ENSIGN Directional Services

Todd LC25-750

TVD
2":100'

Company: Noble Energy
Well Name: Todd LC25-750
API: 05-123-40676-00
Rig Id: H&P 326
State: Colorado
County/Parish: Weld
Country: USA
Survey Company: ENSIGN Directional
Job number: HP326-207-11
DD1 Zach Gentry
DD2 Tyler Bachelder
DD3 Colby Hansen
MWD1 Andrew Demrow
MWD2 Derek Saykally
MWD3 Buster Snider

Log measurements: Gama, ROP
Depth measured from:
Maximum temperature:

	Depth	Date
Start:	1411 ft	05-11-2015
End:	10865 ft	05-16-2015

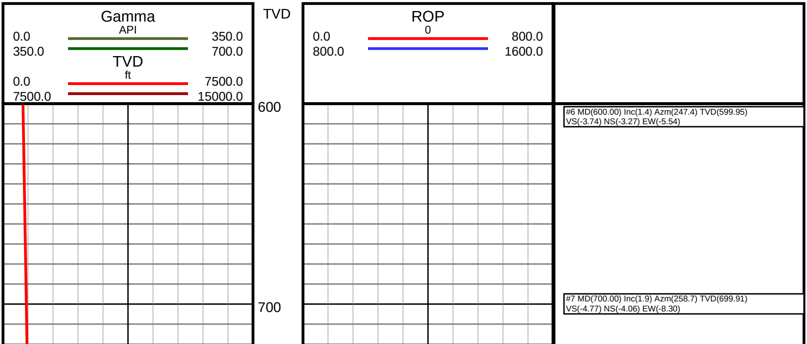
Casing	Depth	Size
Surface:	1408	9 5/8
Intermediate:	6572	7

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

Elevations
KB: 30
GL: 4827
DF: 4857

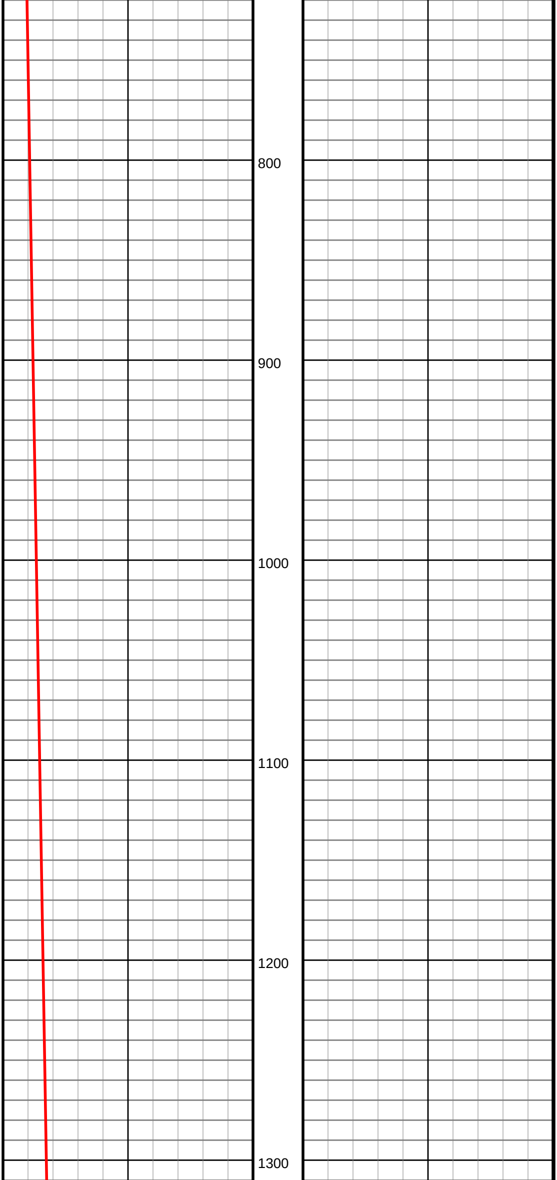
Run	Bit Size	Offsets Gamma	Offsets Survey	Depths Start	Depths End	Dates Start	Dates End
1	8.75	54.22	49.22	1411	6582	05-11-2015	05-13-2015
2	6.125	64.98	59.98	6582	10865	05-14-2015	05-16-2015
3							
4							
5							
6							
7							
8							
9							
10							

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.



#6 MD(600.00) Inc(1.4) Azm(247.4) TVD(599.95) VS(-3.74) NS(-3.27) EW(-5.54)

#7 MD(700.00) Inc(1.9) Azm(258.7) TVD(699.91) VS(-4.77) NS(-4.06) EW(-8.30)



#8 MD(800.00) Inc(2.5) Azm(259.5) TVD(799.84)
VS(-5.80) NS(-4.77) EW(-12.01)

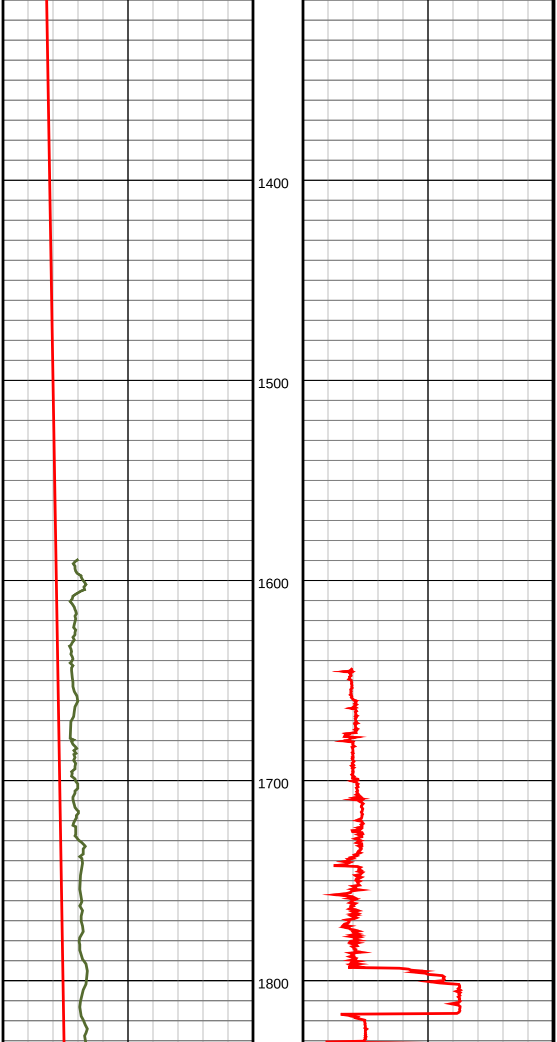
#9 MD(900.00) Inc(2.7) Azm(263.9) TVD(899.74)
VS(-6.83) NS(-5.42) EW(-16.48)

#10 MD(1000.00) Inc(3.2) Azm(269.4) TVD(999.61)
VS(-7.56) NS(-5.70) EW(-21.61)

#11 MD(1100.00) Inc(3.4) Azm(273.7) TVD(1099.44)
VS(-7.90) NS(-5.53) EW(-27.37)

#12 MD(1200.00) Inc(3.5) Azm(282.0) TVD(1199.26)
VS(-7.59) NS(-4.70) EW(-33.34)

#13 MD(1300.00) Inc(2.9) Azm(284.4) TVD(1299.10)
VS(-6.80) NS(-3.44) EW(-38.79)

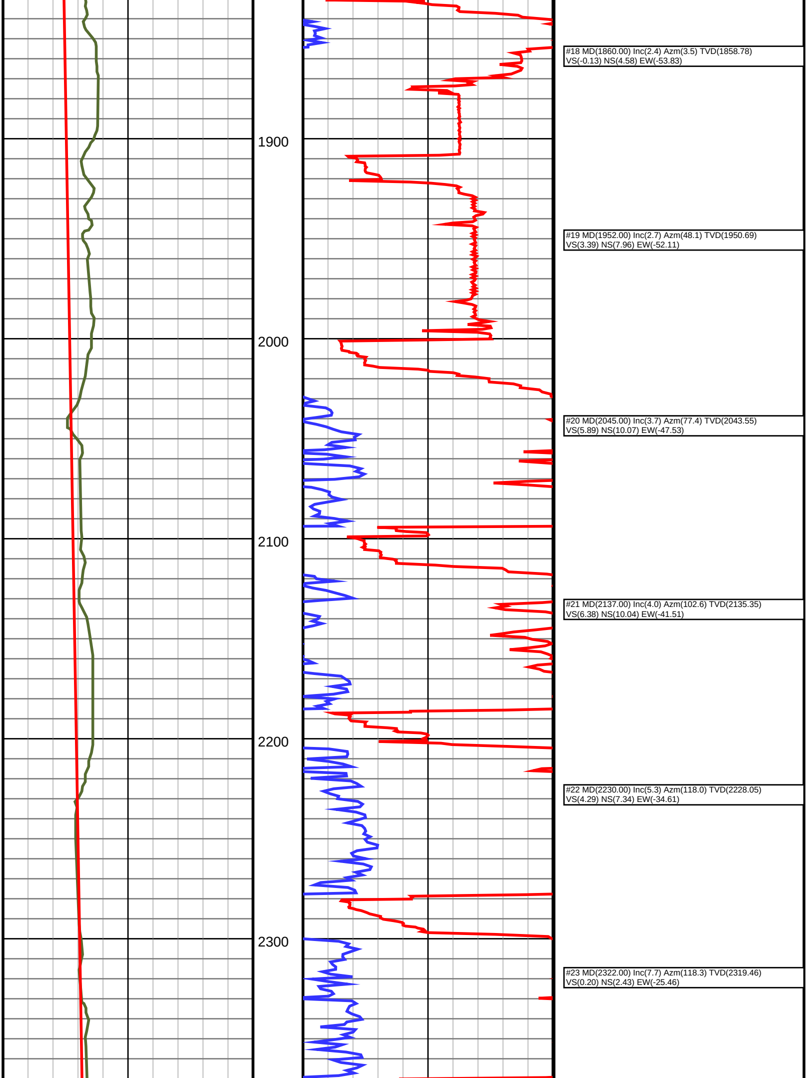


#14 MD(1357.00) Inc(2.8) Azm(289.2) TVD(1356.03)
VS(-6.23) NS(-2.62) EW(-41.51)

#15 MD(1583.00) Inc(1.7) Azm(296.8) TVD(1581.86)
VS(-3.66) NS(0.67) EW(-49.63)

#16 MD(1676.00) Inc(1.2) Azm(294.3) TVD(1674.83)
VS(-2.83) NS(1.68) EW(-51.72)

#17 MD(1768.00) Inc(0.9) Azm(292.8) TVD(1766.81)
VS(-2.29) NS(2.36) EW(-53.27)



#18 MD(1860.00) Inc(2.4) Azm(3.5) TVD(1858.78)
VS(-0.13) NS(4.58) EW(-53.83)

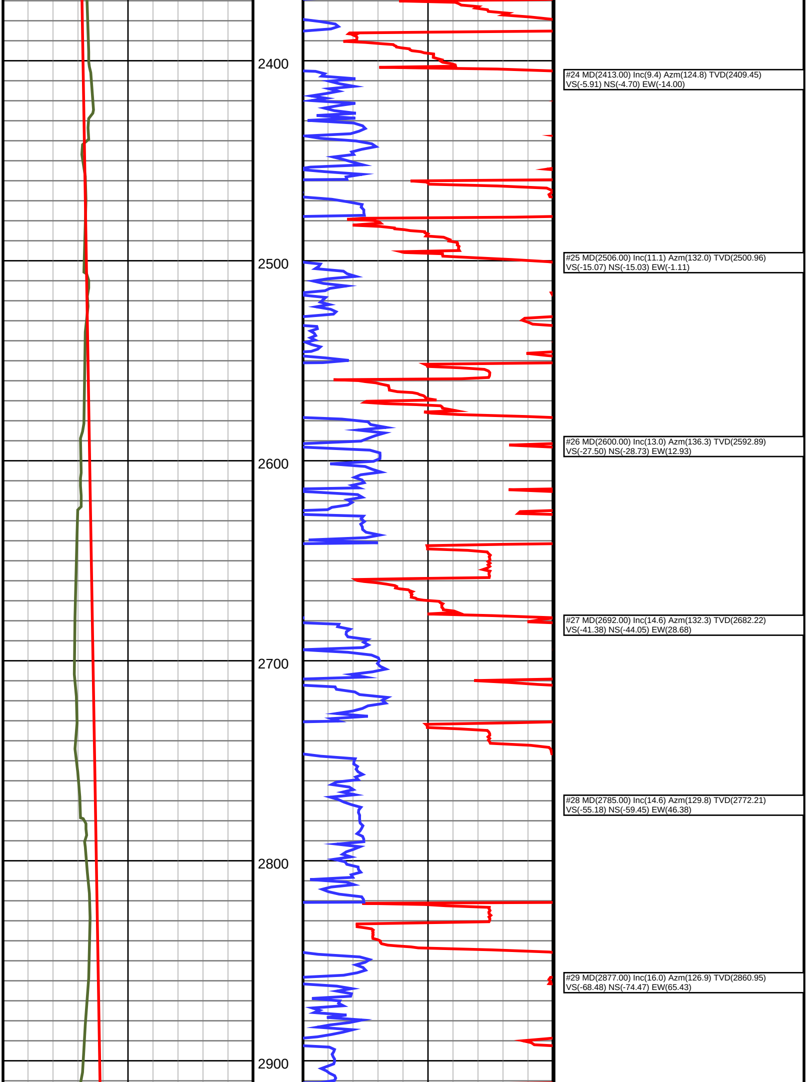
#19 MD(1952.00) Inc(2.7) Azm(48.1) TVD(1950.69)
VS(3.39) NS(7.96) EW(-52.11)

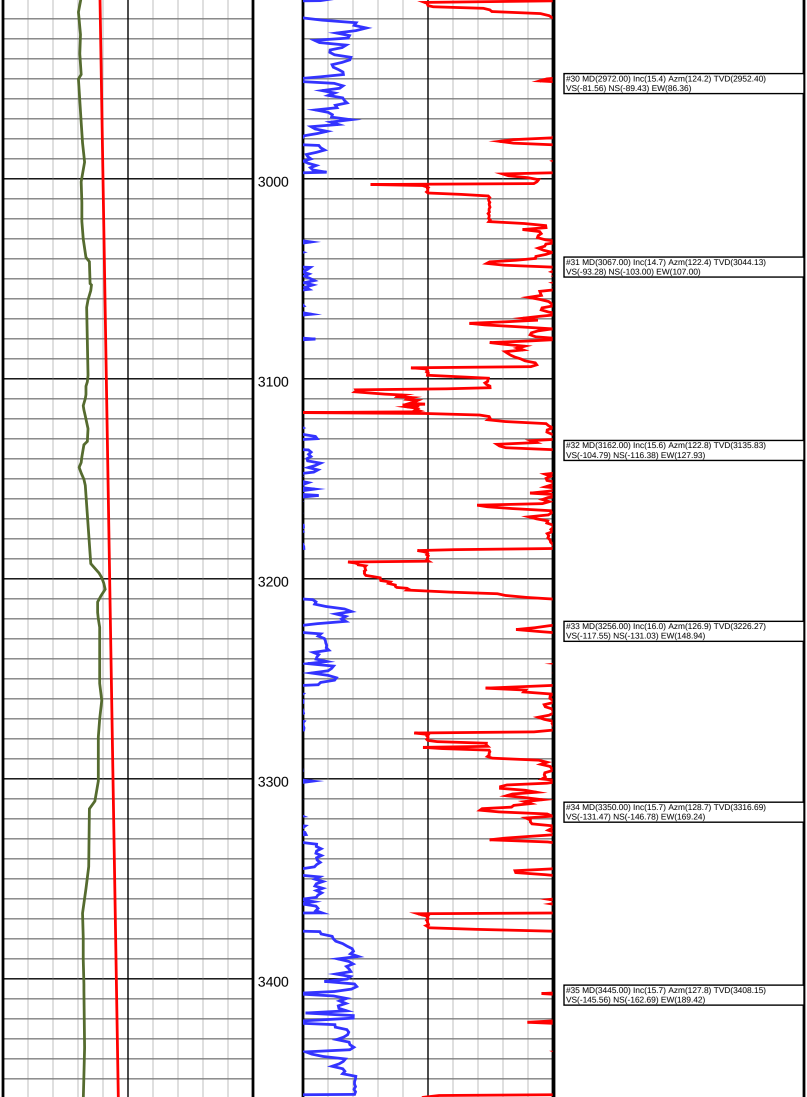
#20 MD(2045.00) Inc(3.7) Azm(77.4) TVD(2043.55)
VS(5.89) NS(10.07) EW(-47.53)

#21 MD(2137.00) Inc(4.0) Azm(102.6) TVD(2135.35)
VS(6.38) NS(10.04) EW(-41.51)

#22 MD(2230.00) Inc(5.3) Azm(118.0) TVD(2228.05)
VS(4.29) NS(7.34) EW(-34.61)

#23 MD(2322.00) Inc(7.7) Azm(118.3) TVD(2319.46)
VS(0.20) NS(2.43) EW(-25.46)





#30 MD(2972.00) Inc(15.4) Azm(124.2) TVD(2952.40)
VS(-81.56) NS(-89.43) EW(86.36)

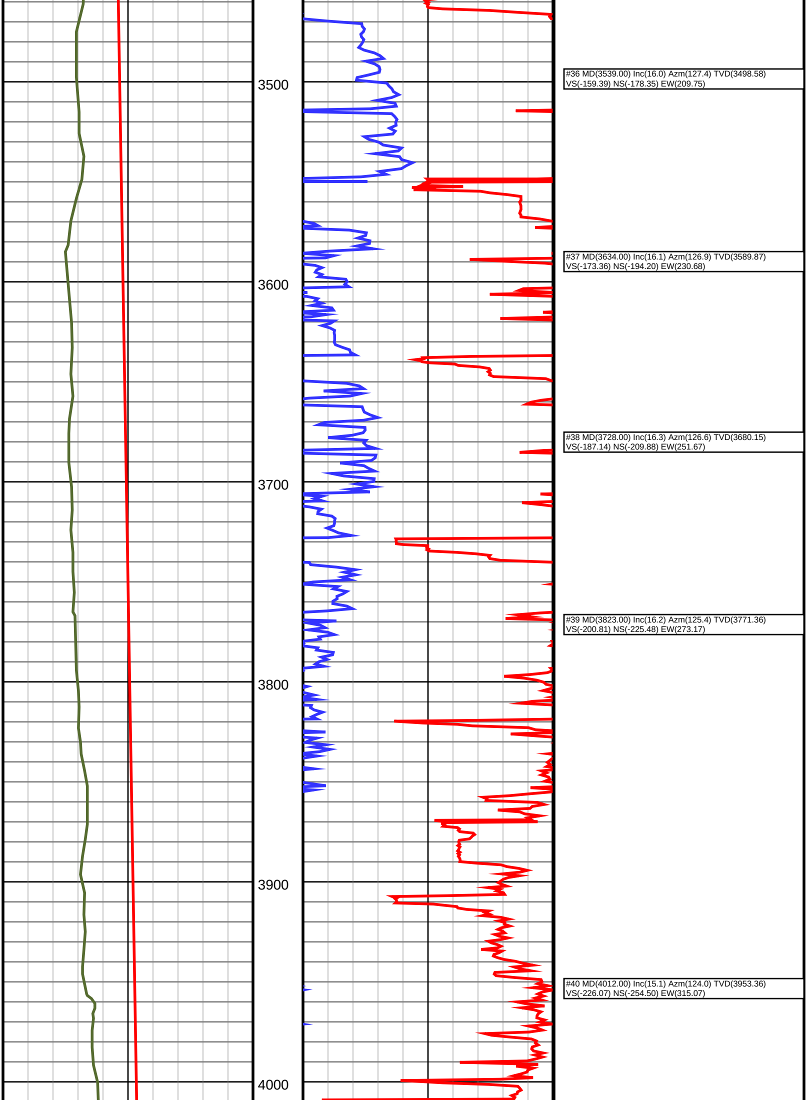
#31 MD(3067.00) Inc(14.7) Azm(122.4) TVD(3044.13)
VS(-93.28) NS(-103.00) EW(107.00)

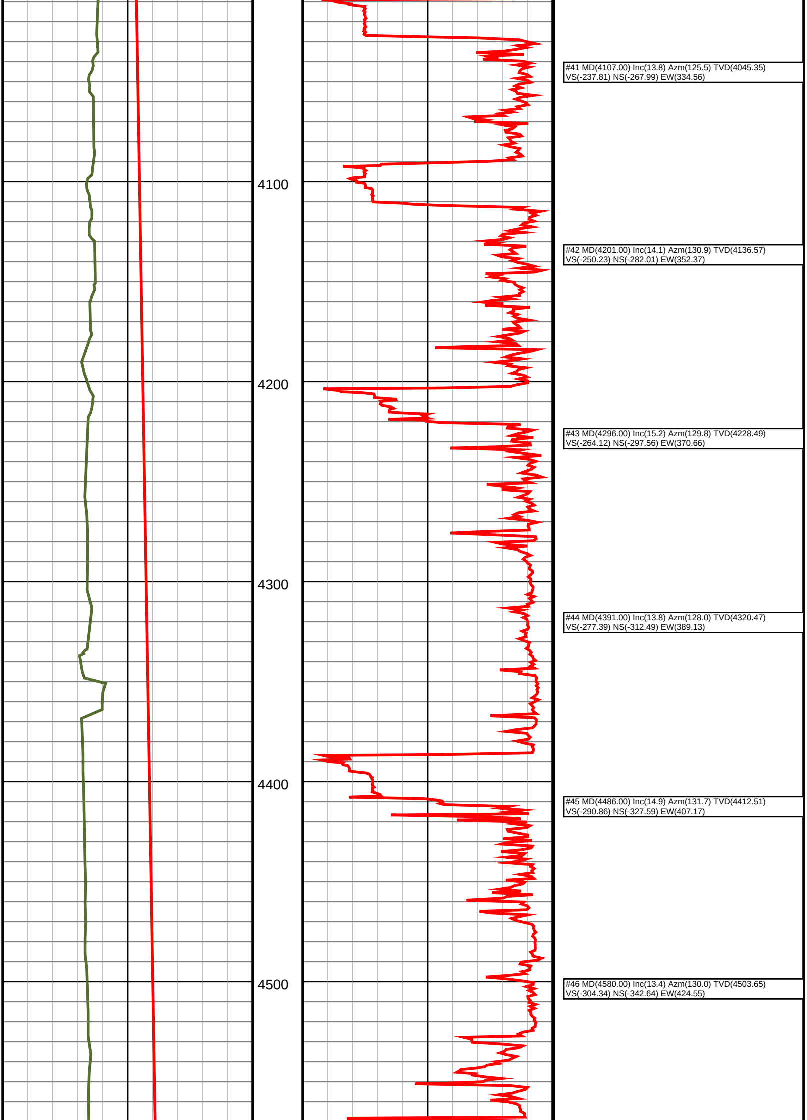
#32 MD(3162.00) Inc(15.6) Azm(122.8) TVD(3135.83)
VS(-104.79) NS(-116.38) EW(127.93)

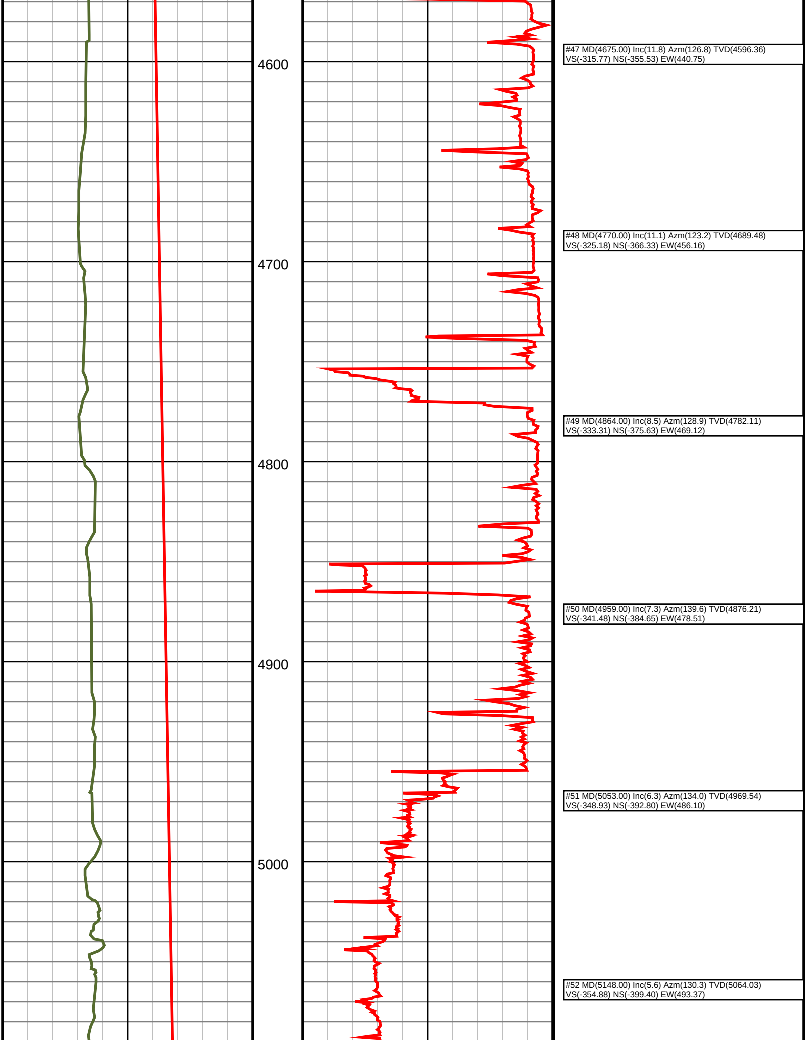
#33 MD(3256.00) Inc(16.0) Azm(126.9) TVD(3226.27)
VS(-117.55) NS(-131.03) EW(148.94)

#34 MD(3350.00) Inc(15.7) Azm(128.7) TVD(3316.69)
VS(-131.47) NS(-146.78) EW(169.24)

#35 MD(3445.00) Inc(15.7) Azm(127.8) TVD(3408.15)
VS(-145.56) NS(-162.69) EW(189.42)







#47 MD(4675.00) Inc(11.8) Azm(126.8) TVD(4596.36)
VS(-315.77) NS(-355.53) EW(440.75)

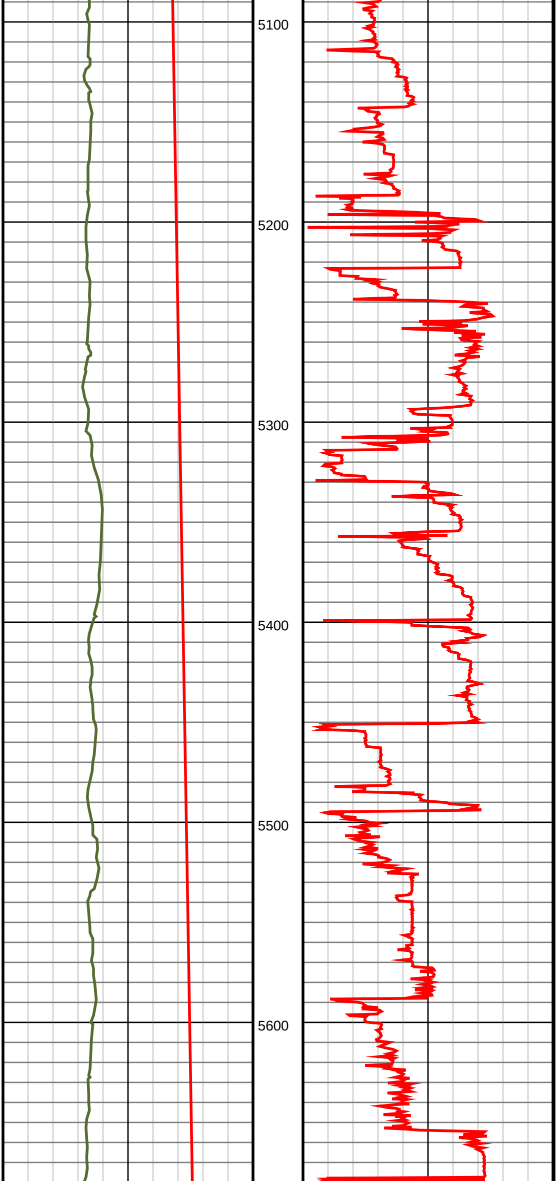
#48 MD(4770.00) Inc(11.1) Azm(123.2) TVD(4689.48)
VS(-325.18) NS(-366.33) EW(456.16)

#49 MD(4864.00) Inc(8.5) Azm(128.9) TVD(4782.11)
VS(-333.31) NS(-375.63) EW(469.12)

#50 MD(4959.00) Inc(7.3) Azm(139.6) TVD(4876.21)
VS(-341.48) NS(-384.65) EW(478.51)

#51 MD(5053.00) Inc(6.3) Azm(134.0) TVD(4969.54)
VS(-348.93) NS(-392.80) EW(486.10)

#52 MD(5148.00) Inc(5.6) Azm(130.3) TVD(5064.03)
VS(-354.88) NS(-399.40) EW(493.37)



#53 MD(5242.00) Inc(4.8) Azm(127.8) TVD(5157.64)
VS(-359.67) NS(-404.78) EW(499.99)

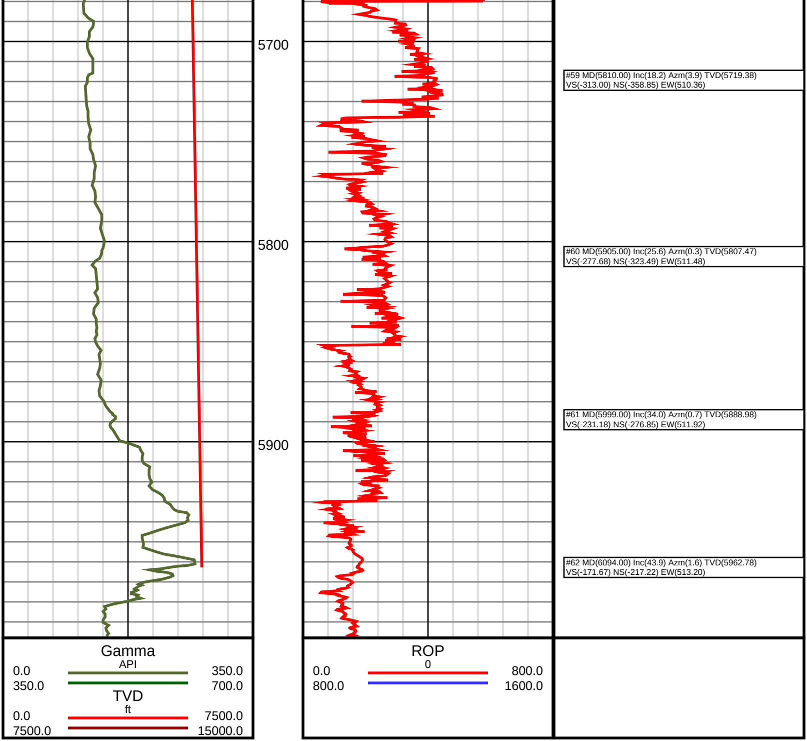
#54 MD(5337.00) Inc(2.5) Azm(134.3) TVD(5252.44)
VS(-363.16) NS(-408.70) EW(504.64)

#55 MD(5432.00) Inc(0.8) Azm(127.1) TVD(5347.40)
VS(-364.81) NS(-410.52) EW(506.63)

#56 MD(5527.00) Inc(0.1) Azm(98.0) TVD(5442.40)
VS(-365.14) NS(-410.91) EW(507.20)

#57 MD(5621.00) Inc(8.8) Azm(7.0) TVD(5536.03)
VS(-357.95) NS(-403.78) EW(508.14)

#58 MD(5715.00) Inc(14.1) Azm(0.8) TVD(5628.14)
VS(-339.37) NS(-385.21) EW(509.18)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5800
5900
#59 MD(5810.00) Inc(18.2) Azm(3.9) TVD(5719.38)
VS(-313.00) NS(-358.85) EW(510.36)
#60 MD(5905.00) Inc(25.6) Azm(0.3) TVD(5807.47)
VS(-277.68) NS(-323.49) EW(511.48)
#61 MD(5999.00) Inc(34.0) Azm(0.7) TVD(5888.98)
VS(-231.18) NS(-276.85) EW(511.92)
#62 MD(6094.00) Inc(43.9) Azm(1.6) TVD(5962.78)
VS(-171.67) NS(-217.22) EW(513.20)
Gamma
API
0.0
350.0
350.0
700.0
TVD
ft
0.0
7500.0
7500.0
15000.0
ROP
0
0.0
800.0
800.0
1600.0