

Five Rivers K07-62-1HN **TVD** 1" : 100'

Company: Noble Energy Inc

Well Name: Five Rivers K07-62-1HN

API: 05-123-38086

Rig Id: Precision 828

State: Colorado

County/Parish: Weld

Country: USA

Survey Company: Ensign Directional

Job number:

Company Man 1 Gary Stapleton

Directional Driller 1 Tyler Batchelder

Directional Driller 2 Matt Mason

MWD 1 Nick Jones

MWD 2 Andrew Keohan

Log measurements:

Depth measured from: KB
Maximum temperature:

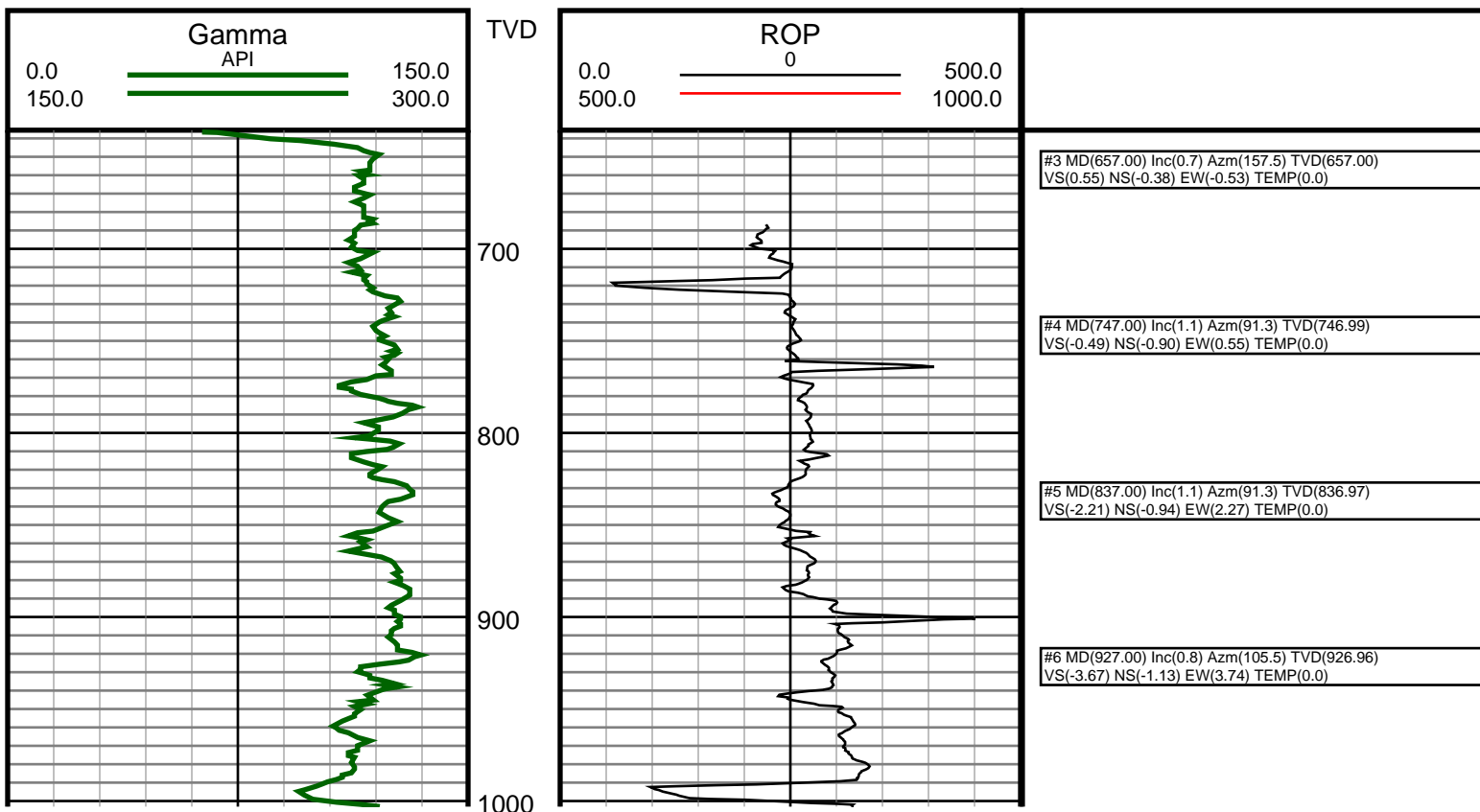
Depth **Date**
Start: 63.4 ft 12/26/13
End: 16152 ft 1/11/14

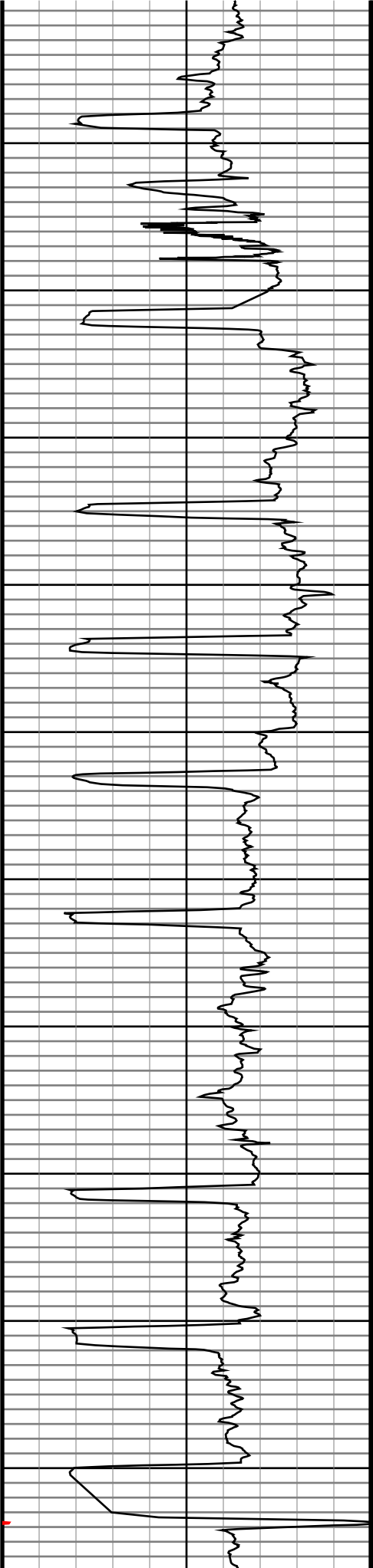
Casing **Depth** **Size**
Surface: 634 9.625
Intermediate: 7448 7

Mud Type:
Density:
Viscosity:
Rm: **Rmf:** **Rmc:** **Elevations**
KB: 4718
GL: 4702
DF: 4718

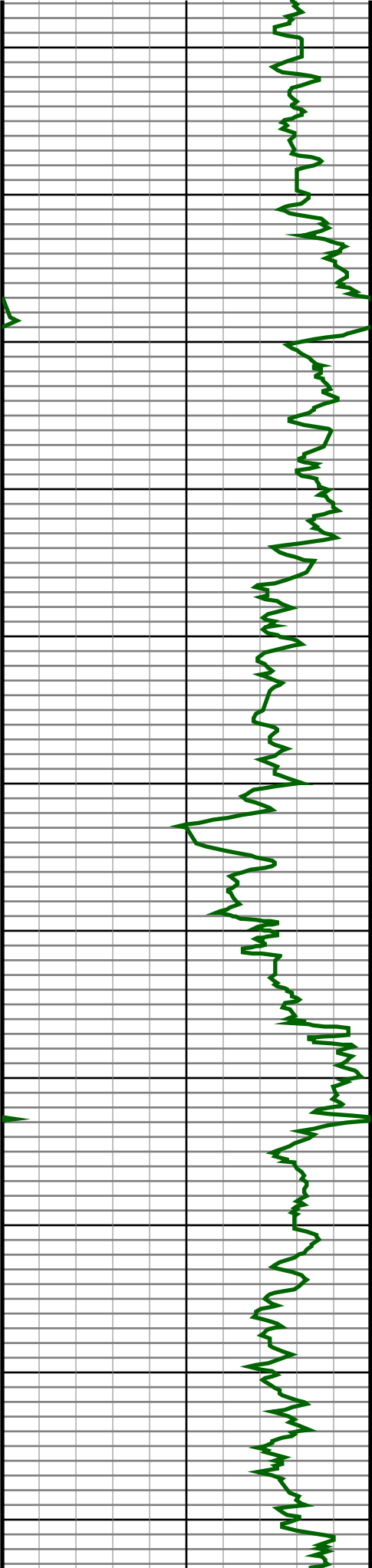
Run	Bit Size	Gamma	Survey	Offsets	Start	End	Start	End	Dates
1	8.75	58.15	53.15	634	7448	12/26/13	12/30/2013		
2	6.125	66.55	61.55	7448		01/01/2014			
3									
4									
5									
6									
7									
8									
9									
10									

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.





#7 MD(1017.00) Inc(2.5) Azm(110.9) TVD(1016.92) VS(-6.06) NS(-2.00) EW(6.18) TEMP(0.0)
#8 MD(1125.00) Inc(3.5) Azm(97.7) TVD(1124.77) VS(-11.44) NS(-3.28) EW(11.65) TEMP(0.0)
#9 MD(1220.00) Inc(4.0) Azm(121.7) TVD(1219.57) VS(-17.00) NS(-5.42) EW(17.34) TEMP(0.0)
#10 MD(1315.00) Inc(5.4) Azm(136.5) TVD(1314.25) VS(-22.59) NS(-10.40) EW(23.23) TEMP(0.0)
#11 MD(1410.00) Inc(5.5) Azm(140.7) TVD(1408.83) VS(-28.16) NS(-17.17) EW(29.20) TEMP(0.0)
#12 MD(1505.00) Inc(6.5) Azm(148.2) TVD(1503.30) VS(-33.40) NS(-25.26) EW(34.91) TEMP(0.0)
#13 MD(1599.00) Inc(6.8) Azm(161.7) TVD(1596.68) VS(-37.37) NS(-35.07) EW(39.47) TEMP(84.2)
#14 MD(1694.00) Inc(7.7) Azm(156.7) TVD(1690.92) VS(-41.01) NS(-46.25) EW(43.75) TEMP(86.0)
#15 MD(1789.00) Inc(6.5) Azm(156.4) TVD(1785.19) VS(-45.04) NS(-57.03) EW(48.42) TEMP(86.9)
#16 MD(1884.00) Inc(6.3) Azm(159.1) TVD(1879.60) VS(-48.48) NS(-66.83) EW(52.42) TEMP(87.8)
#17 MD(1979.00) Inc(7.3) Azm(158.8) TVD(1973.93) VS(-51.90) NS(-77.33) EW(56.46) TEMP(88.3)
#18 MD(2059.00) Inc(8.3) Azm(160.9) TVD(2053.19) VS(-55.02) NS(-87.53) EW(60.18) TEMP(89.6)



2100

2200

2300

2400

2500

2600

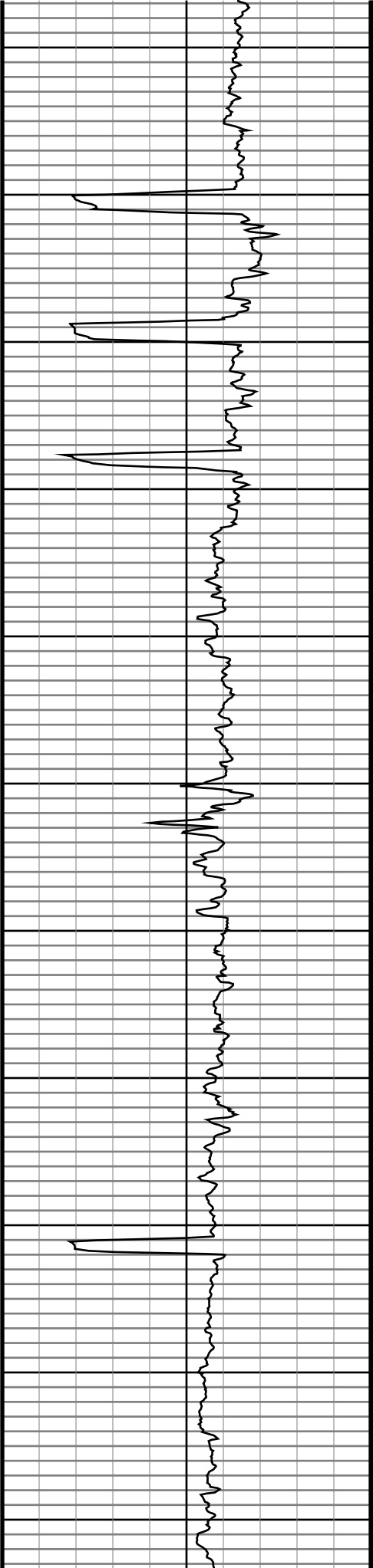
2700

2800

2900

3000

3100



#19 MD(2148.00) Inc(7.0) Azm(152.6) TVD(2141.39)
VS(-58.98) NS(-98.41) EW(64.77) TEMP(91.4)

#20 MD(2238.00) Inc(7.1) Azm(158.4) TVD(2230.72)
VS(-62.95) NS(-108.46) EW(69.33) TEMP(93.2)

#21 MD(2328.00) Inc(7.9) Azm(160.7) TVD(2319.94)
VS(-66.39) NS(-119.47) EW(73.41) TEMP(95.0)

#22 MD(2418.00) Inc(8.4) Azm(166.4) TVD(2409.04)
VS(-69.26) NS(-131.70) EW(76.99) TEMP(96.8)

#23 MD(2508.00) Inc(8.1) Azm(165.9) TVD(2498.11)
VS(-71.62) NS(-144.24) EW(80.08) TEMP(96.8)

#24 MD(2597.00) Inc(8.1) Azm(163.9) TVD(2586.22)
VS(-74.17) NS(-156.35) EW(83.34) TEMP(98.6)

#25 MD(2687.00) Inc(8.1) Azm(164.9) TVD(2675.32)
VS(-76.86) NS(-168.56) EW(86.74) TEMP(100.4)

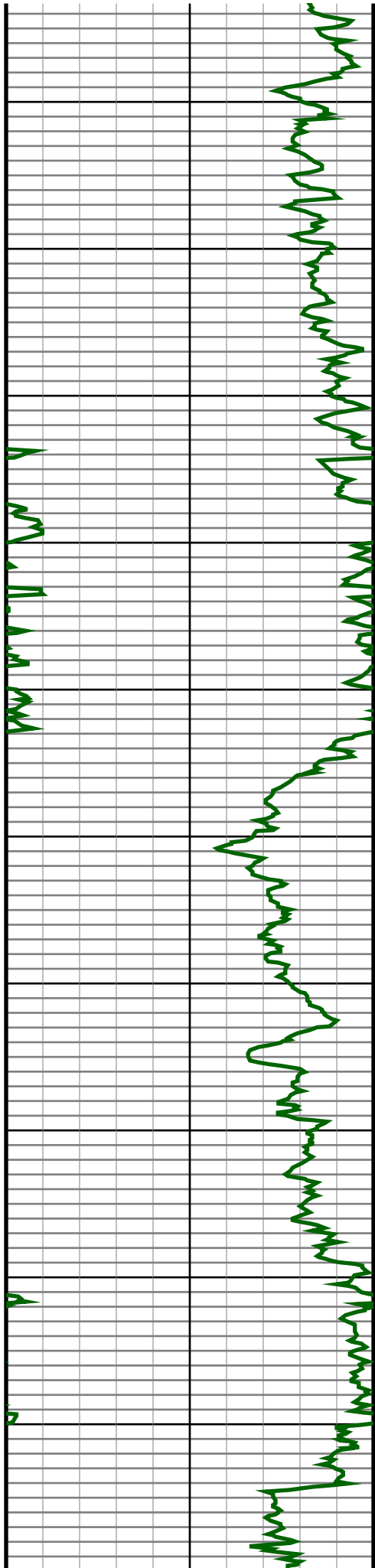
#26 MD(2777.00) Inc(7.8) Azm(162.4) TVD(2764.46)
VS(-79.66) NS(-180.51) EW(90.23) TEMP(100.4)

#27 MD(2867.00) Inc(7.5) Azm(162.8) TVD(2853.65)
VS(-82.57) NS(-191.94) EW(93.81) TEMP(100.4)

#28 MD(2957.00) Inc(8.4) Azm(167.8) TVD(2942.79)
VS(-85.00) NS(-203.98) EW(96.93) TEMP(100.4)

#29 MD(3047.00) Inc(8.3) Azm(166.5) TVD(3031.84)
VS(-87.16) NS(-216.72) EW(99.84) TEMP(102.2)

#30 MD(3137.00) Inc(7.7) Azm(164.5) TVD(3120.96)
VS(-89.58) NS(-228.85) EW(102.96) TEMP(102.2)



3200

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3600

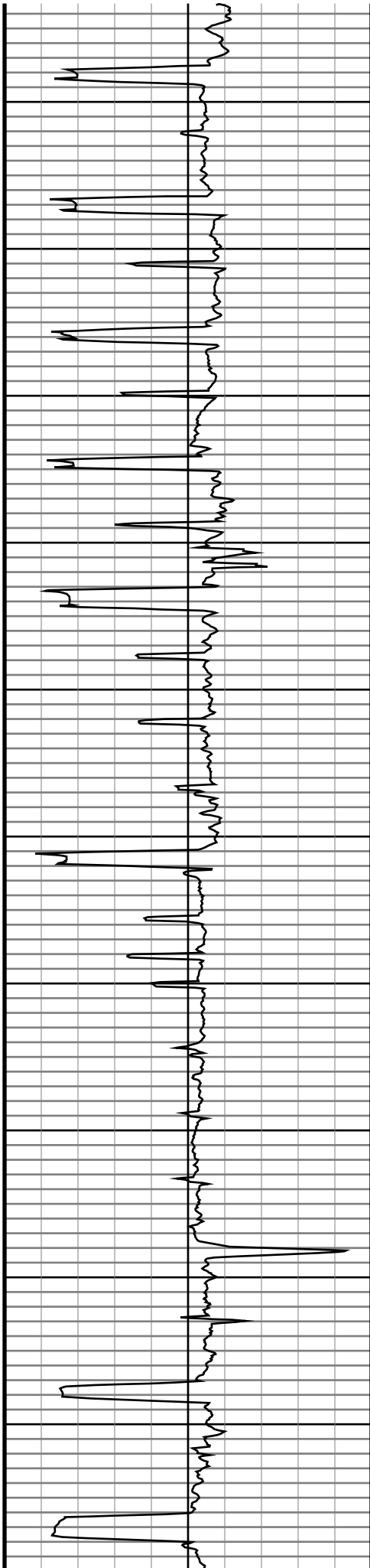
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3800

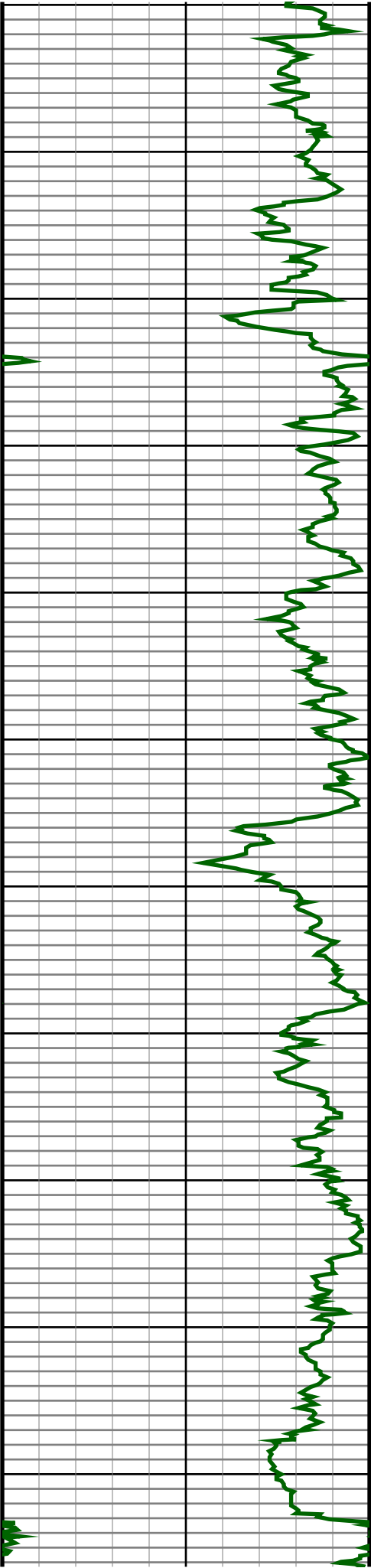
3900

4000

4100



#31 MD(3226.00) Inc(7.4) Azm(167.5) TVD(3209.19) VS(-91.75) NS(-240.19) EW(105.79) TEMP(102.2)
#32 MD(3316.00) Inc(7.7) Azm(167.2) TVD(3298.41) VS(-93.67) NS(-251.73) EW(108.38) TEMP(104.0)
#33 MD(3406.00) Inc(7.9) Azm(157.5) TVD(3387.58) VS(-96.69) NS(-263.33) EW(112.08) TEMP(102.0)
#34 MD(3496.00) Inc(6.9) Azm(160.6) TVD(3476.83) VS(-100.22) NS(-274.14) EW(116.25) TEMP(104.0)
#35 MD(3586.00) Inc(7.3) Azm(164.8) TVD(3566.14) VS(-102.90) NS(-284.76) EW(119.54) TEMP(104.4)
#36 MD(3676.00) Inc(6.2) Azm(163.2) TVD(3655.51) VS(-105.22) NS(-294.93) EW(122.45) TEMP(105.8)
#37 MD(3766.00) Inc(7.6) Azm(160.2) TVD(3744.86) VS(-108.05) NS(-305.18) EW(125.88) TEMP(107.6)
#38 MD(3855.00) Inc(7.7) Azm(160.6) TVD(3833.07) VS(-111.38) NS(-316.34) EW(129.86) TEMP(109.0)
#39 MD(3945.00) Inc(7.7) Azm(160.0) TVD(3922.26) VS(-114.78) NS(-327.69) EW(133.93) TEMP(113.0)
#40 MD(4035.00) Inc(6.0) Azm(155.6) TVD(4011.61) VS(-118.21) NS(-337.64) EW(137.93) TEMP(118.8)
#41 MD(4125.00) Inc(5.9) Azm(161.2) TVD(4101.13) VS(-121.14) NS(-346.30) EW(141.37) TEMP(116.6)
#42 MD(4215.00) Inc(6.8) Azm(165.7) TVD(4190.57) VS(-123.39) NS(-355.84) EW(144.18) TEMP(120.2)



4200

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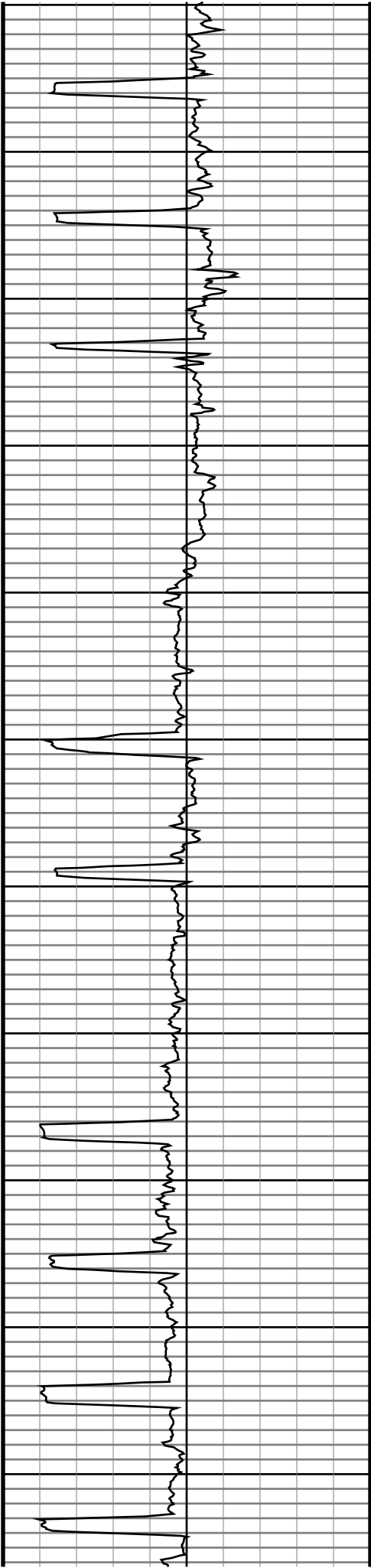
4800

4900

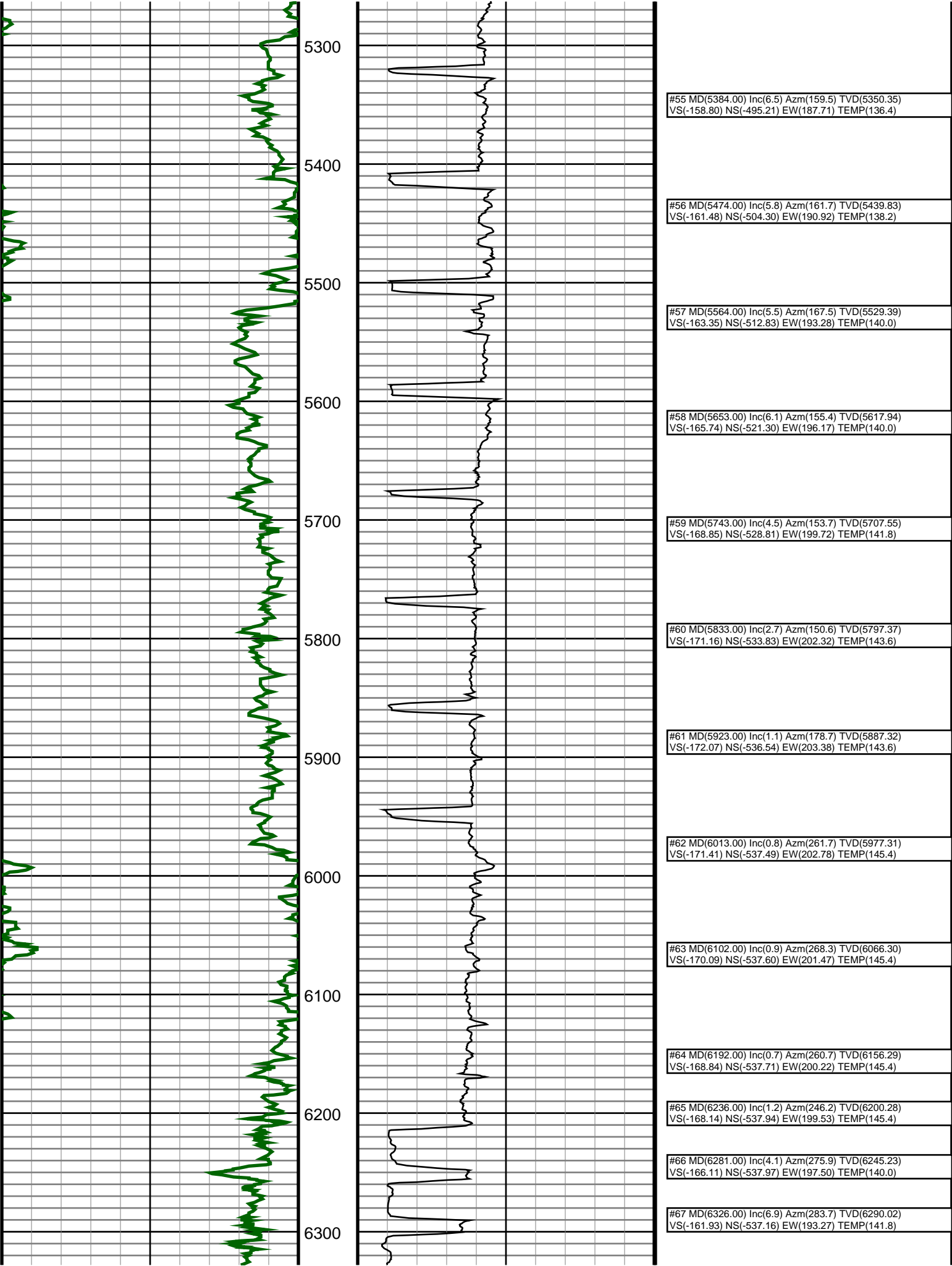
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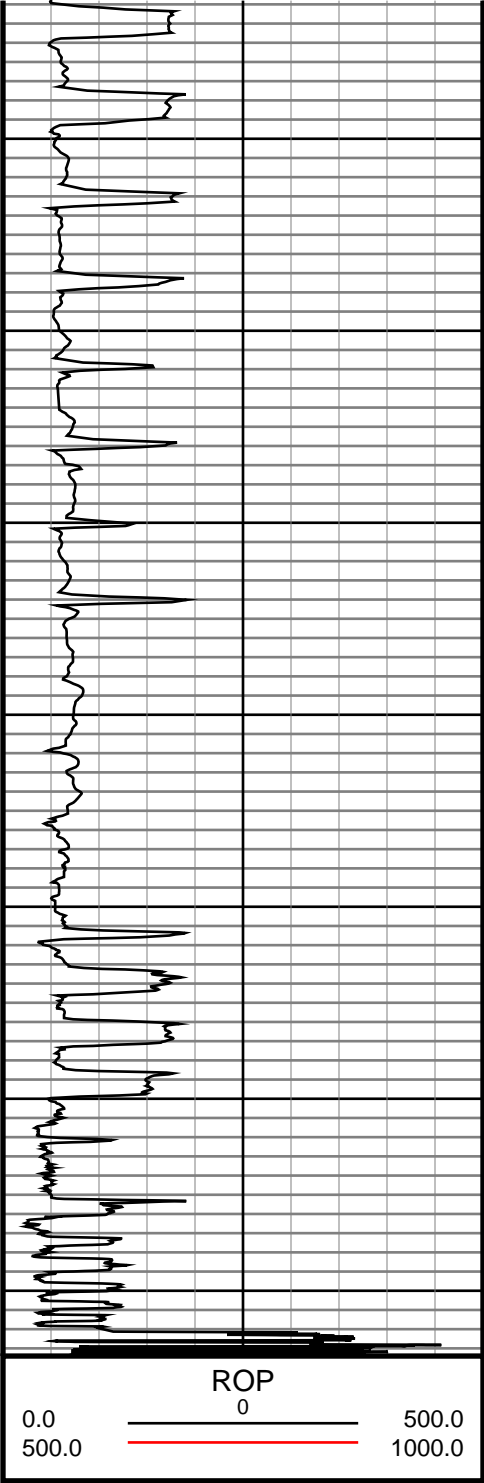
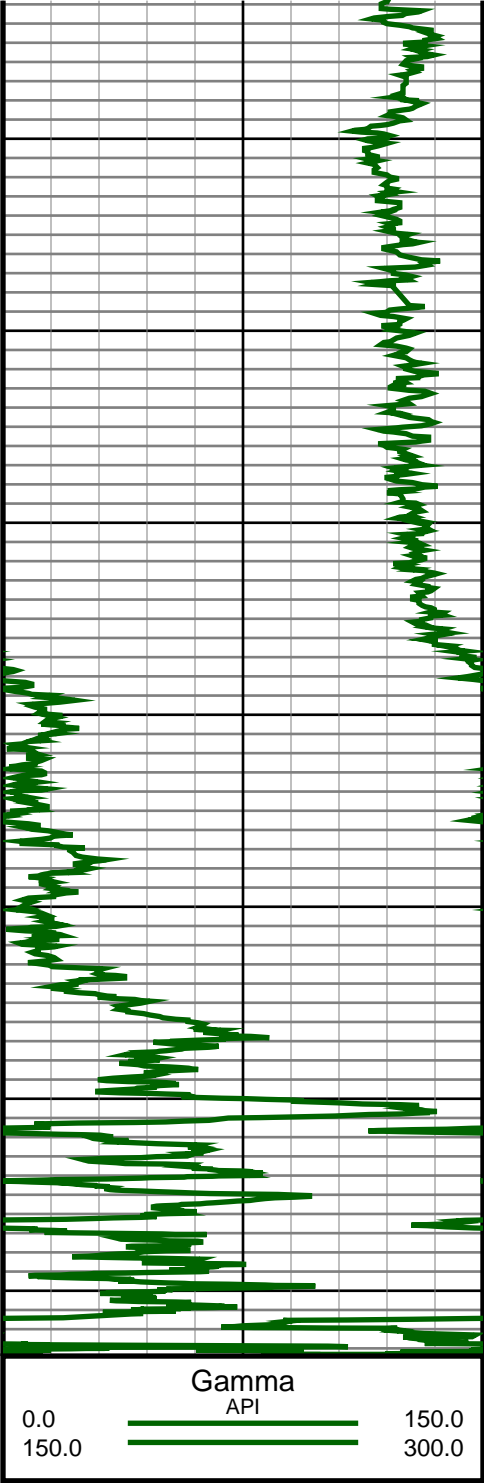
5100

5200



#43 MD(4305.00) Inc(7.3) Azm(163.0) TVD(4279.89) VS(-125.75) NS(-366.47) EW(147.16) TEMP(122.0)
#44 MD(4395.00) Inc(7.7) Azm(163.1) TVD(4369.12) VS(-128.52) NS(-377.71) EW(150.58) TEMP(123.8)
#45 MD(4485.00) Inc(8.3) Azm(164.8) TVD(4458.25) VS(-131.27) NS(-389.75) EW(154.03) TEMP(125.6)
#46 MD(4575.00) Inc(7.5) Azm(161.3) TVD(4547.39) VS(-134.16) NS(-401.58) EW(157.61) TEMP(127.4)
#47 MD(4664.00) Inc(6.2) Azm(156.8) TVD(4635.76) VS(-137.35) NS(-411.50) EW(161.38) TEMP(127.4)
#48 MD(4754.00) Inc(6.7) Azm(154.6) TVD(4725.19) VS(-140.98) NS(-420.71) EW(165.55) TEMP(127.4)
#49 MD(4844.00) Inc(7.4) Azm(162.7) TVD(4814.51) VS(-144.37) NS(-430.98) EW(169.53) TEMP(131.0)
#50 MD(4934.00) Inc(6.3) Azm(161.1) TVD(4903.86) VS(-147.10) NS(-441.18) EW(172.86) TEMP(133.8)
#51 MD(5024.00) Inc(7.0) Azm(162.8) TVD(4993.26) VS(-149.74) NS(-451.10) EW(176.08) TEMP(134.6)
#52 MD(5114.00) Inc(6.9) Azm(165.3) TVD(5082.60) VS(-152.13) NS(-461.56) EW(179.07) TEMP(134.6)
#53 MD(5204.00) Inc(7.7) Azm(166.9) TVD(5171.87) VS(-154.22) NS(-472.67) EW(181.82) TEMP(134.6)
#54 MD(5294.00) Inc(7.8) Azm(167.0) TVD(5261.05) VS(-156.28) NS(-484.49) EW(184.56) TEMP(136.4)





#68 MD(6371.00) Inc(9.6) Azm(280.2) TVD(6334.55) VS(-155.70) NS(-535.86) EW(186.95) TEMP(145.4)
#69 MD(6416.00) Inc(11.8) Azm(276.6) TVD(6378.77) VS(-147.52) NS(-534.66) EW(178.69) TEMP(145.4)
#70 MD(6461.00) Inc(14.1) Azm(275.1) TVD(6422.62) VS(-137.56) NS(-533.65) EW(168.66) TEMP(145.4)
#71 MD(6506.00) Inc(17.1) Azm(273.1) TVD(6465.96) VS(-125.56) NS(-532.81) EW(156.59) TEMP(145.4)
#72 MD(6551.00) Inc(20.0) Azm(271.9) TVD(6508.62) VS(-111.32) NS(-532.20) EW(142.29) TEMP(145.4)
#73 MD(6596.00) Inc(23.0) Azm(268.3) TVD(6550.48) VS(-94.86) NS(-532.20) EW(125.80) TEMP(145.4)
#74 MD(6641.00) Inc(26.0) Azm(267.9) TVD(6591.43) VS(-76.21) NS(-532.83) EW(107.15) TEMP(158.0)
#75 MD(6686.00) Inc(28.8) Azm(270.5) TVD(6631.37) VS(-55.53) NS(-533.11) EW(86.45) TEMP(158.0)
#76 MD(6730.00) Inc(31.4) Azm(273.7) TVD(6669.44) VS(-33.57) NS(-532.28) EW(64.41) TEMP(158.0)
#77 MD(6776.00) Inc(35.0) Azm(275.5) TVD(6707.93) VS(-8.63) NS(-530.24) EW(39.31) TEMP(160.0)
#78 MD(6820.00) Inc(39.2) Azm(275.9) TVD(6743.01) VS(17.57) NS(-527.59) EW(12.91) TEMP(163.4)
#79 MD(6865.00) Inc(44.1) Azm(273.2) TVD(6776.63) VS(47.19) NS(-525.25) EW(-16.89) TEMP(165.2)
#80 MD(6910.00) Inc(48.5) Azm(270.8) TVD(6807.71) VS(79.57) NS(-524.14) EW(-49.39) TEMP(165.2)
#81 MD(6955.00) Inc(50.9) Azm(270.0) TVD(6836.82) VS(113.82) NS(-523.89) EW(-83.71) TEMP(167.0)
#82 MD(7000.00) Inc(52.7) Azm(269.3) TVD(6864.64) VS(149.13) NS(-524.12) EW(-119.07) TEMP(167.0)
#83 MD(7045.00) Inc(54.4) Azm(269.0) TVD(6891.38) VS(185.29) NS(-524.66) EW(-155.26) TEMP(168.8)
#84 MD(7090.00) Inc(58.4) Azm(268.8) TVD(6916.28) VS(222.74) NS(-525.38) EW(-192.73) TEMP(168.8)
#85 MD(7135.00) Inc(63.7) Azm(268.8) TVD(6938.05) VS(262.08) NS(-526.23) EW(-232.08) TEMP(170.6)
#87 MD(7225.00) Inc(70.7) Azm(270.8) TVD(6972.54) VS(345.03) NS(-526.78) EW(-315.14) TEMP(170.6)
#89 MD(7315.00) Inc(76.7) Azm(270.3) TVD(6997.94) VS(431.17) NS(-526.60) EW(-401.44) TEMP(172.4)
#97 MD(7987.00) Inc(91.6) Azm(267.9) TVD(7029.88) VS(1099.99) NS(-534.14) EW(-1070.93) TEMP(170.6)