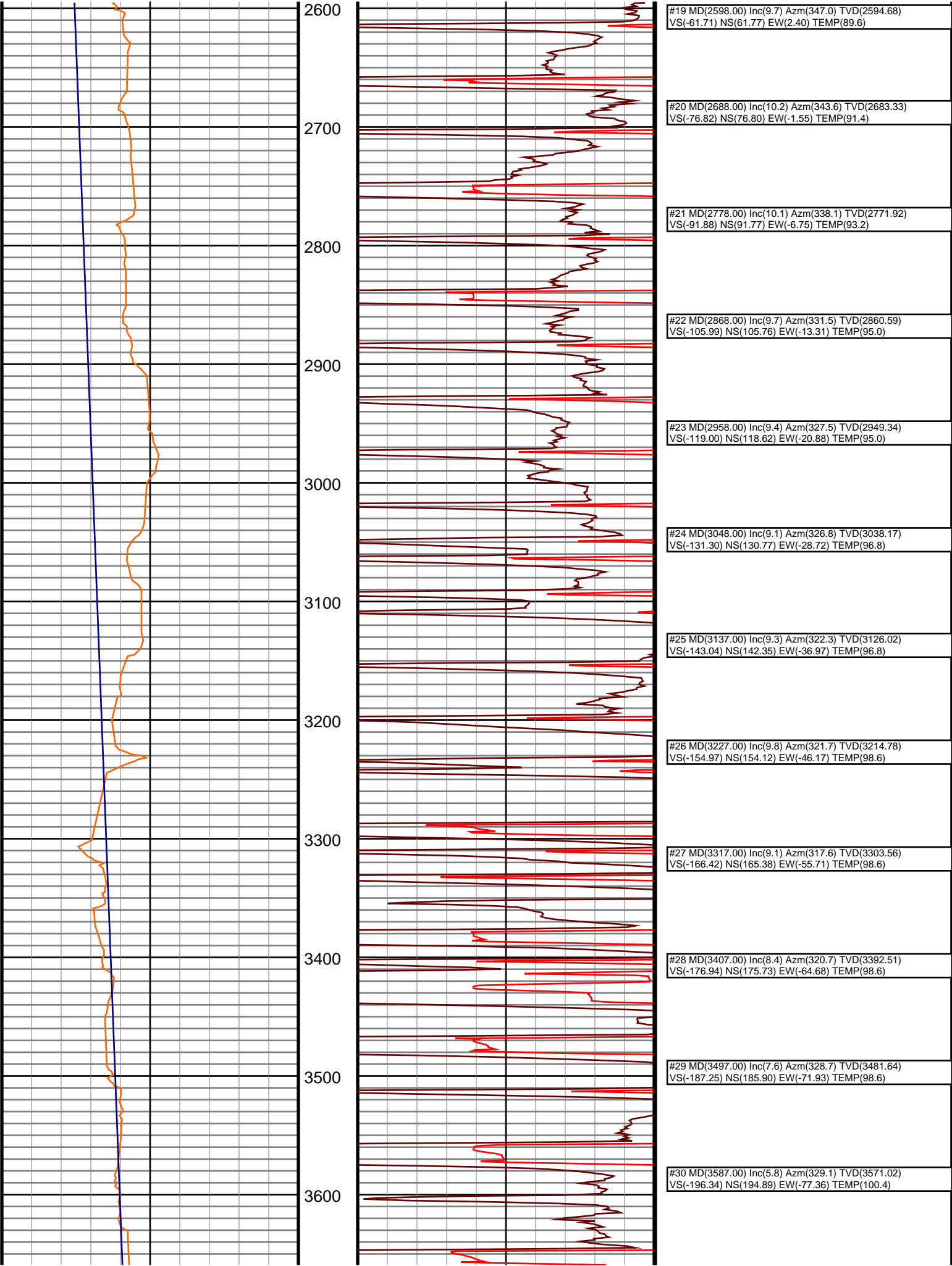
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#8 MD(1600.00) Inc(1.8) Azm(323.8) TVD(1599.49) VS(-8.33) NS(8.80) EW(24.50) TEMP(69.8)
#9 MD(1695.00) Inc(1.7) Azm(329.2) TVD(1694.45) VS(-10.77) NS(11.21) EW(22.89) TEMP(69.8)
#10 MD(1790.00) Inc(1.4) Azm(312.1) TVD(1789.41) VS(-12.79) NS(13.20) EW(21.31) TEMP(69.6)
#11 MD(1885.00) Inc(1.5) Azm(295.7) TVD(1884.38) VS(-14.15) NS(14.52) EW(19.33) TEMP(77.0)
#12 MD(1980.00) Inc(0.7) Azm(292.3) TVD(1979.37) VS(-14.94) NS(15.28) EW(17.67) TEMP(78.8)
#13 MD(2059.00) Inc(1.7) Azm(314.6) TVD(2058.35) VS(-15.97) NS(16.28) EW(16.39) TEMP(84.2)
#14 MD(2149.00) Inc(2.1) Azm(329.9) TVD(2148.30) VS(-18.36) NS(18.65) EW(14.61) TEMP(84.2)
#15 MD(2239.00) Inc(3.3) Azm(351.4) TVD(2238.20) VS(-22.38) NS(22.64) EW(13.40) TEMP(84.2)
#16 MD(2329.00) Inc(4.8) Azm(338.6) TVD(2327.97) VS(-28.48) NS(28.70) EW(11.64) TEMP(86.0)
#17 MD(2419.00) Inc(6.5) Azm(342.2) TVD(2417.53) VS(-36.89) NS(37.06) EW(8.71) TEMP(86.0)
#18 MD(2509.00) Inc(8.3) Azm(346.3) TVD(2506.78) VS(-48.11) NS(48.22) EW(5.61) TEMP(87.8)





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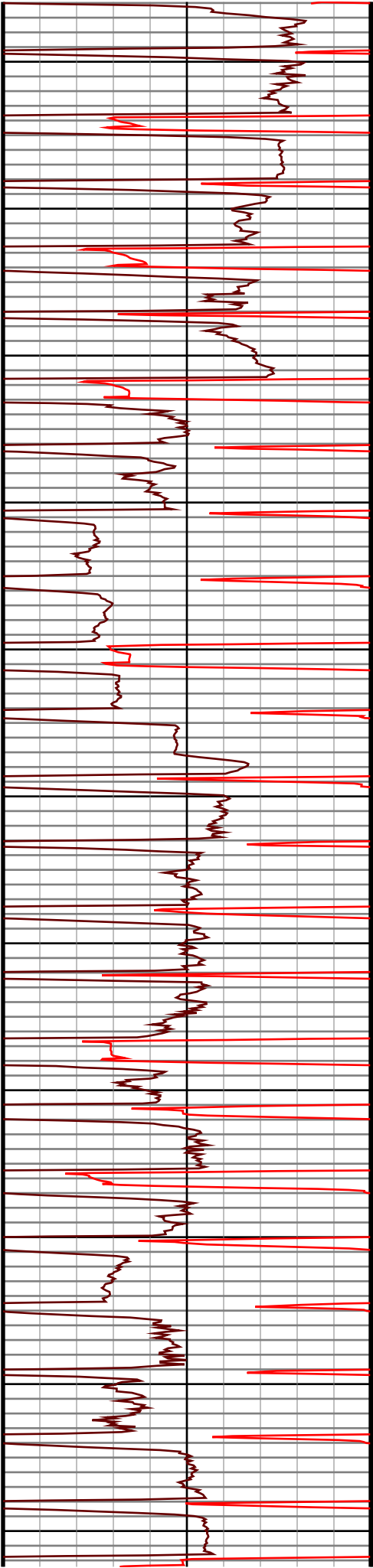
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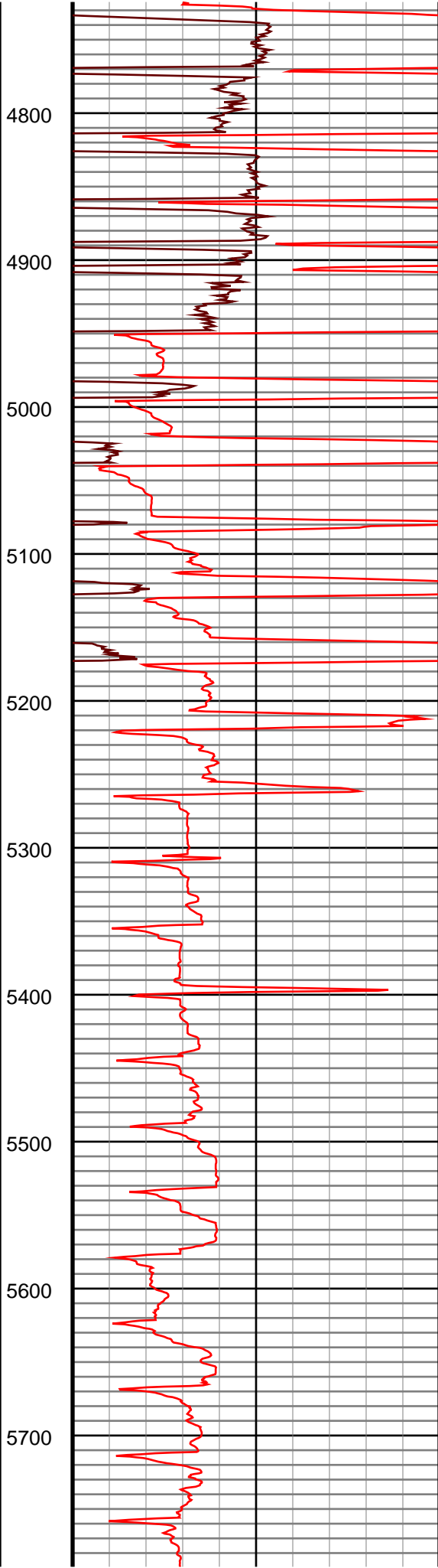
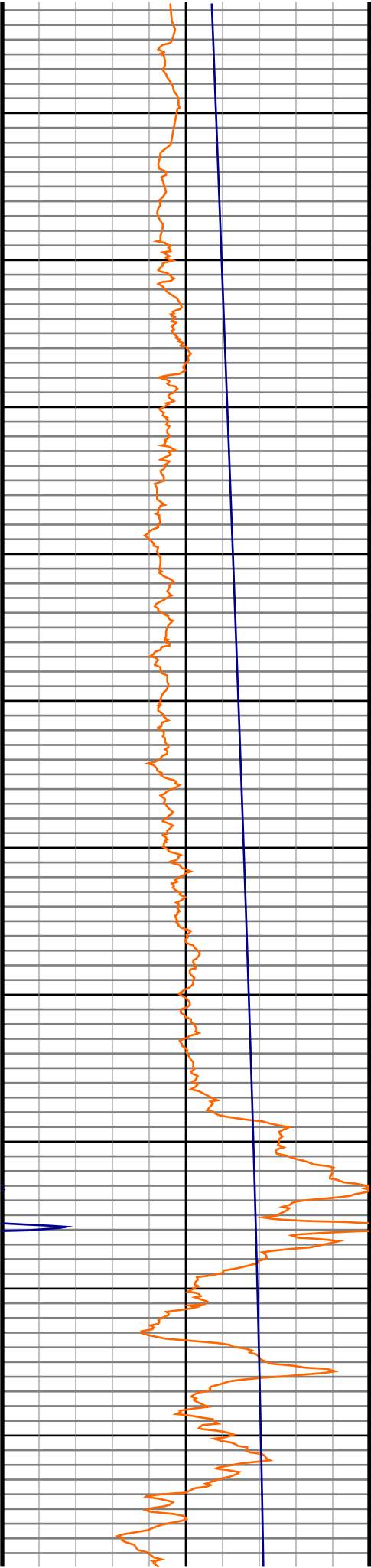
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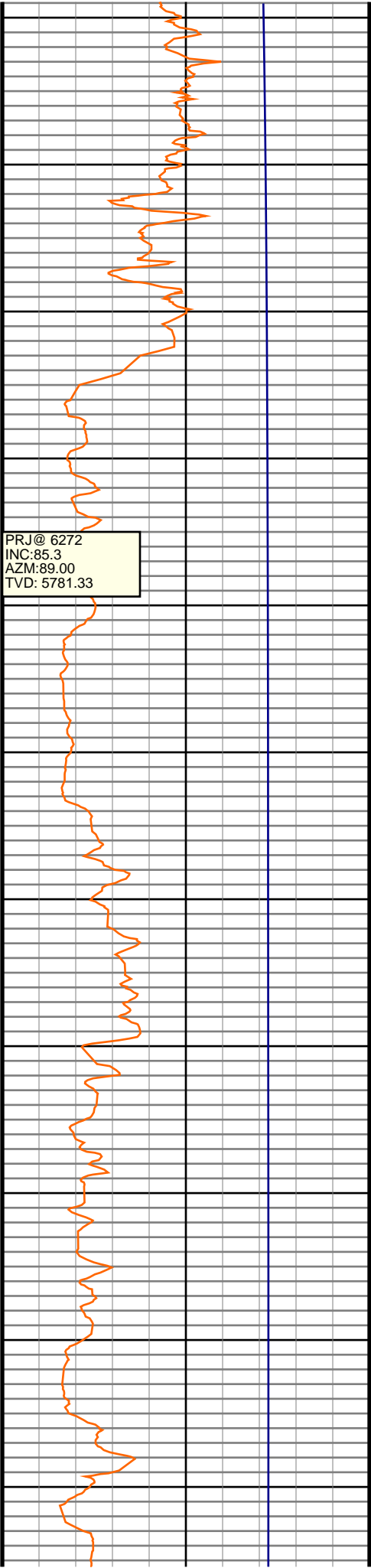
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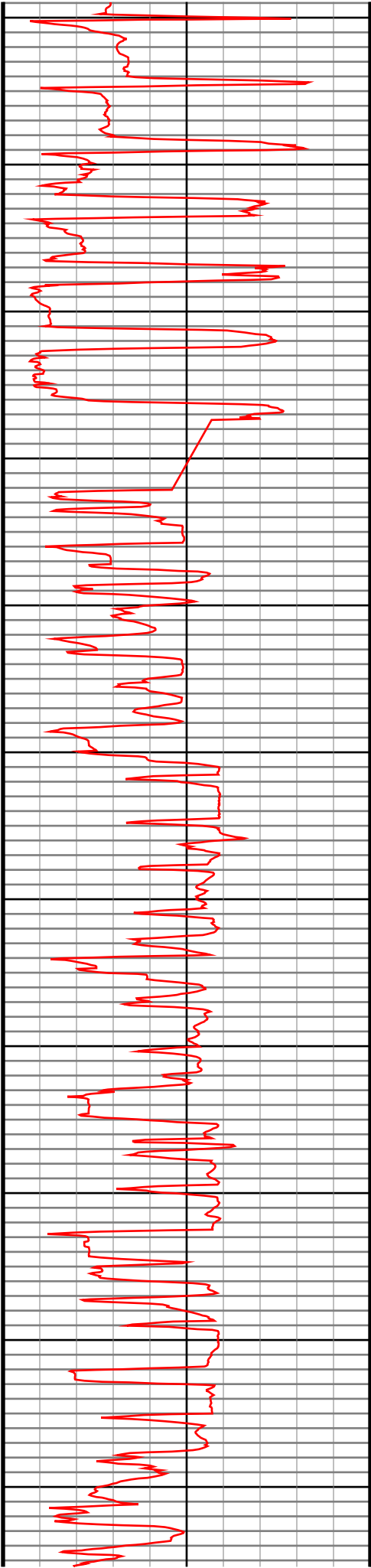
#31 MD(3676.00) Inc(4.1) Azm(333.5) TVD(3659.68) VS(-203.11) NS(201.59) EW(-81.09) TEMP(100.4)
#32 MD(3766.00) Inc(3.3) Azm(327.2) TVD(3749.49) VS(-208.22) NS(206.65) EW(-83.93) TEMP(102.2)
#33 MD(3856.00) Inc(2.2) Azm(326.3) TVD(3839.39) VS(-211.88) NS(210.27) EW(-86.29) TEMP(113.0)
#34 MD(3946.00) Inc(0.8) Azm(341.1) TVD(3929.36) VS(-213.94) NS(212.30) EW(-87.45) TEMP(107.6)
#35 MD(4036.00) Inc(1.5) Azm(347.5) TVD(4019.34) VS(-215.69) NS(214.04) EW(-87.91) TEMP(107.6)
#36 MD(4126.00) Inc(0.2) Azm(56.0) TVD(4109.33) VS(-216.93) NS(215.28) EW(-88.04) TEMP(109.4)
#37 MD(4215.00) Inc(0.7) Azm(314.1) TVD(4198.32) VS(-217.40) NS(215.74) EW(-88.30) TEMP(109.4)
#38 MD(4305.00) Inc(0.9) Azm(329.1) TVD(4288.32) VS(-218.40) NS(216.73) EW(-89.06) TEMP(111.2)
#39 MD(4395.00) Inc(0.3) Azm(32.3) TVD(4378.31) VS(-219.21) NS(217.54) EW(-89.29) TEMP(111.2)
#40 MD(4485.00) Inc(0.5) Azm(179.7) TVD(4468.31) VS(-219.02) NS(217.35) EW(-89.17) TEMP(113.0)
#41 MD(4575.00) Inc(0.5) Azm(213.7) TVD(4558.31) VS(-218.30) NS(216.63) EW(-89.38) TEMP(113.0)
#42 MD(4664.00) Inc(0.4) Azm(190.5) TVD(4647.30) VS(-217.68) NS(216.00) EW(-89.65) TEMP(113.0)



#43 MD(4754.00) Inc(0.4) Azm(97.3) TVD(4737.30) VS(-217.33) NS(215.65) EW(-89.40) TEMP(116.6)
#44 MD(4844.00) Inc(1.1) Azm(145.0) TVD(4827.30) VS(-216.56) NS(214.90) EW(-88.59) TEMP(116.6)
#45 MD(4889.00) Inc(1.3) Azm(153.3) TVD(4872.29) VS(-215.74) NS(214.09) EW(-88.11) TEMP(116.6)
#46 MD(4934.00) Inc(1.7) Azm(145.9) TVD(4917.27) VS(-214.72) NS(213.08) EW(-87.51) TEMP(116.6)
#47 MD(4979.00) Inc(3.8) Azm(149.8) TVD(4962.22) VS(-212.86) NS(211.24) EW(-86.39) TEMP(116.6)
#48 MD(5024.00) Inc(6.0) Azm(162.5) TVD(5007.05) VS(-209.30) NS(207.71) EW(-84.93) TEMP(118.4)
#49 MD(5069.00) Inc(9.3) Azm(166.5) TVD(5051.64) VS(-203.49) NS(201.93) EW(-83.37) TEMP(120.2)
#50 MD(5114.00) Inc(11.5) Azm(173.5) TVD(5095.90) VS(-195.47) NS(193.93) EW(-82.02) TEMP(120.2)
#51 MD(5158.00) Inc(13.8) Azm(180.3) TVD(5138.83) VS(-185.86) NS(184.33) EW(-81.55) TEMP(123.8)
#52 MD(5203.00) Inc(16.4) Azm(183.4) TVD(5182.28) VS(-174.16) NS(172.62) EW(-81.95) TEMP(123.8)
#53 MD(5248.00) Inc(18.9) Azm(182.6) TVD(5225.16) VS(-160.55) NS(158.99) EW(-82.66) TEMP(123.8)
#54 MD(5293.00) Inc(22.2) Azm(177.8) TVD(5267.29) VS(-144.77) NS(143.21) EW(-82.66) TEMP(123.8)
#55 MD(5338.00) Inc(25.1) Azm(174.9) TVD(5308.51) VS(-126.75) NS(125.20) EW(-81.49) TEMP(123.8)
#56 MD(5383.00) Inc(29.5) Azm(171.2) TVD(5348.49) VS(-106.23) NS(104.74) EW(-78.94) TEMP(123.8)
#57 MD(5428.00) Inc(32.9) Azm(167.3) TVD(5386.98) VS(-83.27) NS(81.86) EW(-74.56) TEMP(123.8)
#58 MD(5473.00) Inc(37.0) Azm(163.4) TVD(5423.86) VS(-58.24) NS(56.94) EW(-68.00) TEMP(123.8)
#59 MD(5518.00) Inc(40.8) Azm(166.1) TVD(5458.88) VS(-30.84) NS(29.68) EW(-60.60) TEMP(123.8)
#60 MD(5562.00) Inc(45.5) Azm(167.4) TVD(5490.97) VS(-1.43) NS(0.40) EW(-53.72) TEMP(123.8)
#61 MD(5607.00) Inc(49.8) Azm(168.0) TVD(5521.28) VS(31.19) NS(-32.09) EW(-46.64) TEMP(123.8)
#62 MD(5652.00) Inc(53.3) Azm(172.3) TVD(5549.26) VS(66.00) NS(-66.80) EW(-40.65) TEMP(123.8)
#63 MD(5697.00) Inc(56.3) Azm(177.4) TVD(5575.21) VS(102.66) NS(-103.40) EW(-37.38) TEMP(141.8)
#64 MD(5742.00) Inc(59.3) Azm(182.6) TVD(5599.20) VS(140.71) NS(-141.45) EW(-37.41) TEMP(141.8)
#65 MD(5787.00) Inc(64.0) Azm(181.8) TVD(5620.56) VS(180.23) NS(-181.01) EW(-38.92) TEMP(143.6)



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#66 MD(5832.00) Inc(68.5) Azm(181.5) TVD(5638.68)  
VS(221.36) NS(-222.17) EW(-40.10) TEMP(143.6)

#67 MD(5877.00) Inc(72.5) Azm(181.8) TVD(5653.70)  
VS(263.73) NS(-264.57) EW(-41.33) TEMP(145.4)

#68 MD(5921.00) Inc(75.8) Azm(182.2) TVD(5665.71)  
VS(305.98) NS(-306.86) EW(-42.80) TEMP(145.4)

#69 MD(5966.00) Inc(78.8) Azm(183.0) TVD(5675.61)  
VS(349.79) NS(-350.71) EW(-44.80) TEMP(145.4)

#70 MD(6016.00) Inc(81.9) Azm(182.2) TVD(5683.99)  
VS(398.97) NS(-399.95) EW(-47.03) TEMP(147.2)

#71 MD(6100.00) Inc(84.9) Azm(181.2) TVD(5693.64)  
VS(482.30) NS(-483.34) EW(-49.50) TEMP(158.0)

#72 MD(6194.00) Inc(86.4) Azm(179.5) TVD(5700.77)  
VS(576.00) NS(-577.06) EW(-50.08) TEMP(158.0)

#73 MD(6287.00) Inc(89.1) Azm(180.3) TVD(5704.42)  
VS(668.90) NS(-669.98) EW(-49.91) TEMP(154.4)

#74 MD(6380.00) Inc(89.6) Azm(180.0) TVD(5705.48)  
VS(761.87) NS(-762.98) EW(-50.16) TEMP(154.4)

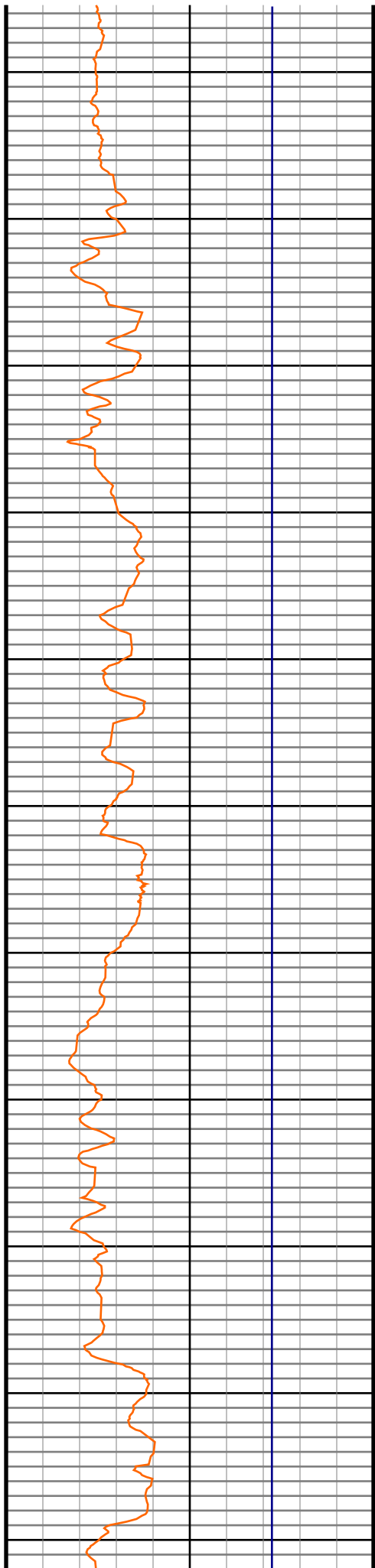
#75 MD(6474.00) Inc(88.6) Azm(179.1) TVD(5706.95)  
VS(855.85) NS(-856.96) EW(-49.42) TEMP(154.4)

#76 MD(6567.00) Inc(88.4) Azm(178.4) TVD(5709.39)  
VS(948.82) NS(-949.90) EW(-47.39) TEMP(156.2)

#77 MD(6659.00) Inc(89.9) Azm(177.9) TVD(5710.75)  
VS(1040.80) NS(-1041.84) EW(-44.42) TEMP(158.0)

#78 MD(6753.00) Inc(90.0) Azm(177.6) TVD(5710.83)  
VS(1134.78) NS(-1135.77) EW(-40.73) TEMP(156.2)

#79 MD(6847.00) Inc(91.4) Azm(176.0) TVD(5709.69)  
VS(1228.70) NS(-1229.61) EW(-35.48) TEMP(159.8)



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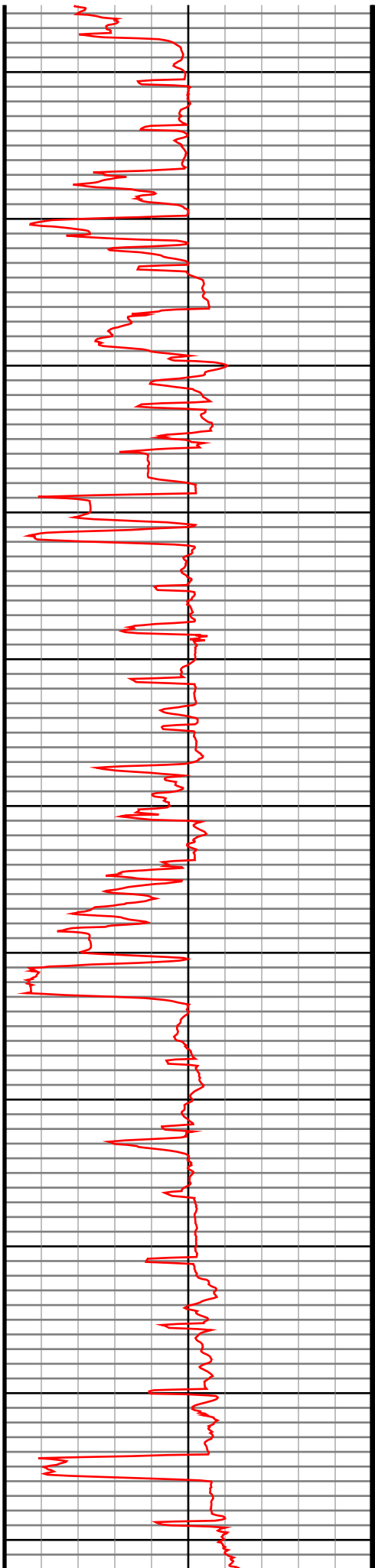
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#80 MD(6942.00) Inc(91.0) Azm(175.3) TVD(5707.70)  
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#81 MD(7036.00) Inc(90.9) Azm(177.0) TVD(5706.14)  
VS(1417.41) NS(-1418.09) EW(-21.97) TEMP(165.2)

#82 MD(7130.00) Inc(89.9) Azm(176.8) TVD(5705.48)  
VS(1511.34) NS(-1511.95) EW(-16.89) TEMP(167.0)

#83 MD(7224.00) Inc(90.5) Azm(177.9) TVD(5705.15)  
VS(1605.31) NS(-1605.84) EW(-12.54) TEMP(168.8)

#84 MD(7317.00) Inc(90.1) Azm(177.4) TVD(5704.67)  
VS(1698.28) NS(-1698.76) EW(-8.73) TEMP(168.8)

#85 MD(7425.00) Inc(89.5) Azm(176.2) TVD(5705.04)  
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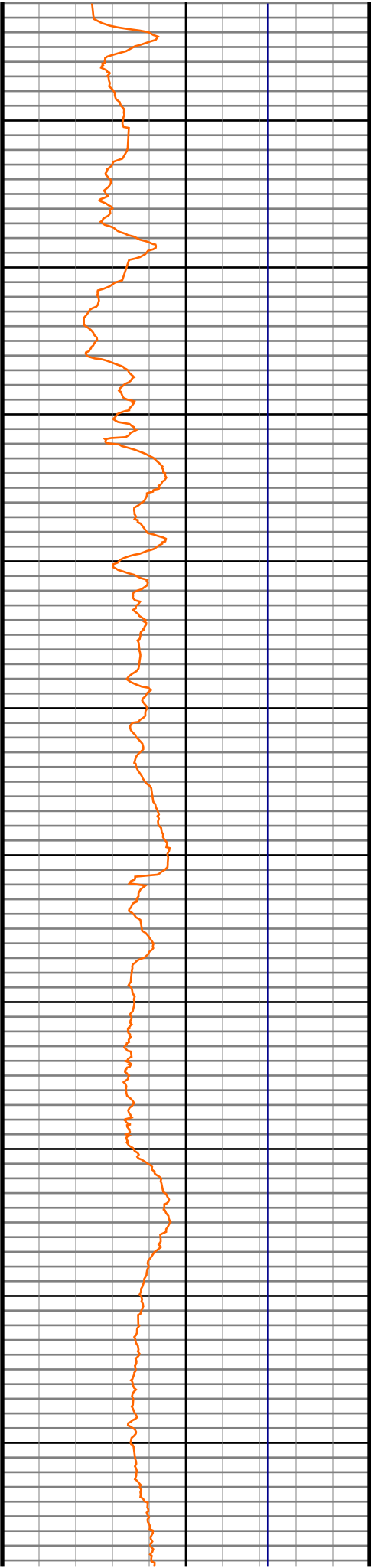
#86 MD(7515.00) Inc(91.1) Azm(178.3) TVD(5704.57)  
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#87 MD(7605.00) Inc(90.4) Azm(177.7) TVD(5703.39)  
VS(1986.14) NS(-1986.42) EW(4.76) TEMP(172.4)

#88 MD(7695.00) Inc(90.5) Azm(177.8) TVD(5702.69)  
VS(2076.12) NS(-2076.34) EW(8.29) TEMP(174.2)

#89 MD(7784.00) Inc(89.6) Azm(177.4) TVD(5702.61)  
VS(2165.10) NS(-2165.27) EW(12.02) TEMP(176.0)

#90 MD(7874.00) Inc(90.1) Azm(179.5) TVD(5702.85)  
VS(2255.09) NS(-2255.23) EW(14.45) TEMP(176.0)



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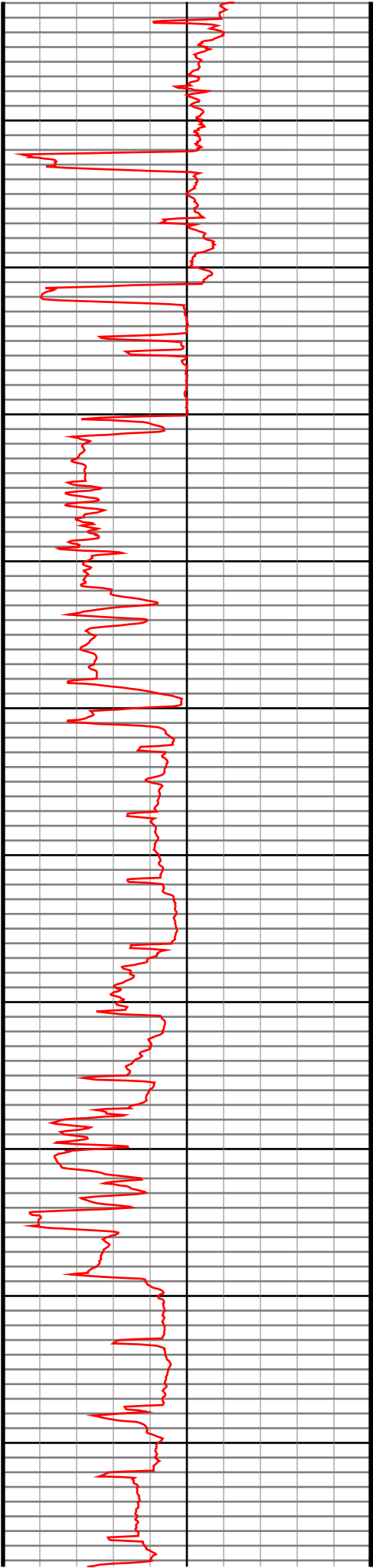
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#91 MD(7964.00) Inc(89.0) Azm(179.6) TVD(5703.55) VS(2345.08) NS(-2345.22) EW(15.16) TEMP(177.8)
#92 MD(8054.00) Inc(89.8) Azm(178.1) TVD(5704.49) VS(2435.07) NS(-2435.19) EW(16.97) TEMP(177.8)
#93 MD(8144.00) Inc(90.7) Azm(178.9) TVD(5704.10) VS(2525.07) NS(-2525.16) EW(19.32) TEMP(181.4)
#94 MD(8234.00) Inc(90.5) Azm(179.2) TVD(5703.16) VS(2615.06) NS(-2615.14) EW(20.81) TEMP(183.2)
#95 MD(8324.00) Inc(89.8) Azm(178.5) TVD(5702.92) VS(2705.06) NS(-2705.12) EW(22.62) TEMP(185.0)
#96 MD(8414.00) Inc(90.2) Azm(177.8) TVD(5702.92) VS(2795.05) NS(-2795.08) EW(25.53) TEMP(185.0)
#97 MD(8504.00) Inc(89.7) Azm(177.5) TVD(5703.00) VS(2885.03) NS(-2885.00) EW(29.22) TEMP(185.0)
#98 MD(8594.00) Inc(89.7) Azm(177.9) TVD(5703.47) VS(2975.01) NS(-2974.93) EW(32.83) TEMP(185.0)
#99 MD(8683.00) Inc(89.3) Azm(177.6) TVD(5704.25) VS(3063.99) NS(-3063.85) EW(36.32) TEMP(186.8)
#100 MD(8773.00) Inc(90.8) Azm(177.4) TVD(5704.17) VS(3153.96) NS(-3153.76) EW(40.25) TEMP(183.2)
#101 MD(8863.00) Inc(90.2) Azm(177.5) TVD(5703.39) VS(3243.92) NS(-3243.67) EW(44.25) TEMP(186.8)
#102 MD(8953.00) Inc(90.1) Azm(177.9) TVD(5703.15) VS(3333.90) NS(-3333.60) EW(47.86) TEMP(186.8)



