ENSIGN

Harold 6Y-202

TVD
2":100'

Company: Petroleum Development Corp.
Well Name: Harold 6Y-202
API: 051234575700
County/Parish: Weld
State: Colorado
Country: United States
Job number: 161-157
Field: Wattenburg
Rig Id: Ensign 161
Survey Company: Ensign
Operator: Petroleum Development Corp.
Company Man: Brady Sharp / John Falton
Daylight DD: Zach Gentry
Swing Shift DD: Tony Callow
Night DD: Eric Mays
Daylight MWD: Ryan Prue
Night MWD: Paul Wilson

Log measurements: Gamma, ROP
Depth measured from: 1651 ft
Maximum temperature:

	Depth	Date
Start:	0 ft	1-1-2019
End:	17607 ft	1-6-2019

Casing	Depth	Size
Surface:	1651 ft	9 5/8"
Intermediate:		

Mud Type: H2O
Density:
Viscosity:
Rm: **Rmf:** **Rmc:**

Elevations
KB: 23 ft
GL: 4788 ft
DF: 4811 ft

Run	Bit Size	Offsets		Depths		Dates	
		Gamma	Survey	Start	End	Start	End
1	12.25"		61.65 ft	0 ft	1678 ft	1-1-2019	1-1-2019
2	8.5"	62.89 ft	58.06 ft	1678 ft	17607 ft	1-2-2019	1-6-2019
3							
4							
5							
6							
7							
8							
9							
10							

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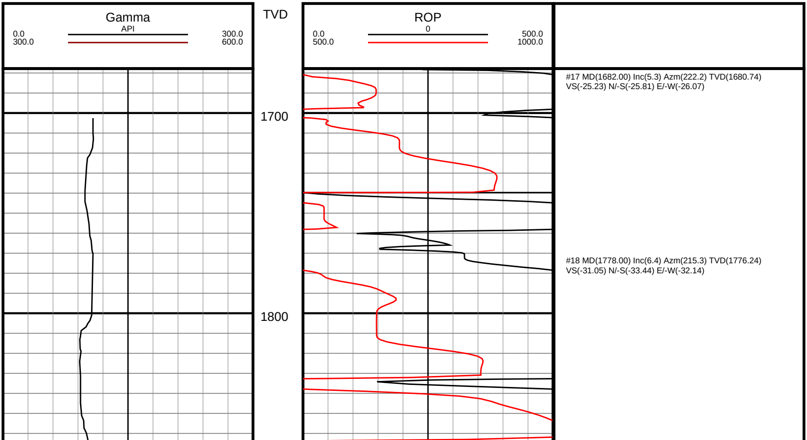
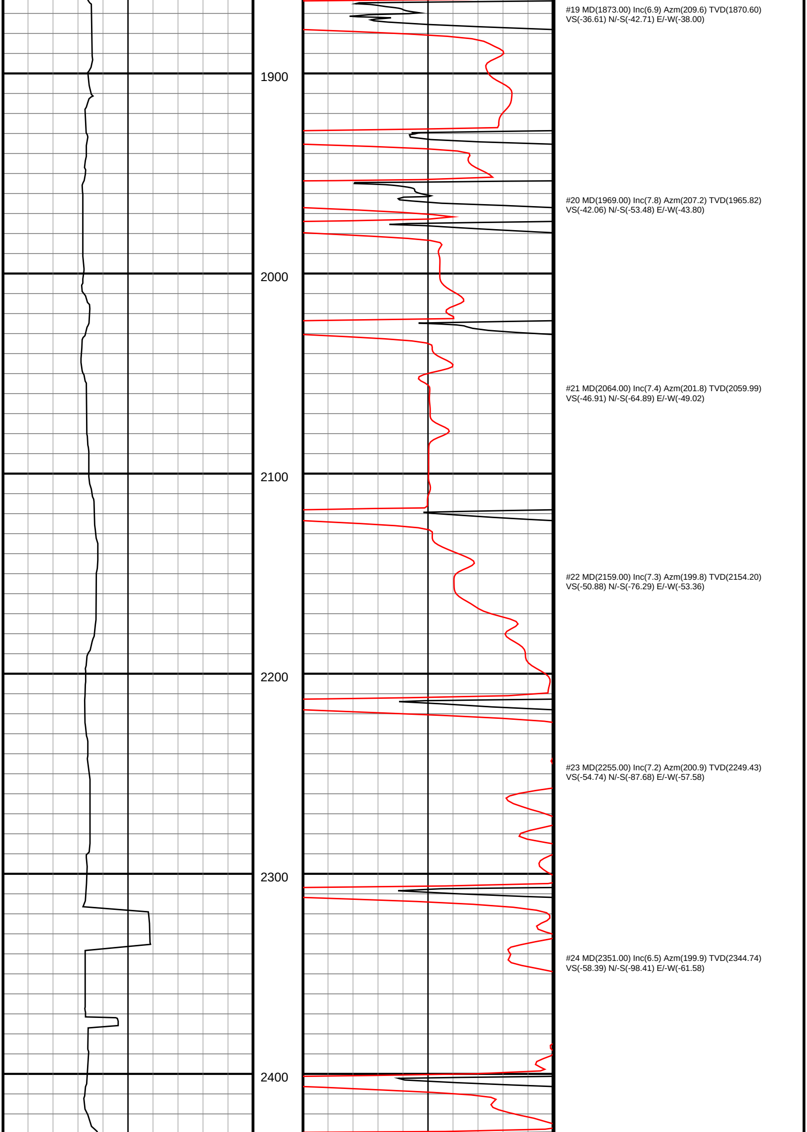


#17 MD(1682.00) Inc(5.3) Azm(222.2) TVD(1680.74) VS(-25.23) N/-S(-25.81) E/-W(-26.07)

#18 MD(1778.00) Inc(6.4) Azm(215.3) TVD(1776.24) VS(-31.05) N/-S(-33.44) E/-W(-32.14)



#19 MD(1873.00) Inc(6.9) Azm(209.6) TVD(1870.60)
VS(-36.61) N/-S(-42.71) E/-W(-38.00)

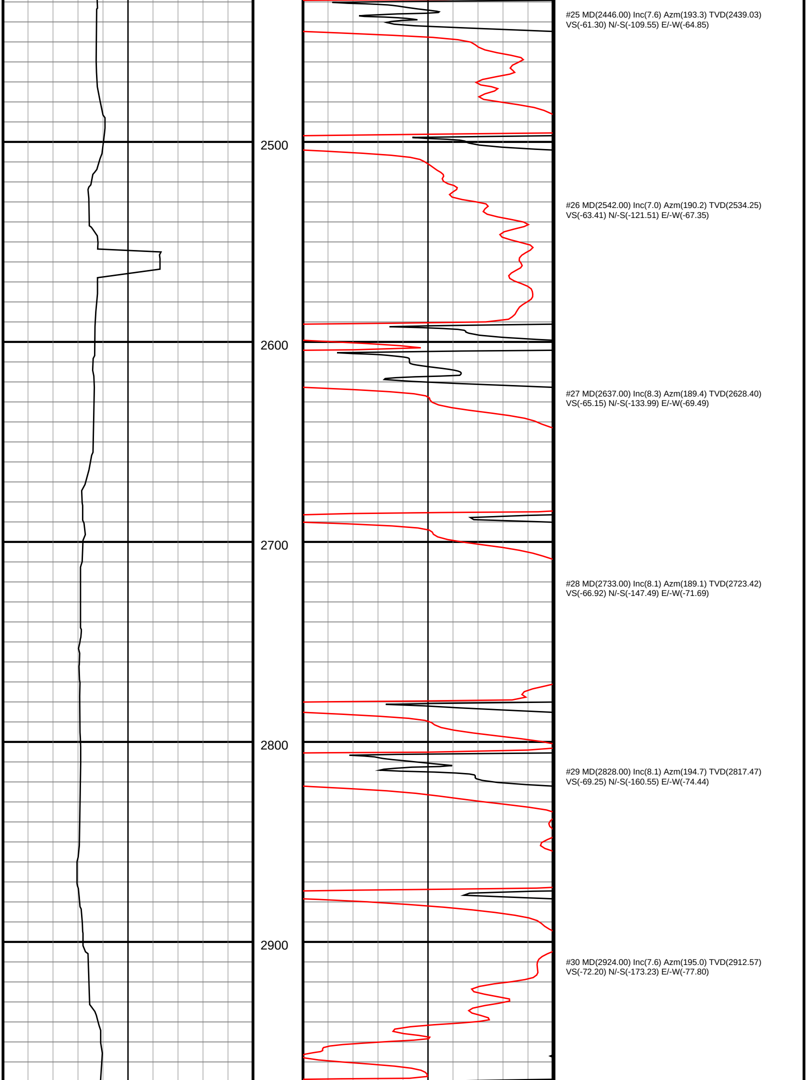
#20 MD(1969.00) Inc(7.8) Azm(207.2) TVD(1965.82)
VS(-42.06) N/-S(-53.48) E/-W(-43.80)

#21 MD(2064.00) Inc(7.4) Azm(201.8) TVD(2059.99)
VS(-46.91) N/-S(-64.89) E/-W(-49.02)

#22 MD(2159.00) Inc(7.3) Azm(199.8) TVD(2154.20)
VS(-50.88) N/-S(-76.29) E/-W(-53.36)

#23 MD(2255.00) Inc(7.2) Azm(200.9) TVD(2249.43)
VS(-54.74) N/-S(-87.68) E/-W(-57.58)

#24 MD(2351.00) Inc(6.5) Azm(199.9) TVD(2344.74)
VS(-58.39) N/-S(-98.41) E/-W(-61.58)



#25 MD(2446.00) Inc(7.6) Azm(193.3) TVD(2439.03)
VS(-61.30) N/-S(-109.55) E/-W(-64.85)

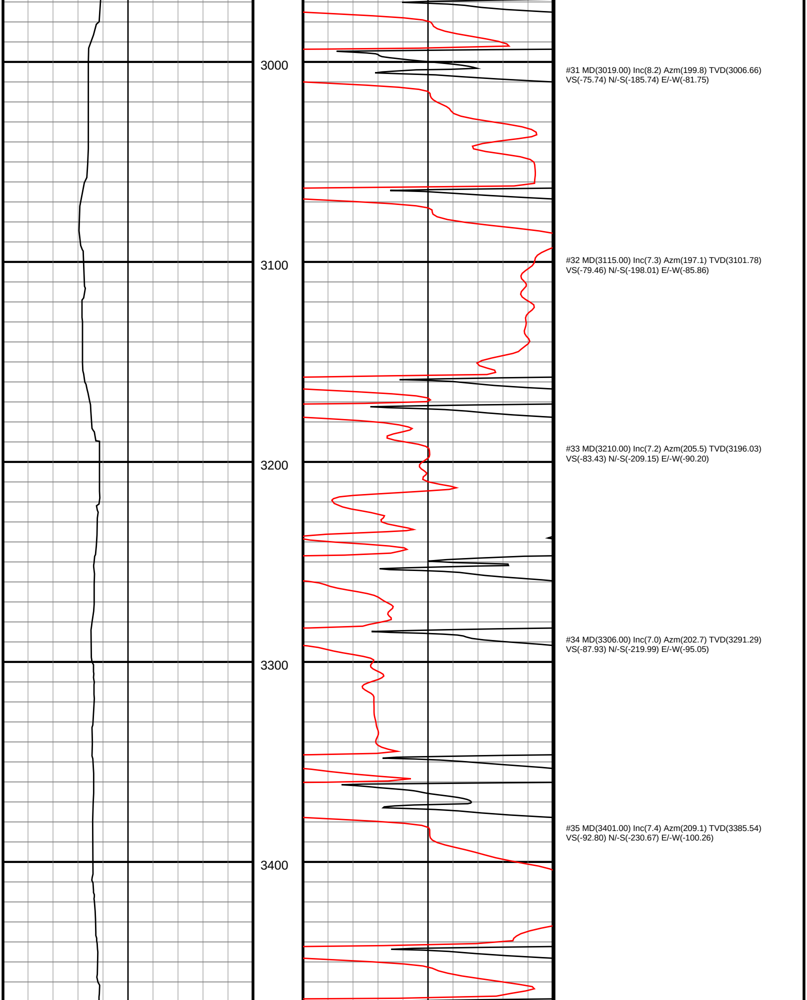
#26 MD(2542.00) Inc(7.0) Azm(190.2) TVD(2534.25)
VS(-63.41) N/-S(-121.51) E/-W(-67.35)

#27 MD(2637.00) Inc(8.3) Azm(189.4) TVD(2628.40)
VS(-65.15) N/-S(-133.99) E/-W(-69.49)

#28 MD(2733.00) Inc(8.1) Azm(189.1) TVD(2723.42)
VS(-66.92) N/-S(-147.49) E/-W(-71.69)

#29 MD(2828.00) Inc(8.1) Azm(194.7) TVD(2817.47)
VS(-69.25) N/-S(-160.55) E/-W(-74.44)

#30 MD(2924.00) Inc(7.6) Azm(195.0) TVD(2912.57)
VS(-72.20) N/-S(-173.23) E/-W(-77.80)



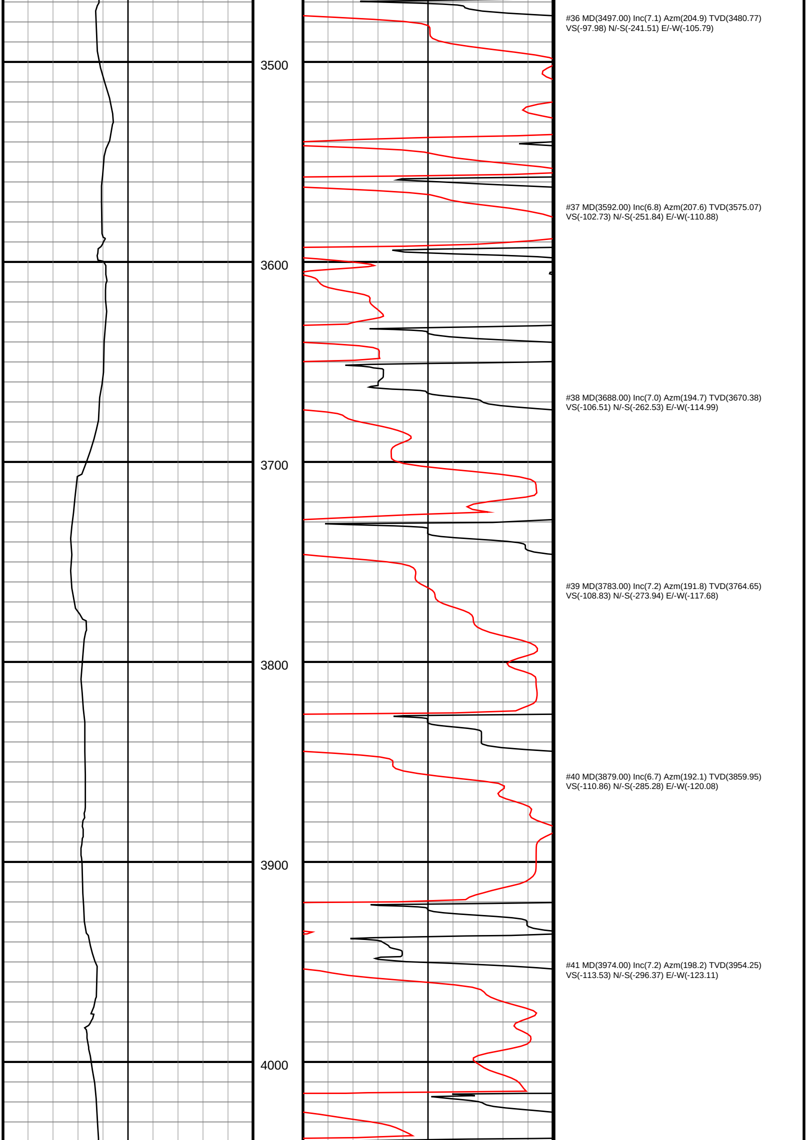
#31 MD(3019.00) Inc(8.2) Azm(199.8) TVD(3006.66)
VS(-75.74) N/-S(-185.74) E/-W(-81.75)

#32 MD(3115.00) Inc(7.3) Azm(197.1) TVD(3101.78)
VS(-79.46) N/-S(-198.01) E/-W(-85.86)

#33 MD(3210.00) Inc(7.2) Azm(205.5) TVD(3196.03)
VS(-83.43) N/-S(-209.15) E/-W(-90.20)

#34 MD(3306.00) Inc(7.0) Azm(202.7) TVD(3291.29)
VS(-87.93) N/-S(-219.99) E/-W(-95.05)

#35 MD(3401.00) Inc(7.4) Azm(209.1) TVD(3385.54)
VS(-92.80) N/-S(-230.67) E/-W(-100.26)



#36 MD(3497.00) Inc(7.1) Azm(204.9) TVD(3480.77)
VS(-97.98) N/-S(-241.51) E/-W(-105.79)

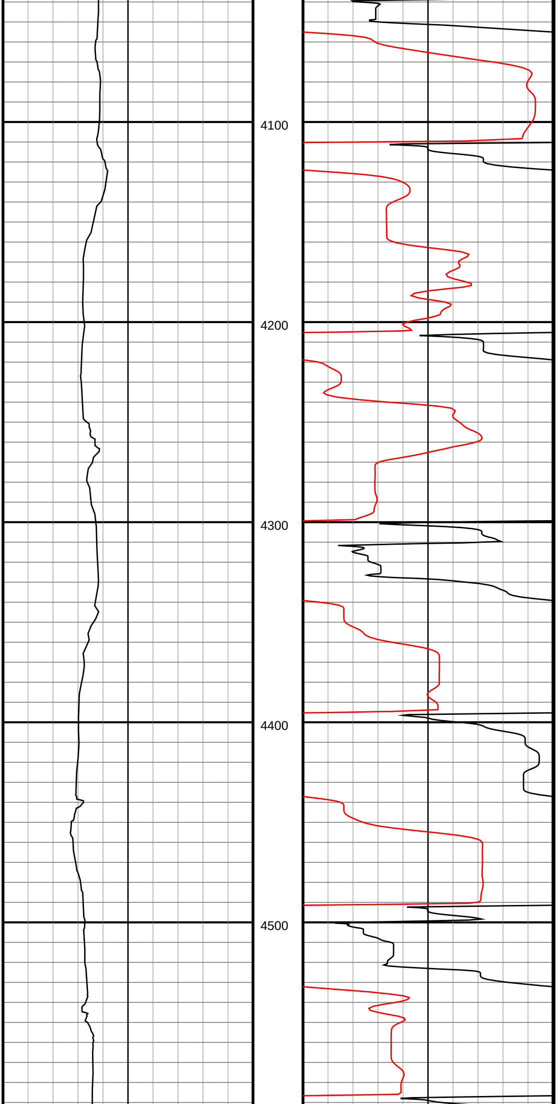
#37 MD(3592.00) Inc(6.8) Azm(207.6) TVD(3575.07)
VS(-102.73) N/-S(-251.84) E/-W(-110.88)

#38 MD(3688.00) Inc(7.0) Azm(194.7) TVD(3670.38)
VS(-106.51) N/-S(-262.53) E/-W(-114.99)

#39 MD(3783.00) Inc(7.2) Azm(191.8) TVD(3764.65)
VS(-108.83) N/-S(-273.94) E/-W(-117.68)

#40 MD(3879.00) Inc(6.7) Azm(192.1) TVD(3859.95)
VS(-110.86) N/-S(-285.28) E/-W(-120.08)

#41 MD(3974.00) Inc(7.2) Azm(198.2) TVD(3954.25)
VS(-113.53) N/-S(-296.37) E/-W(-123.11)



#42 MD(4070.00) Inc(7.2) Azm(203.3) TVD(4049.50)
VS(-117.42) N/-S(-307.59) E/-W(-127.36)

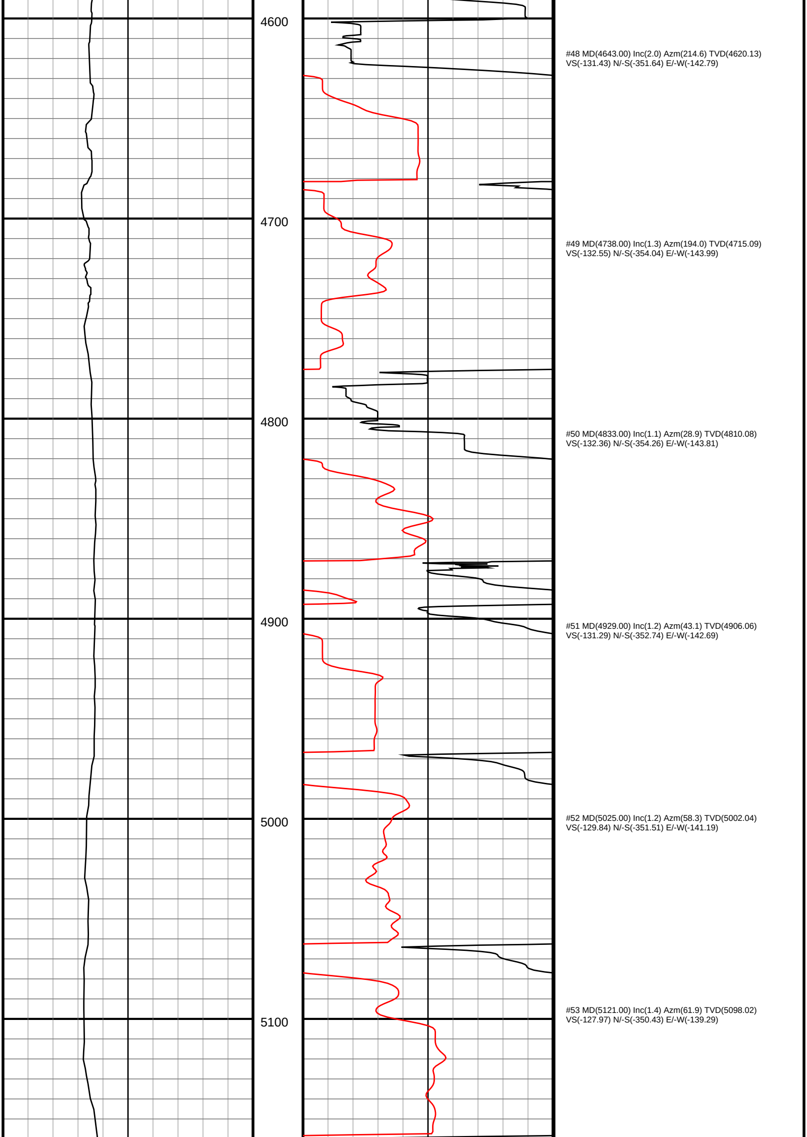
#43 MD(4165.00) Inc(7.4) Azm(205.4) TVD(4143.73)
VS(-122.03) N/-S(-318.55) E/-W(-132.33)

#44 MD(4261.00) Inc(7.0) Azm(206.1) TVD(4238.97)
VS(-126.91) N/-S(-329.40) E/-W(-137.56)

#45 MD(4356.00) Inc(4.0) Azm(198.2) TVD(4333.53)
VS(-130.22) N/-S(-337.73) E/-W(-141.13)

#46 MD(4452.00) Inc(3.8) Azm(196.1) TVD(4429.30)
VS(-131.94) N/-S(-343.97) E/-W(-143.06)

#47 MD(4548.00) Inc(2.3) Azm(146.7) TVD(4525.18)
VS(-131.62) N/-S(-348.67) E/-W(-142.89)



#48 MD(4643.00) Inc(2.0) Azm(214.6) TVD(4620.13)
VS(-131.43) N/-S(-351.64) E/-W(-142.79)

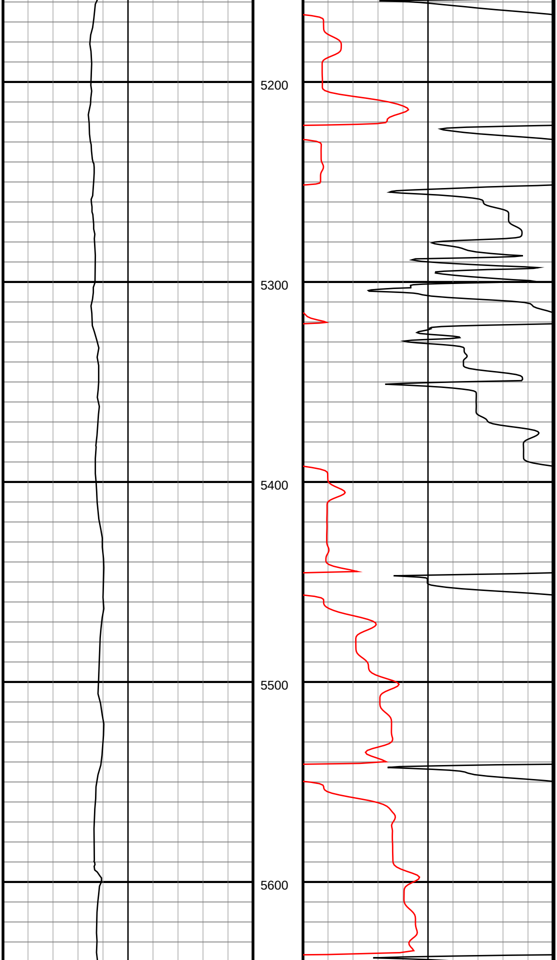
#49 MD(4738.00) Inc(1.3) Azm(194.0) TVD(4715.09)
VS(-132.55) N/-S(-354.04) E/-W(-143.99)

#50 MD(4833.00) Inc(1.1) Azm(28.9) TVD(4810.08)
VS(-132.36) N/-S(-354.26) E/-W(-143.81)

#51 MD(4929.00) Inc(1.2) Azm(43.1) TVD(4906.06)
VS(-131.29) N/-S(-352.74) E/-W(-142.69)

#52 MD(5025.00) Inc(1.2) Azm(58.3) TVD(5002.04)
VS(-129.84) N/-S(-351.51) E/-W(-141.19)

#53 MD(5121.00) Inc(1.4) Azm(61.9) TVD(5098.02)
VS(-127.97) N/-S(-350.43) E/-W(-139.29)



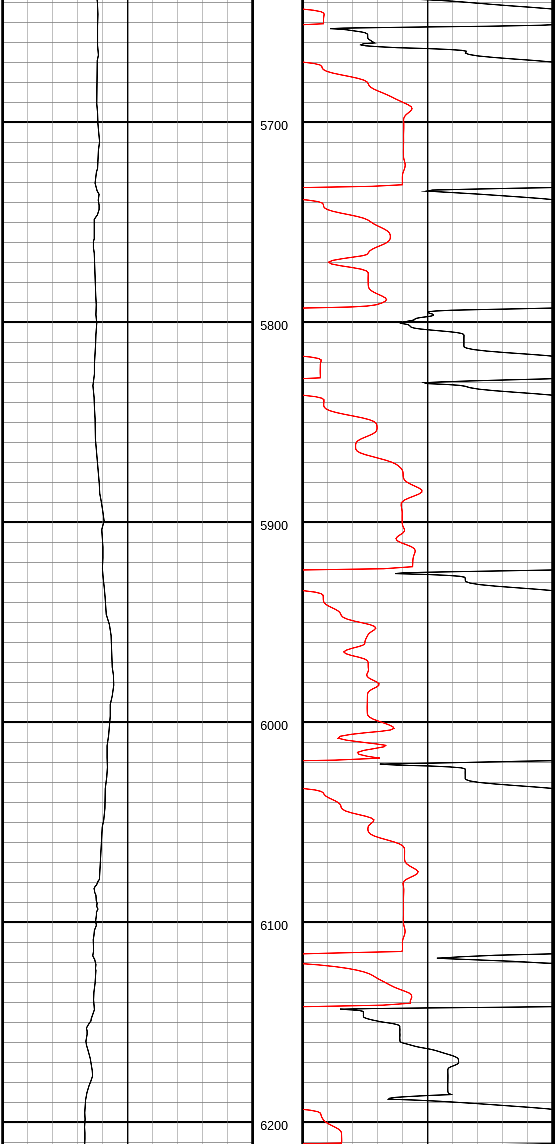
#54 MD(5216.00) Inc(1.4) Azm(64.1) TVD(5192.99)
VS(-125.86) N/-S(-349.33) E/-W(-137.15)

#55 MD(5312.00) Inc(1.4) Azm(72.0) TVD(5288.95)
VS(-123.65) N/-S(-348.43) E/-W(-134.91)

#56 MD(5407.00) Inc(1.6) Azm(83.6) TVD(5383.92)
VS(-121.24) N/-S(-347.92) E/-W(-132.48)

#57 MD(5503.00) Inc(1.4) Azm(88.8) TVD(5479.89)
VS(-118.81) N/-S(-347.75) E/-W(-130.04)

#58 MD(5598.00) Inc(0.9) Azm(78.8) TVD(5574.87)
VS(-116.99) N/-S(-347.58) E/-W(-128.22)



#59 MD(5694.00) Inc(0.8) Azm(275.5) TVD(5670.87)
VS(-116.92) N/-S(-347.38) E/-W(-128.14)

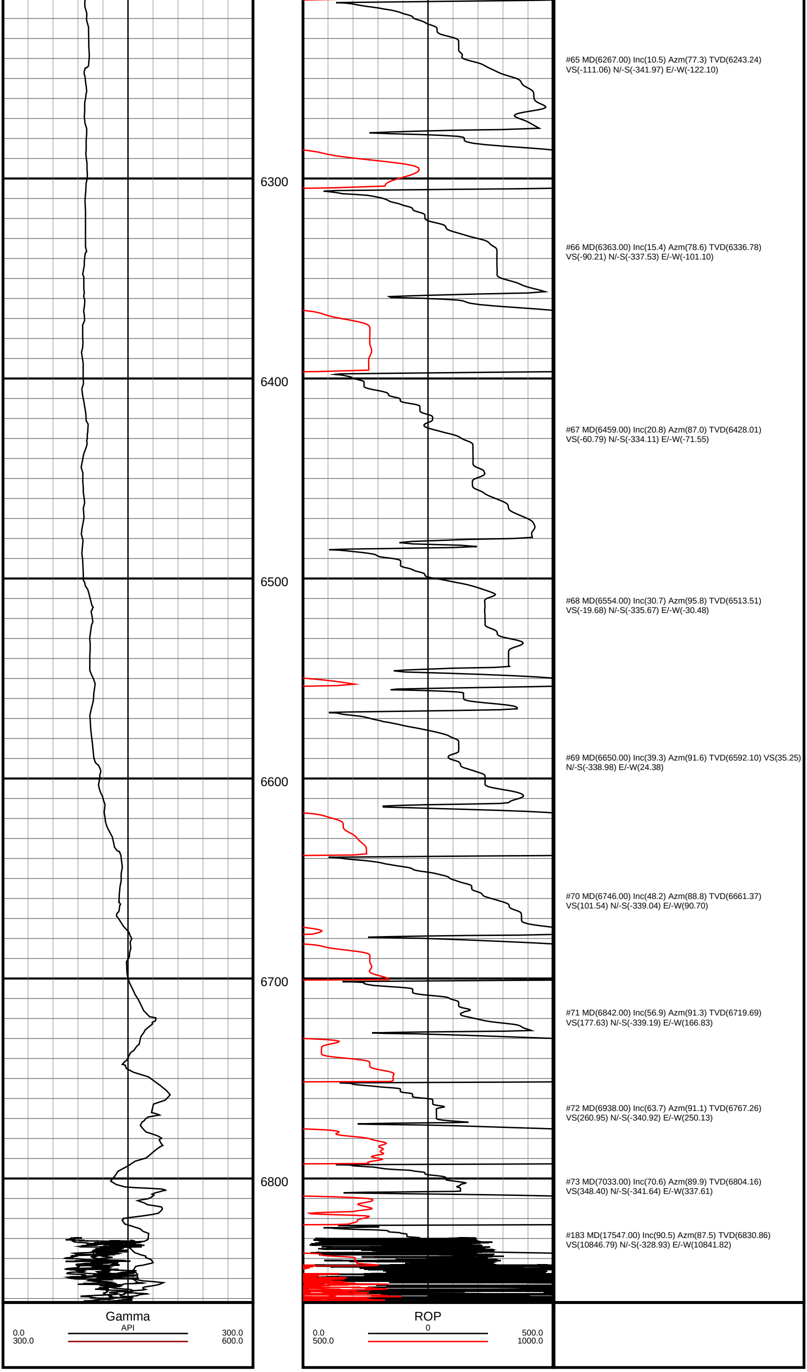
#60 MD(5789.00) Inc(0.6) Azm(310.8) TVD(5765.86)
VS(-117.97) N/-S(-346.97) E/-W(-129.18)

#61 MD(5885.00) Inc(0.5) Azm(293.8) TVD(5861.86)
VS(-118.81) N/-S(-346.44) E/-W(-130.00)

#62 MD(5981.00) Inc(0.4) Azm(309.1) TVD(5957.85)
VS(-119.48) N/-S(-346.06) E/-W(-130.66)

#63 MD(6076.00) Inc(1.1) Azm(304.5) TVD(6052.85)
VS(-120.49) N/-S(-345.35) E/-W(-131.65)

#64 MD(6172.00) Inc(1.2) Azm(62.7) TVD(6148.84)
VS(-120.35) N/-S(-344.35) E/-W(-131.47)



#65 MD(6267.00) Inc(10.5) Azm(77.3) TVD(6243.24)
VS(-111.06) N/-S(-341.97) E/-W(-122.10)

#66 MD(6363.00) Inc(15.4) Azm(78.6) TVD(6336.78)
VS(-90.21) N/-S(-337.53) E/-W(-101.10)

#67 MD(6459.00) Inc(20.8) Azm(87.0) TVD(6428.01)
VS(-60.79) N/-S(-334.11) E/-W(-71.55)

#68 MD(6554.00) Inc(30.7) Azm(95.8) TVD(6513.51)
VS(-19.68) N/-S(-335.67) E/-W(-30.48)

#69 MD(6650.00) Inc(39.3) Azm(91.6) TVD(6592.10) VS(35.25)
N/-S(-338.98) E/-W(24.38)

#70 MD(6746.00) Inc(48.2) Azm(88.8) TVD(6661.37)
VS(101.54) N/-S(-339.04) E/-W(90.70)

#71 MD(6842.00) Inc(56.9) Azm(91.3) TVD(6719.69)
VS(177.63) N/-S(-339.19) E/-W(166.83)

#72 MD(6938.00) Inc(63.7) Azm(91.1) TVD(6767.26)
VS(260.95) N/-S(-340.92) E/-W(250.13)

#73 MD(7033.00) Inc(70.6) Azm(89.9) TVD(6804.16)
VS(348.40) N/-S(-341.64) E/-W(337.61)

#183 MD(17547.00) Inc(90.5) Azm(87.5) TVD(6830.86)
VS(10846.79) N/-S(-328.93) E/-W(10841.82)