

Company: Noble Energy Inc
Well Name: Steadfast E27-63-1HN

API: 05-123-38159
Rig Id: Precision 828

State: Colorado
County/Parish: Weld

Country: USA
Survey Company: Ensign Directional

Job number: 207-P828-30
Company Man 1: Gary Stapleton

Directional Driller 1: Tyler Batchelder
Directional Driller 2: Matt Mason

MWD 1: Nick Jones
MWD 2: Damien Hunter

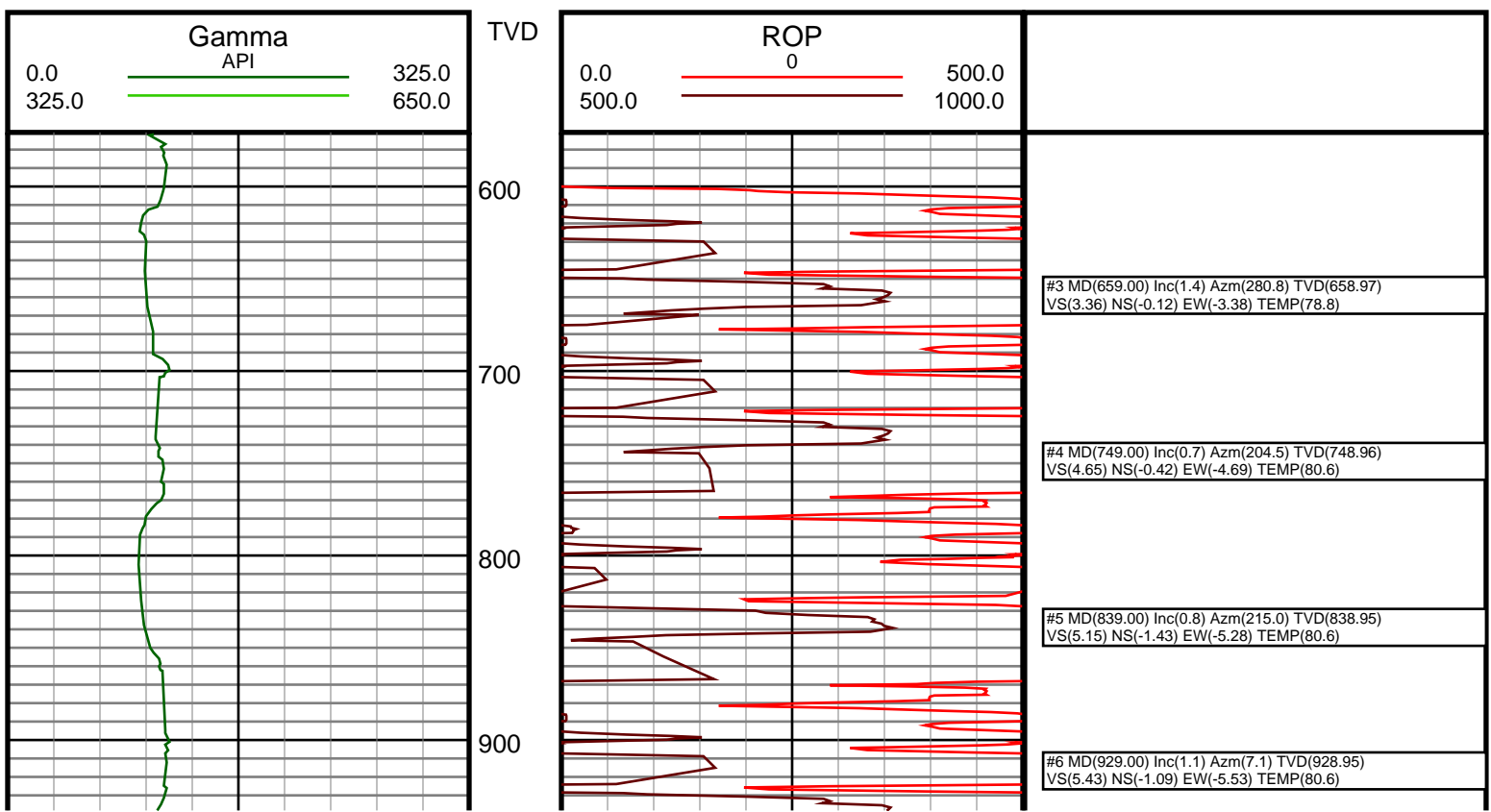
Log measurements: Gamma
Depth measured from: KB
Maximum temperature:

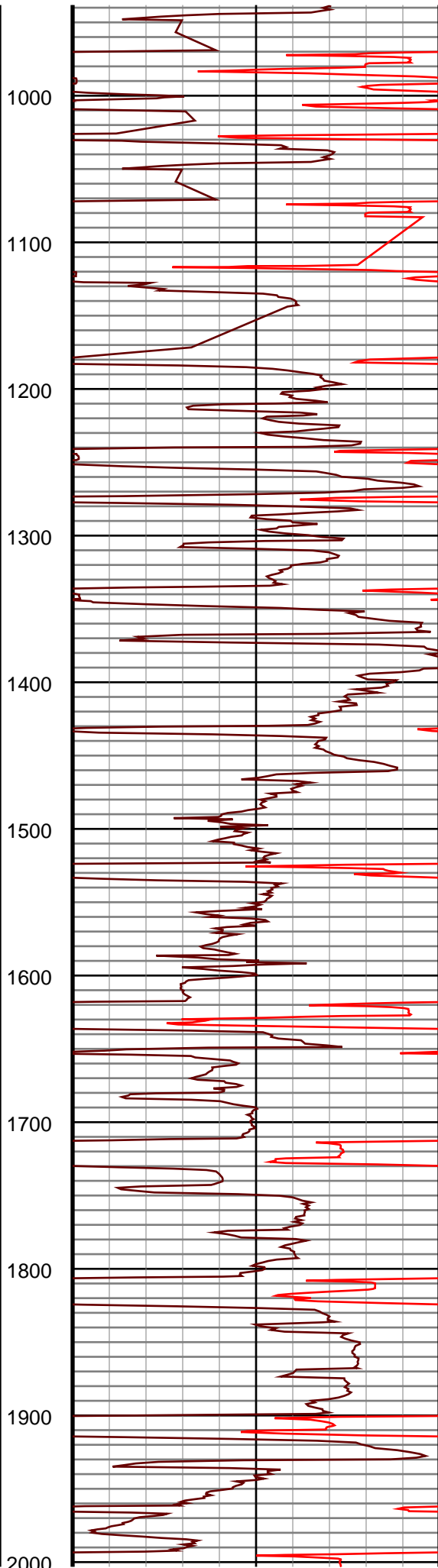
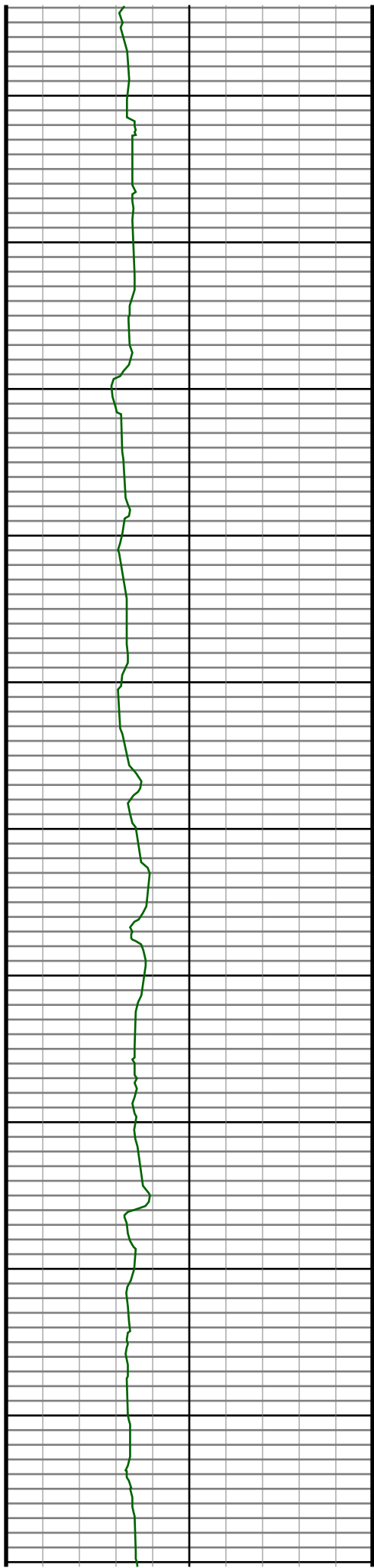
Depth **Date**
Start: 600 ft 5/6/2014
End: 13528 ft 5/13/2014

Casing	Depth	Size	Mud Type: Water Based	Elevations
Surface:	597	9.625	Density:	KB: 4692
Intermediate:	7266	7	Viscosity:	GL: 4676
			Rm:	DF: 4692
			Rmf:	
			Rmc:	

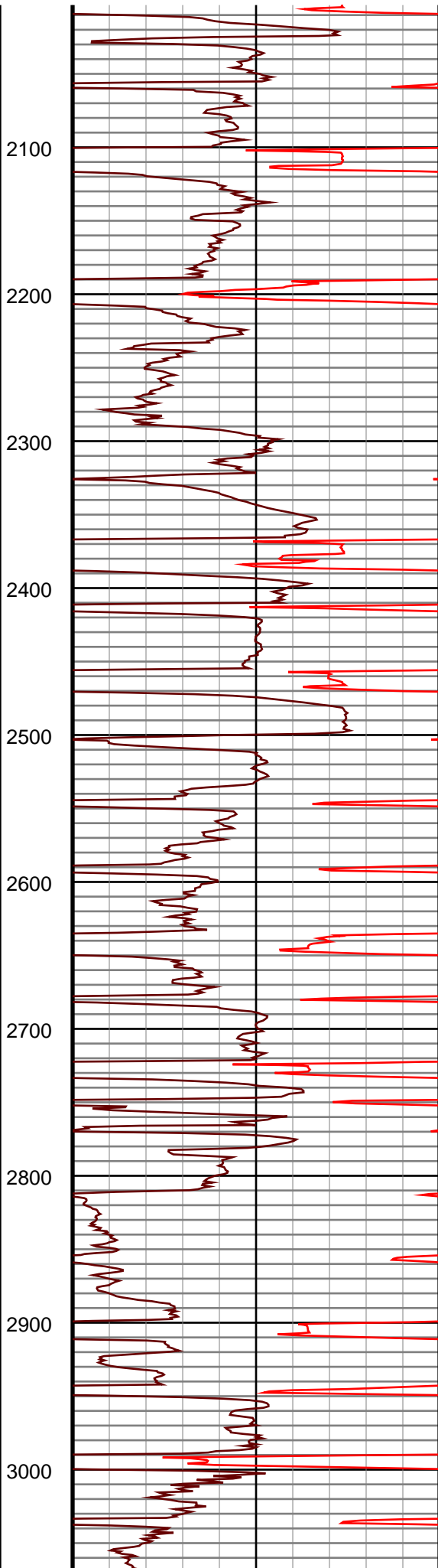
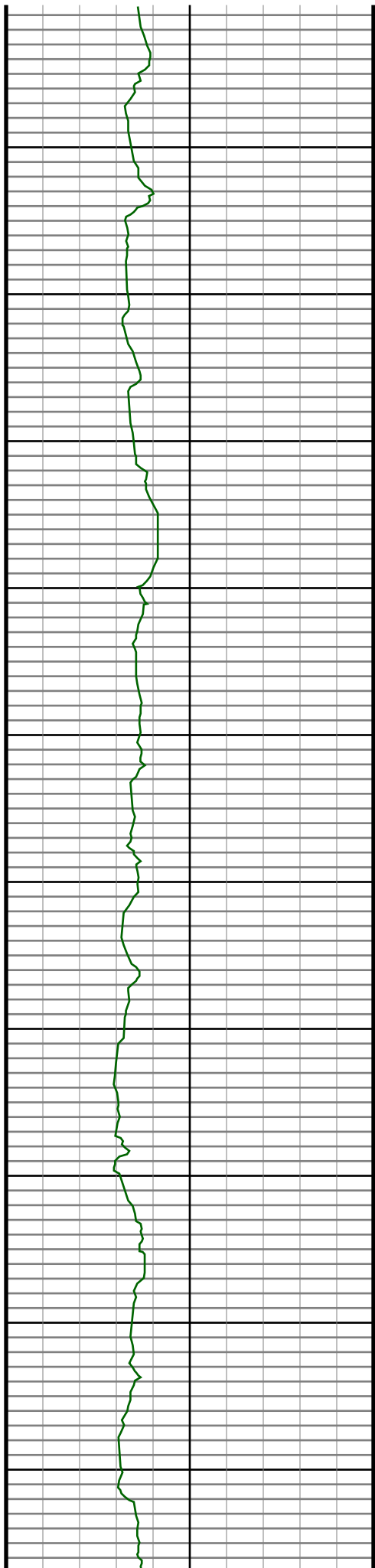
Run	Bit Size	Gamma Survey	Depths		Dates		
			Start	End	Start	End	
1	8 3/4	56.19	51.19	600	7278	5/6/2014	5/8/2014
2	6 1/8	65.33	60.33	7278	7282	5/9/2014	5/10/2014
3	6 1/8	65.83	60.83	7282	13528	5/10/2014	5/13/2014
4							
5							
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7							
8							
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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.





#7 MD(1018.00) Inc(3.0) Azm(21.3) TVD(1017.89) VS(4.72) NS(1.93) EW(-4.58) TEMP(82.4)
#8 MD(1095.00) Inc(4.1) Azm(9.7) TVD(1094.74) VS(3.87) NS(6.52) EW(-3.39) TEMP(82.4)
#9 MD(1190.00) Inc(5.1) Azm(7.3) TVD(1189.43) VS(3.34) NS(14.06) EW(-2.28) TEMP(82.4)
#10 MD(1285.00) Inc(6.7) Azm(9.5) TVD(1283.93) VS(2.63) NS(23.71) EW(-0.83) TEMP(84.2)
#11 MD(1380.00) Inc(8.3) Azm(3.2) TVD(1378.11) VS(2.28) NS(36.02) EW(0.47) TEMP(84.2)
#12 MD(1475.00) Inc(7.5) Azm(359.1) TVD(1472.21) VS(2.99) NS(49.07) EW(0.76) TEMP(86.0)
#13 MD(1570.00) Inc(7.3) Azm(357.6) TVD(1566.42) VS(4.28) NS(61.30) EW(0.41) TEMP(86.0)
#14 MD(1665.00) Inc(8.0) Azm(353.7) TVD(1660.58) VS(6.21) NS(73.90) EW(-0.57) TEMP(87.8)
#15 MD(1760.00) Inc(9.1) Azm(355.6) TVD(1754.52) VS(8.58) NS(87.96) EW(-1.87) TEMP(87.8)
#16 MD(1855.00) Inc(9.2) Azm(359.5) TVD(1848.31) VS(10.38) NS(103.05) EW(-2.52) TEMP(87.8)
#17 MD(1950.00) Inc(8.9) Azm(1.3) TVD(1942.13) VS(11.42) NS(117.99) EW(-2.41) TEMP(91.4)



#18 MD(2059.00) Inc(9.4) Azm(1.6) TVD(2049.74)
VS(12.30) NS(135.32) EW(-1.97) TEMP(93.2)

#19 MD(2149.00) Inc(8.8) Azm(10.2) TVD(2138.61)
VS(11.96) NS(149.44) EW(-0.55) TEMP(93.2)

#20 MD(2239.00) Inc(9.4) Azm(7.1) TVD(2227.48)
VS(10.91) NS(163.51) EW(1.58) TEMP(95.0)

#21 MD(2329.00) Inc(8.0) Azm(2.7) TVD(2316.44)
VS(10.75) NS(177.06) EW(2.78) TEMP(96.8)

#22 MD(2418.00) Inc(8.4) Azm(2.9) TVD(2404.53)
VS(11.10) NS(189.74) EW(3.40) TEMP(96.8)

#23 MD(2508.00) Inc(8.6) Azm(8.1) TVD(2493.54)
VS(10.83) NS(202.96) EW(4.68) TEMP(98.6)

#24 MD(2598.00) Inc(7.5) Azm(7.5) TVD(2582.66)
VS(10.08) NS(215.45) EW(6.40) TEMP(98.6)

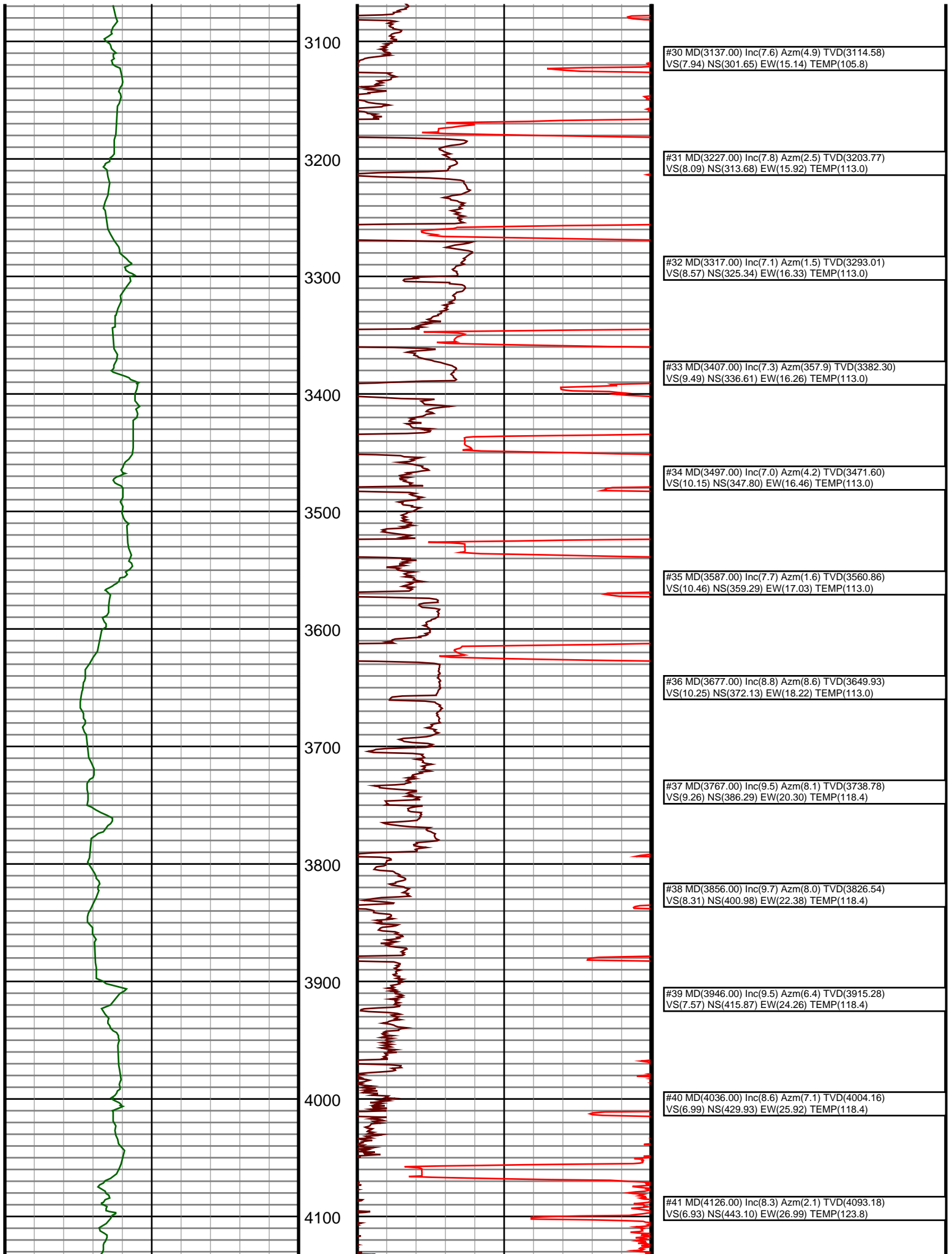
#25 MD(2688.00) Inc(8.4) Azm(8.6) TVD(2671.79)
VS(9.27) NS(227.77) EW(8.15) TEMP(102.2)

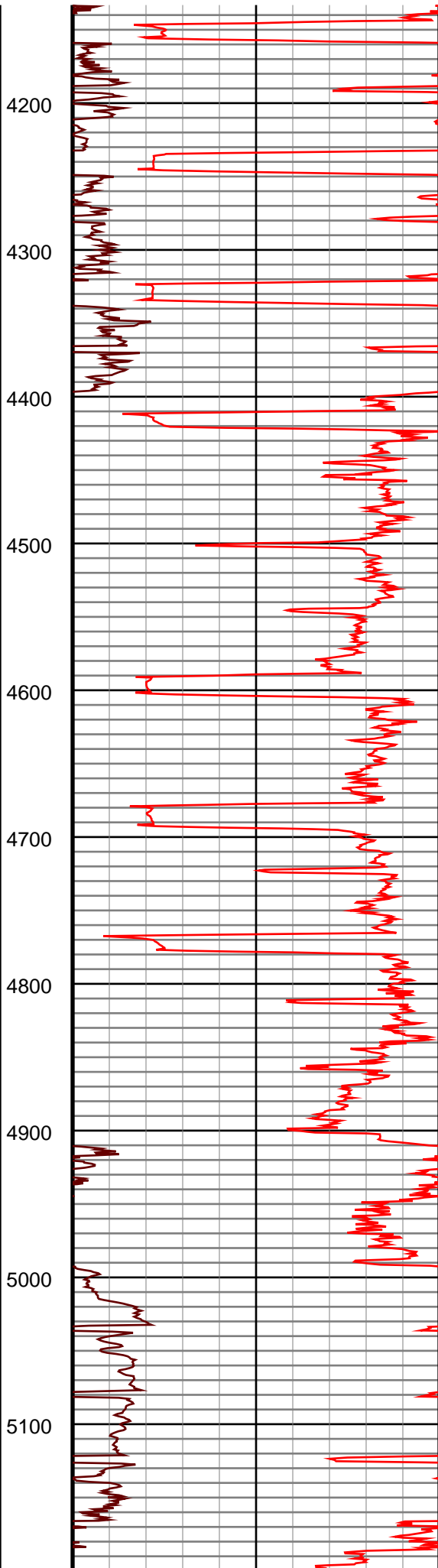
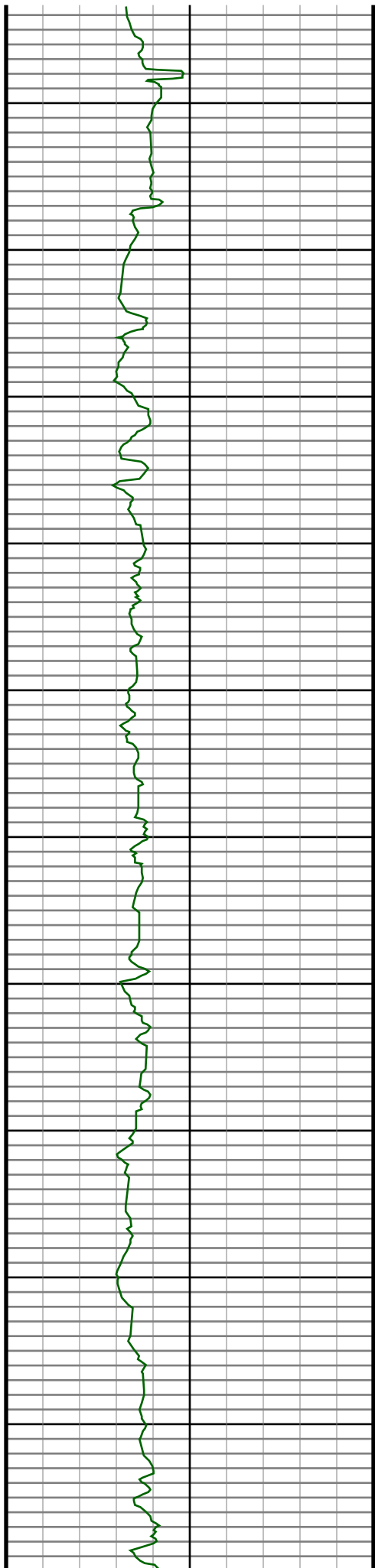
#26 MD(2778.00) Inc(9.8) Azm(6.5) TVD(2760.66)
VS(8.51) NS(241.88) EW(10.00) TEMP(102.2)

#27 MD(2868.00) Inc(9.8) Azm(2.8) TVD(2849.34)
VS(8.43) NS(257.14) EW(11.24) TEMP(105.8)

#28 MD(2958.00) Inc(10.4) Azm(2.8) TVD(2937.95)
VS(8.87) NS(272.91) EW(12.01) TEMP(105.8)

#29 MD(3048.00) Inc(9.6) Azm(8.6) TVD(3026.58)
VS(8.54) NS(288.44) EW(13.53) TEMP(105.8)





#42 MD(4216.00) Inc(8.7) Azm(8.7) TVD(4182.19)
VS(6.67) NS(456.32) EW(28.26) TEMP(118.4)

#43 MD(4306.00) Inc(9.0) Azm(3.8) TVD(4271.12)
VS(6.23) NS(470.07) EW(29.75) TEMP(123.8)

#44 MD(4395.00) Inc(9.3) Azm(358.8) TVD(4358.99)
VS(7.00) NS(484.21) EW(30.06) TEMP(123.8)

#45 MD(4485.00) Inc(10.1) Azm(3.1) TVD(4447.70)
VS(7.89) NS(499.36) EW(30.34) TEMP(123.8)

#46 MD(4575.00) Inc(8.2) Azm(0.2) TVD(4536.56)
VS(8.53) NS(513.66) EW(30.79) TEMP(123.8)

#47 MD(4665.00) Inc(8.0) Azm(2.7) TVD(4625.66)
VS(9.18) NS(526.34) EW(31.11) TEMP(123.8)

#48 MD(4754.00) Inc(8.8) Azm(4.2) TVD(4713.70)
VS(9.38) NS(539.31) EW(31.90) TEMP(125.6)

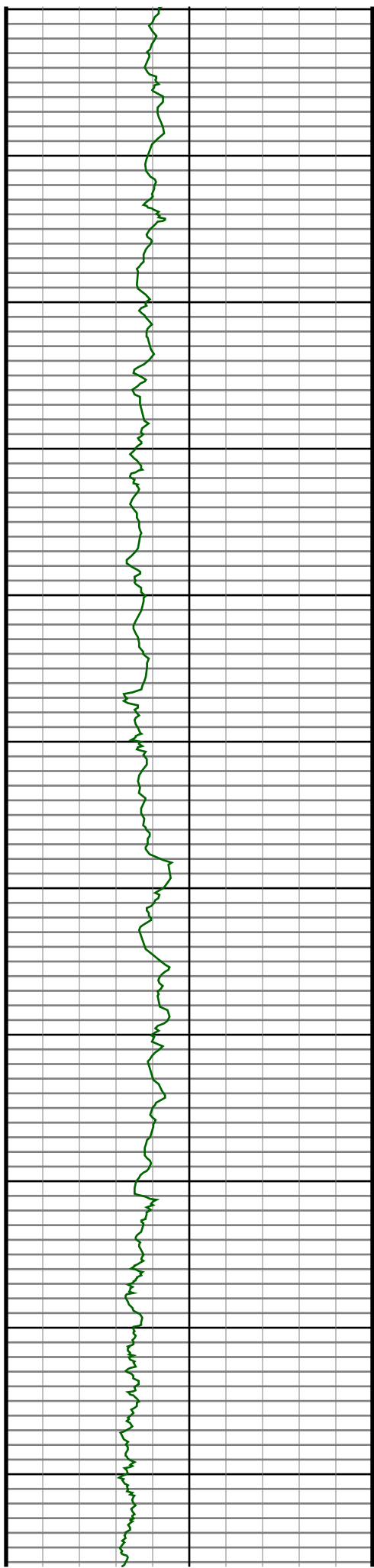
#49 MD(4844.00) Inc(8.8) Azm(7.9) TVD(4802.64)
VS(8.98) NS(553.00) EW(33.35) TEMP(129.2)

#50 MD(4934.00) Inc(7.3) Azm(5.5) TVD(4891.76)
VS(8.45) NS(565.51) EW(34.84) TEMP(129.2)

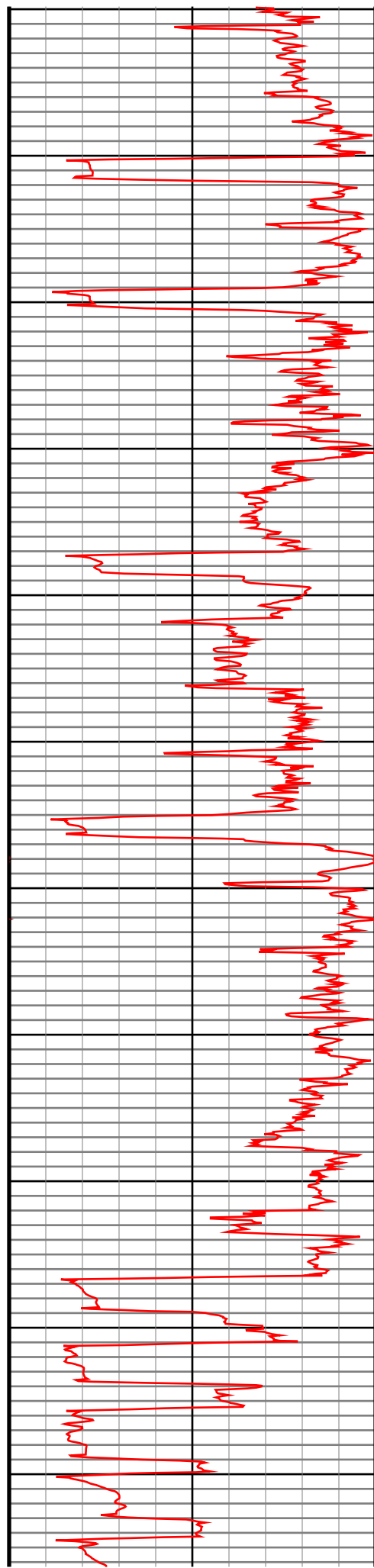
#51 MD(5024.00) Inc(6.5) Azm(5.0) TVD(4981.10)
VS(8.28) NS(576.27) EW(35.83) TEMP(129.2)

#52 MD(5114.00) Inc(5.1) Azm(3.4) TVD(5070.64)
VS(8.30) NS(585.34) EW(36.51) TEMP(129.2)

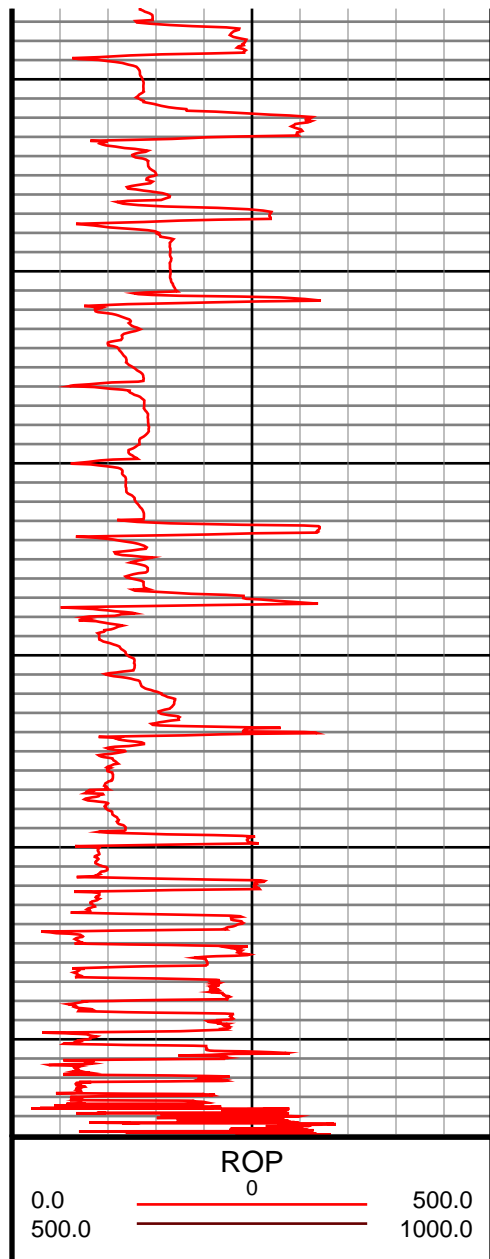
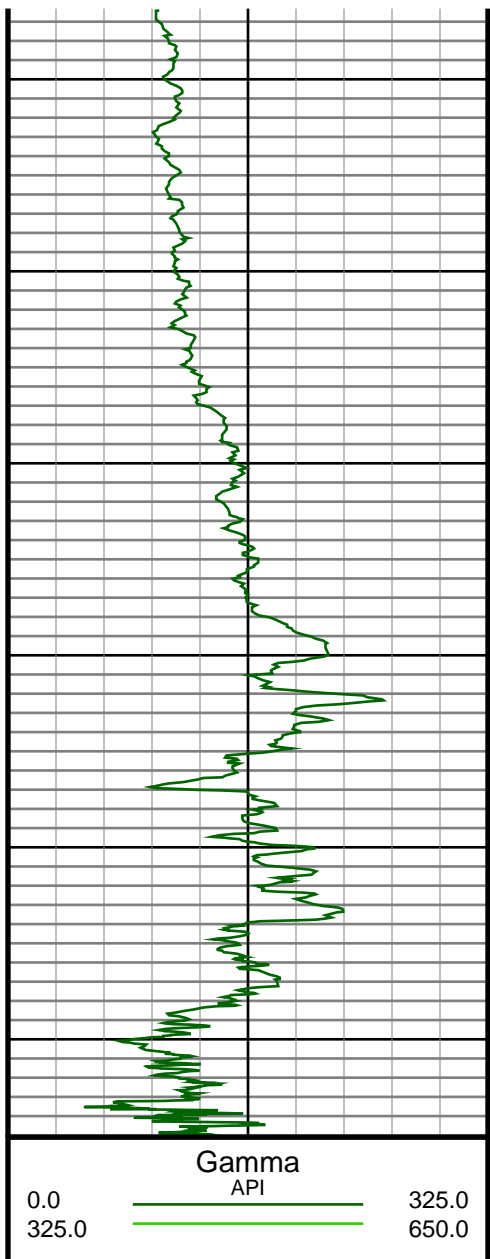
#53 MD(5204.00) Inc(4.0) Azm(357.4) TVD(5160.36)
VS(8.75) NS(592.47) EW(36.61) TEMP(129.2)



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#54 MD(5294.00) Inc(3.2) Azm(359.6) TVD(5250.18) VS(9.34) NS(598.12) EW(36.45) TEMP(127.4)
#55 MD(5383.00) Inc(1.8) Azm(28.0) TVD(5339.09) VS(8.98) NS(601.84) EW(37.09) TEMP(127.4)
#56 MD(5473.00) Inc(0.5) Azm(41.9) TVD(5429.07) VS(8.18) NS(603.38) EW(38.01) TEMP(127.4)
#57 MD(5563.00) Inc(0.6) Azm(358.3) TVD(5519.07) VS(7.99) NS(604.14) EW(38.26) TEMP(131.0)
#58 MD(5653.00) Inc(0.6) Azm(207.7) TVD(5609.07) VS(8.22) NS(604.20) EW(38.03) TEMP(131.0)
#59 MD(5743.00) Inc(0.9) Azm(202.1) TVD(5699.06) VS(8.63) NS(603.12) EW(37.54) TEMP(132.8)
#60 MD(5833.00) Inc(1.5) Azm(162.9) TVD(5789.04) VS(8.41) NS(601.34) EW(37.62) TEMP(134.6)
#61 MD(5922.00) Inc(1.1) Azm(180.3) TVD(5878.02) VS(7.92) NS(599.38) EW(37.96) TEMP(136.4)
#62 MD(6012.00) Inc(0.8) Azm(192.2) TVD(5968.01) VS(7.95) NS(597.90) EW(37.83) TEMP(140.0)
#63 MD(6102.00) Inc(1.0) Azm(222.2) TVD(6058.00) VS(8.51) NS(596.70) EW(37.17) TEMP(140.0)
#64 MD(6147.00) Inc(3.4) Azm(254.8) TVD(6102.96) VS(10.01) NS(596.06) EW(35.61) TEMP(138.2)
#65 MD(6192.00) Inc(5.9) Azm(260.7) TVD(6147.81) VS(13.52) NS(595.34) EW(32.04) TEMP(138.2)
#66 MD(6237.00) Inc(8.6) Azm(261.4) TVD(6192.44) VS(19.04) NS(594.46) EW(26.43) TEMP(140.0)
#67 MD(6282.00) Inc(11.2) Azm(262.3) TVD(6236.77) VS(26.60) NS(593.37) EW(18.77) TEMP(140.0)



#68 MD(6326.00) Inc(13.6) Azm(265.2) TVD(6279.74) VS(35.88) NS(592.37) EW(9.38) TEMP(140.0)
#69 MD(6371.00) Inc(15.2) Azm(266.5) TVD(6323.33) VS(46.95) NS(591.56) EW(-1.78) TEMP(141.8)
#70 MD(6416.00) Inc(16.5) Azm(269.5) TVD(6366.62) VS(59.16) NS(591.15) EW(-14.06) TEMP(143.6)
#71 MD(6461.00) Inc(18.8) Azm(273.8) TVD(6409.50) VS(72.78) NS(591.57) EW(-27.69) TEMP(143.6)
#72 MD(6506.00) Inc(22.8) Azm(275.5) TVD(6451.56) VS(88.76) NS(592.89) EW(-43.61) TEMP(143.6)
#73 MD(6551.00) Inc(27.6) Azm(274.0) TVD(6492.26) VS(107.91) NS(594.45) EW(-62.69) TEMP(147.2)
#74 MD(6596.00) Inc(32.6) Azm(272.0) TVD(6531.18) VS(130.46) NS(595.60) EW(-85.22) TEMP(147.2)
#75 MD(6640.00) Inc(36.3) Azm(272.0) TVD(6567.46) VS(155.33) NS(596.47) EW(-110.09) TEMP(147.2)
#76 MD(6685.00) Inc(39.8) Azm(270.4) TVD(6602.89) VS(183.01) NS(597.04) EW(-137.82) TEMP(147.2)
#77 MD(6730.00) Inc(45.0) Azm(269.5) TVD(6636.11) VS(213.25) NS(597.00) EW(-168.15) TEMP(149.0)
#78 MD(6775.00) Inc(49.5) Azm(267.0) TVD(6666.65) VS(246.09) NS(595.96) EW(-201.17) TEMP(149.0)
#79 MD(6820.00) Inc(54.7) Azm(265.5) TVD(6694.28) VS(281.23) NS(593.63) EW(-236.58) TEMP(149.0)
#80 MD(6865.00) Inc(59.7) Azm(264.5) TVD(6718.65) VS(318.53) NS(590.32) EW(-274.25) TEMP(152.6)
#82 MD(6955.00) Inc(65.8) Azm(265.7) TVD(6759.39) VS(397.66) NS(583.27) EW(-354.14) TEMP(154.4)
#84 MD(7045.00) Inc(69.7) Azm(268.1) TVD(6793.28) VS(480.28) NS(578.63) EW(-437.37) TEMP(156.2)
#90 MD(7390.00) Inc(88.1) Azm(269.6) TVD(6839.08) VS(817.92) NS(567.82) EW(-776.82) TEMP(-61.6)
#93 MD(7681.00) Inc(87.4) Azm(271.1) TVD(6849.31) VS(1107.89) NS(568.24) EW(-1067.61) TEMP(102.2)