ENSIGN
Directional Services

STATE 16-7-60-1H

MD
5":100'

Company: Condor Energy
Well Name: State 16-7-60-1H
UWI or LSD: 05-123-37069-00
Rig Id: Cade 25
State: Colorado
County/Parish: Weld
Country: USA
Survey Company: Ensign Directional
Job number:
Company Man 1 Kenny Grahm
Directional Driller 1 Zach Gentry
Directional Driller 2 Mike David
MWD 1 Dustin Nagle
MWD 2 Steve Pickering

Log measurements:
Depth measured from:
Maximum temperature:

	Depth	Date
Start:	1251 ft	06/15/2013
End:	10632 ft	06/25/2013

Casing	Depth	Size
Surface:	1187	9 5/8
Intermediate:	6561	7

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

Elevations
KB: 4904
GL: 4886
DF: 4904

		Offsets		Depths		Dates	
Run	**Bit Size**	**Gamma**	**Survey**	**Start**	**End**	**Start**	**End**
1	13 1/2	0.00	28.00	0	1251	6/14/2013	6/15/2013
2	8 3/4	53.16	48.16	1251	6050	6/15/2013	6/19/2013
3	8 3/4	52.88	47.92	6050	6419	6/19/2013	6/20/2013
4	8 3/4	52.62	47.62	6419	6569	6/20/2013	6/21/2013
5	6 1/8	60.51	55.51	6569	10632	6/22/2013	6/25/2013
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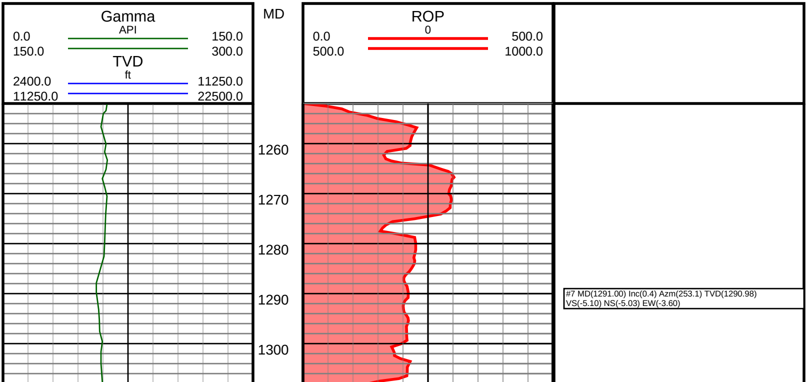
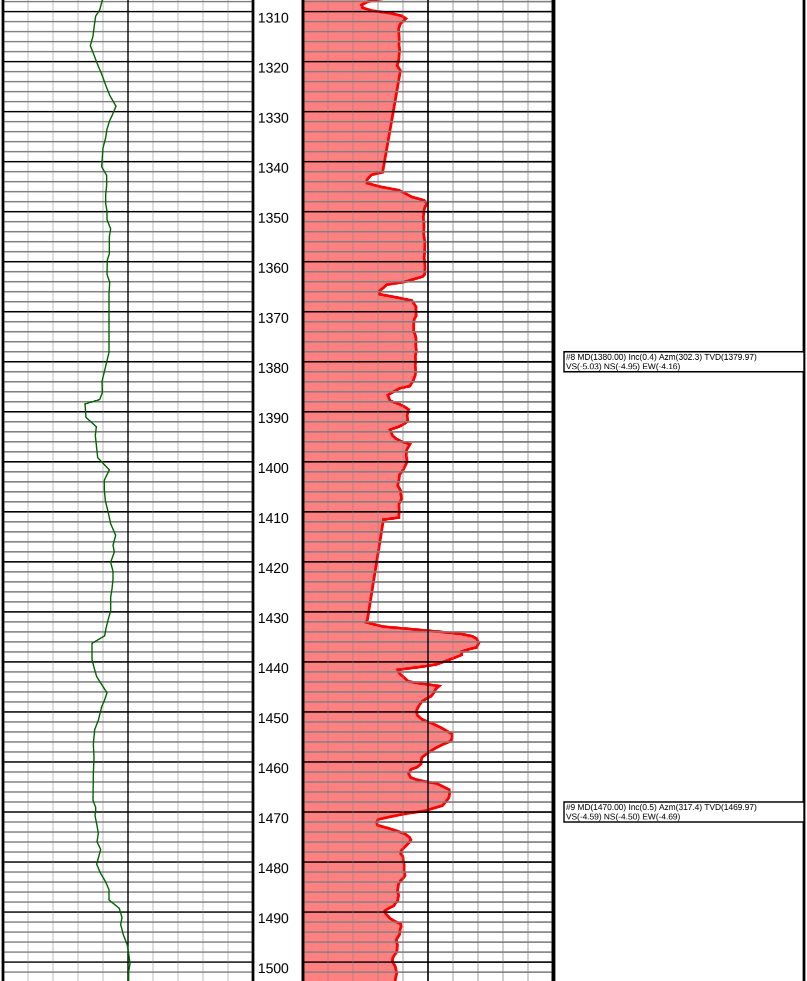
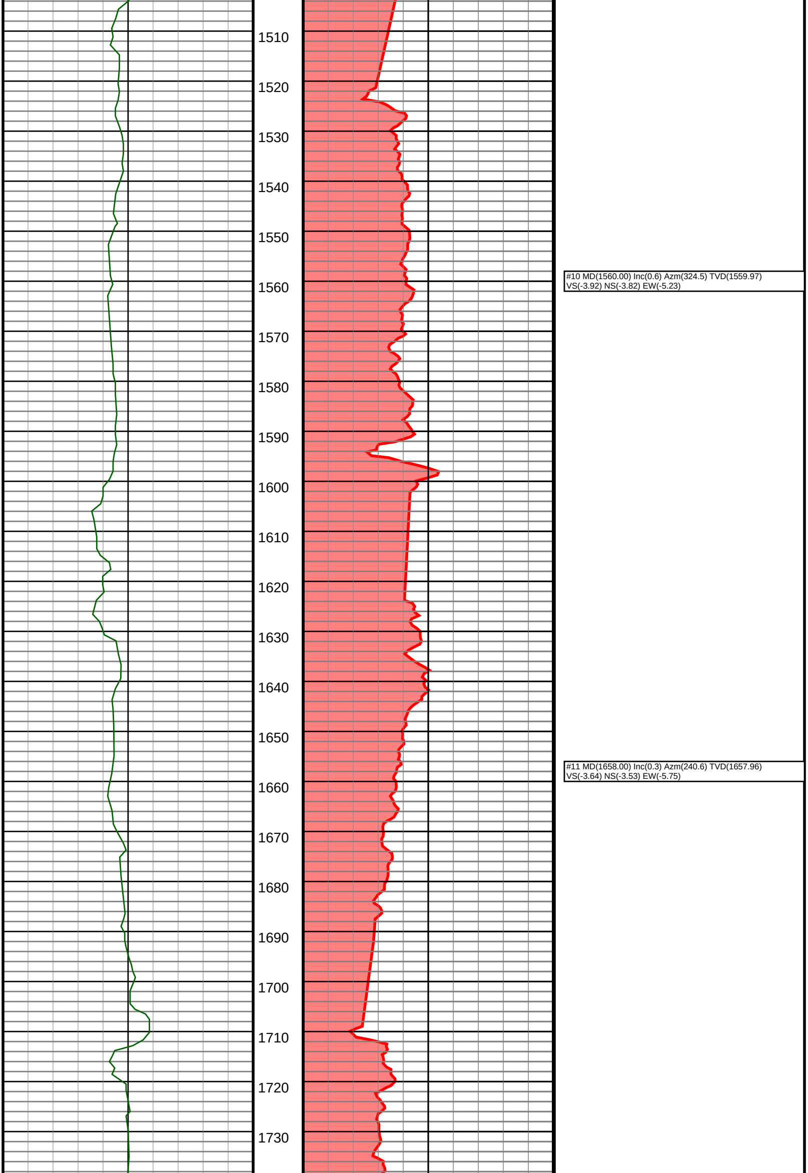
10							

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.



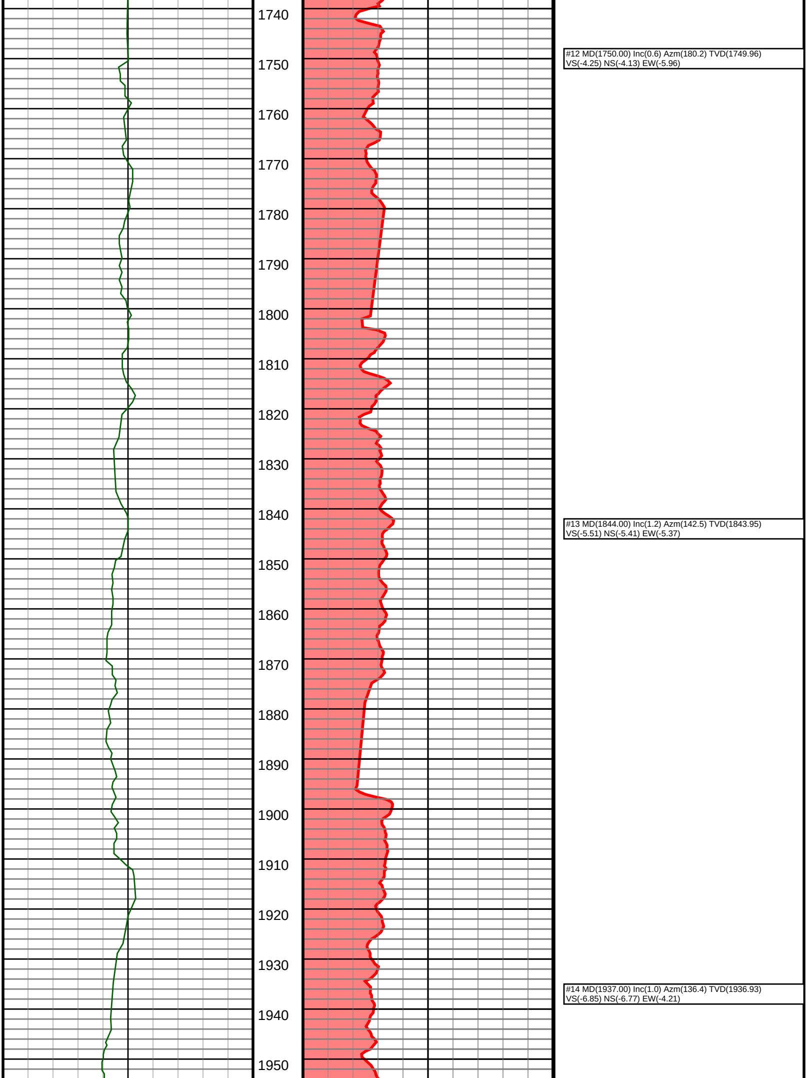
#7 MD(1291.00) Inc(0.4) Azm(253.1) TVD(1290.98)
VS(-5.10) NS(-5.03) EW(-3.60)





#10 MD(1560.00) Inc(0.6) Azm(324.5) TVD(1559.97)
VS(-3.92) NS(-3.82) EW(-5.23)

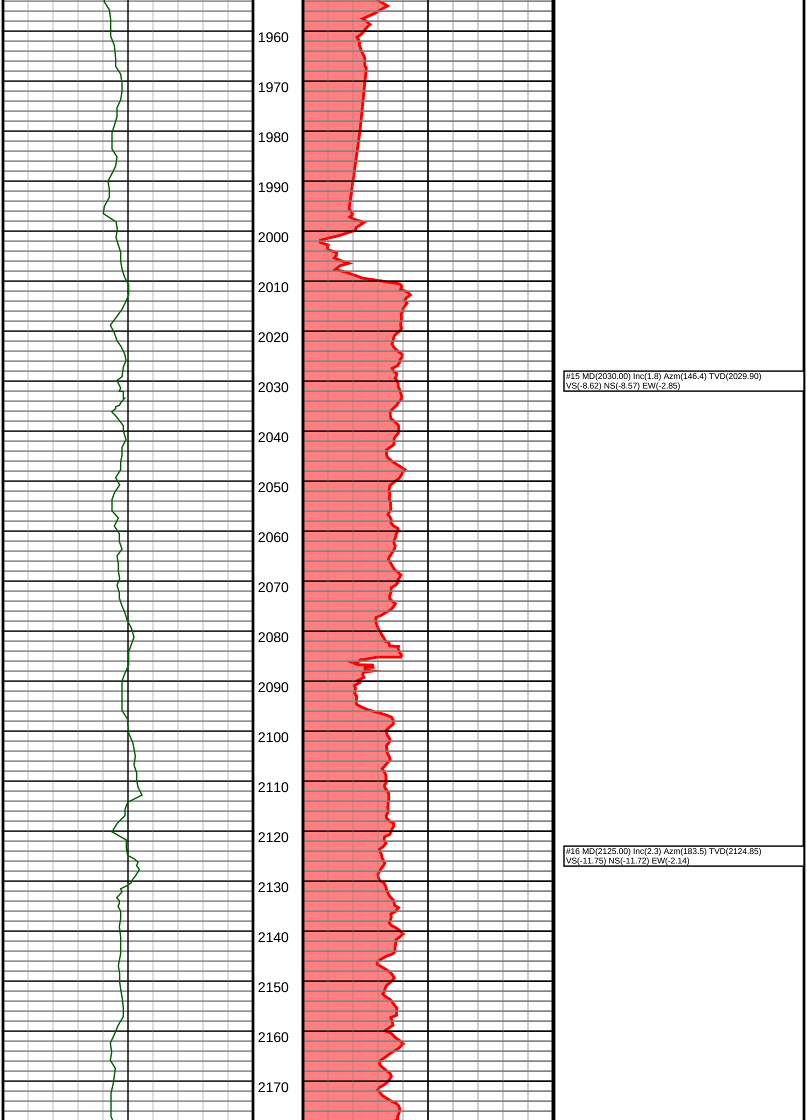
#11 MD(1658.00) Inc(0.3) Azm(240.6) TVD(1657.96)
VS(-3.64) NS(-3.53) EW(-5.75)

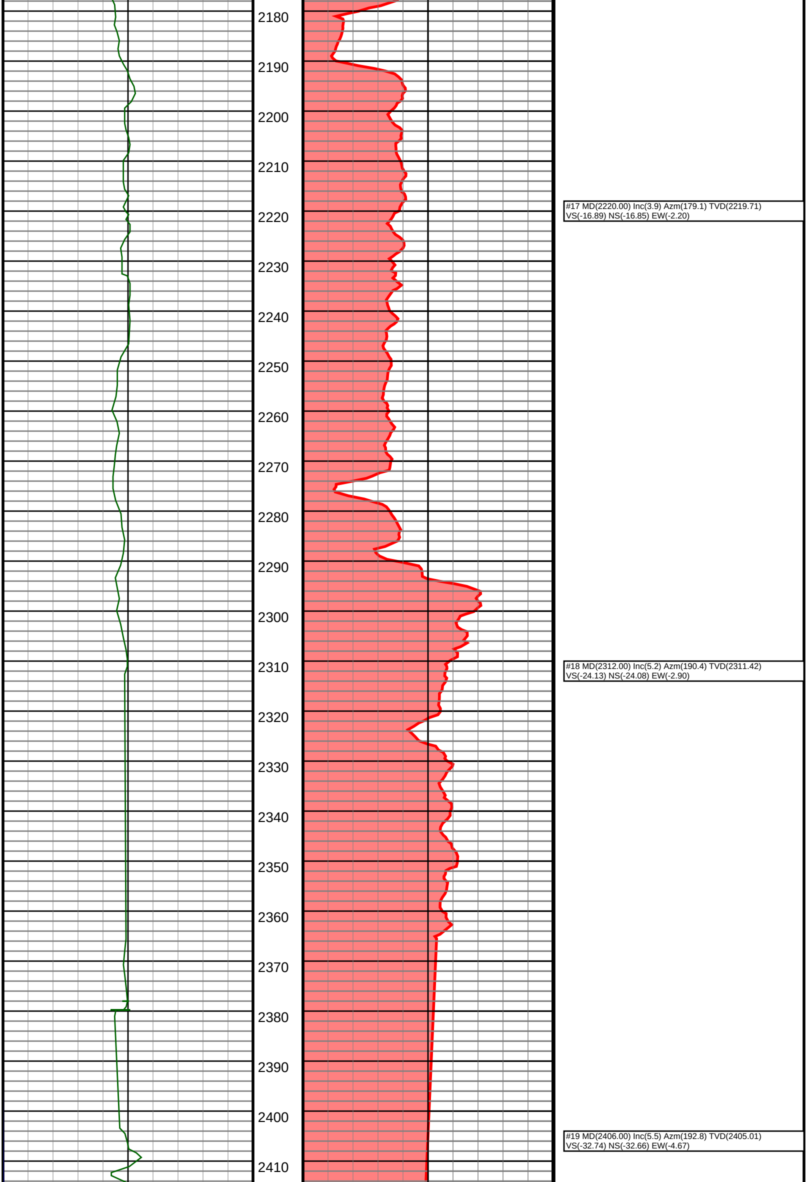


#12 MD(1750.00) Inc(0.6) Azm(180.2) TVD(1749.96)
VS(-4.25) NS(-4.13) EW(-5.96)

#13 MD(1844.00) Inc(1.2) Azm(142.5) TVD(1843.95)
VS(-5.51) NS(-5.41) EW(-5.37)

#14 MD(1937.00) Inc(1.0) Azm(136.4) TVD(1936.93)
VS(-6.85) NS(-6.77) EW(-4.21)

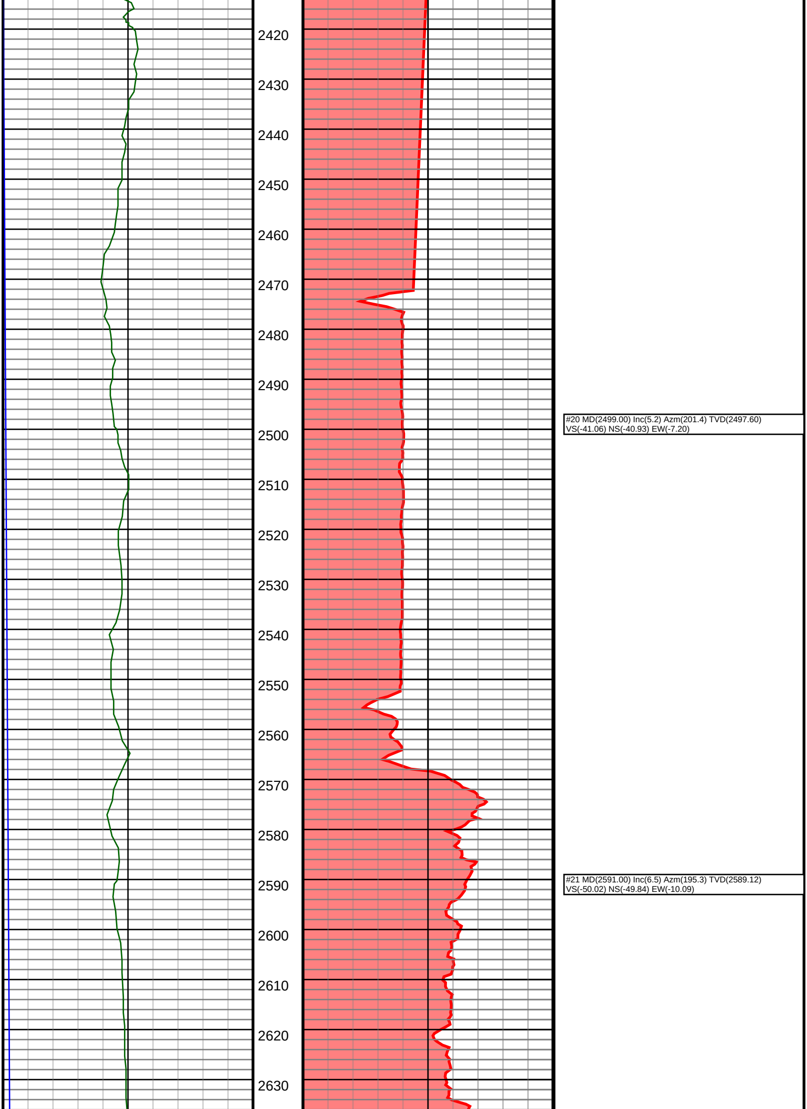




#17 MD(2220.00) Inc(3.9) Azm(179.1) TVD(2219.71)
VS(-16.89) NS(-16.85) EW(-2.20)

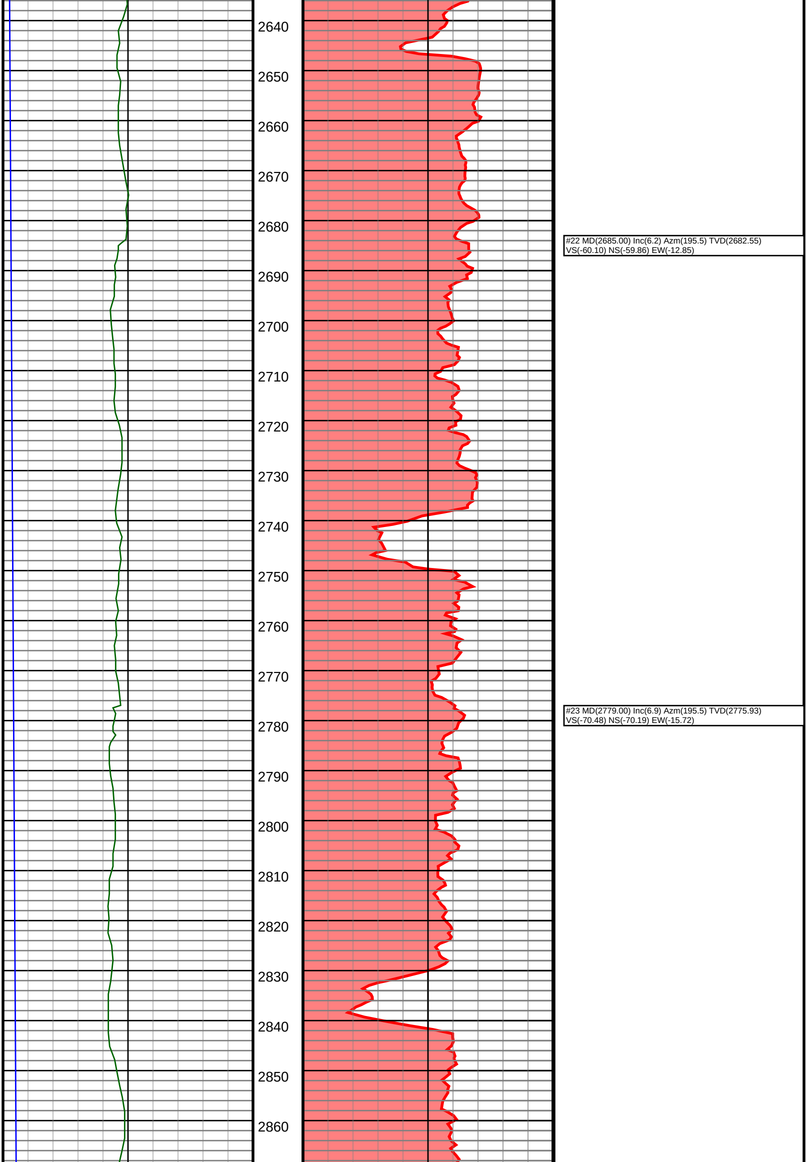
#18 MD(2312.00) Inc(5.2) Azm(190.4) TVD(2311.42)
VS(-24.13) NS(-24.08) EW(-2.90)

#19 MD(2406.00) Inc(5.5) Azm(192.8) TVD(2405.01)
VS(-32.74) NS(-32.66) EW(-4.67)



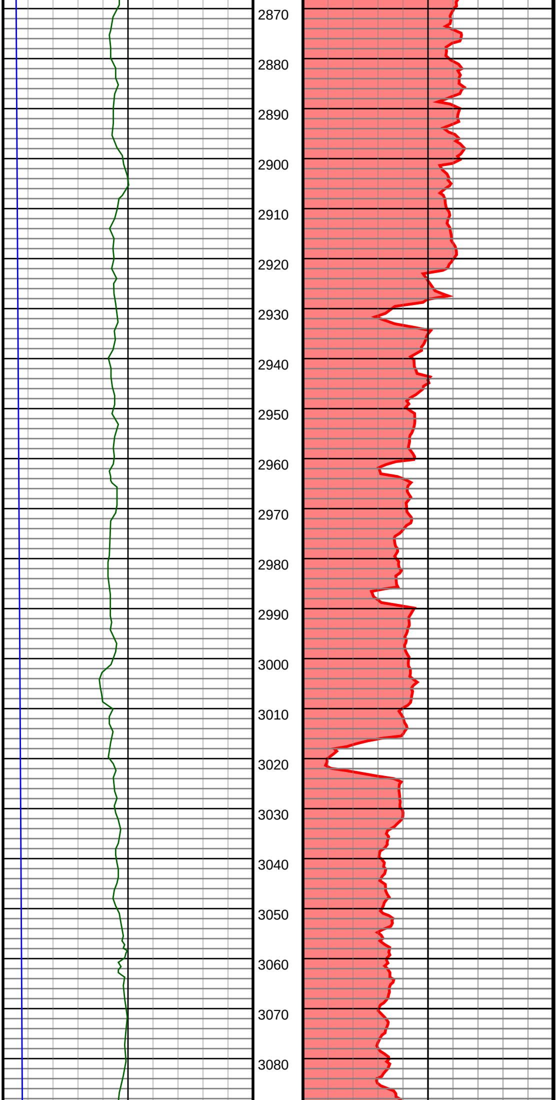
#20 MD(2499.00) Inc(5.2) Azm(201.4) TVD(2497.60)
VS(-41.06) NS(-40.93) EW(-7.20)

#21 MD(2591.00) Inc(6.5) Azm(195.3) TVD(2589.12)
VS(-50.02) NS(-49.84) EW(-10.09)



#22 MD(2685.00) Inc(6.2) Azm(195.5) TVD(2682.55)
VS(-60.10) NS(-59.86) EW(-12.85)

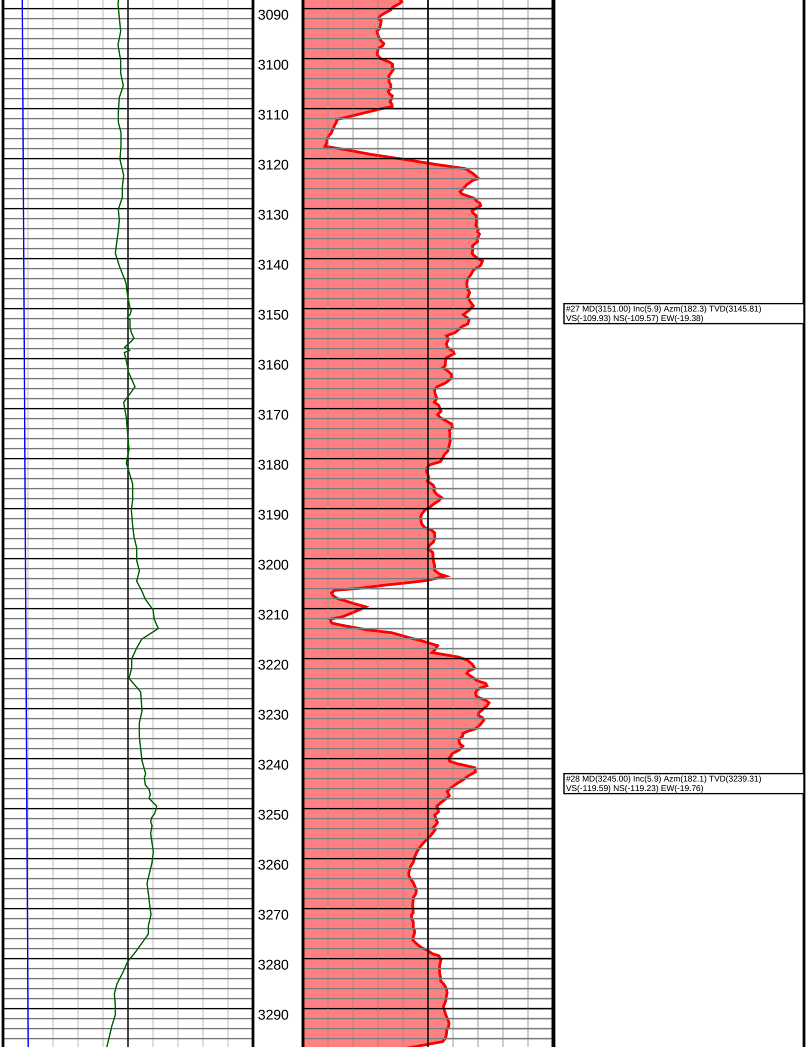
#23 MD(2779.00) Inc(6.9) Azm(195.5) TVD(2775.93)
VS(-70.48) NS(-70.19) EW(-15.72)

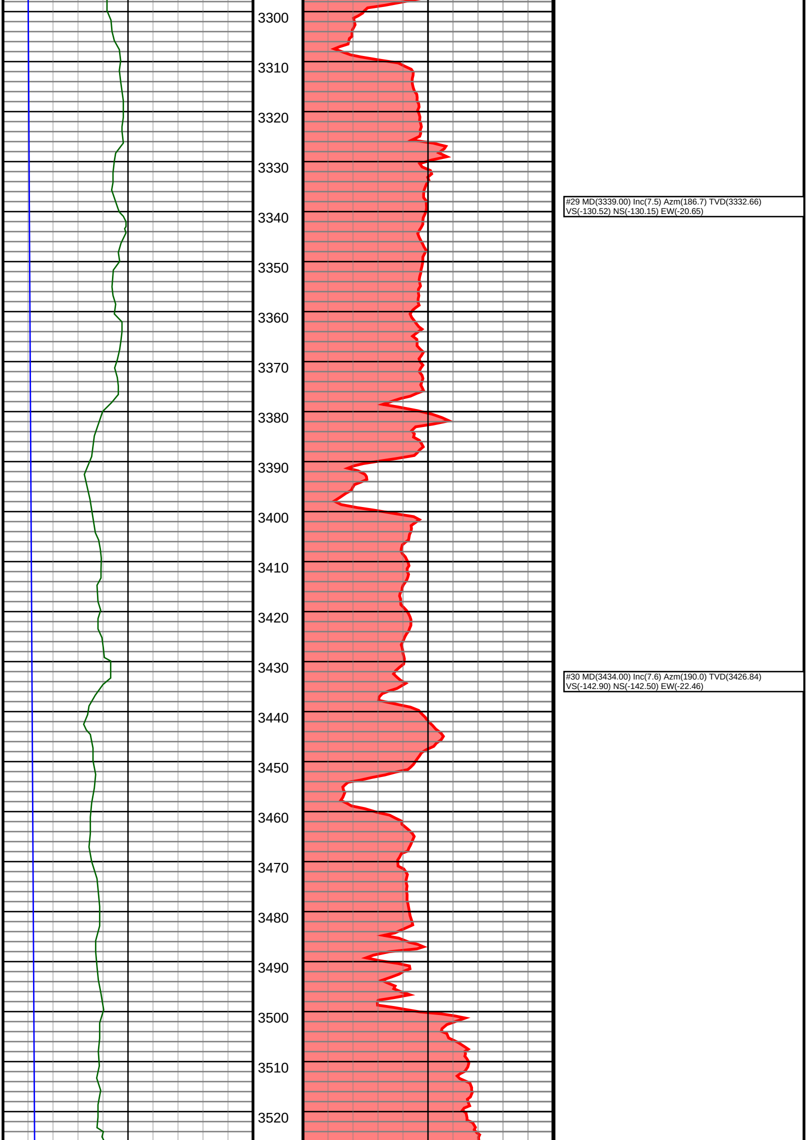


#24 MD(2871.00) Inc(6.3) Azm(186.7) TVD(2867.32)
VS(-80.86) NS(-80.53) EW(-17.78)

#25 MD(2964.00) Inc(5.8) Azm(183.9) TVD(2959.81)
VS(-90.63) NS(-90.29) EW(-18.70)

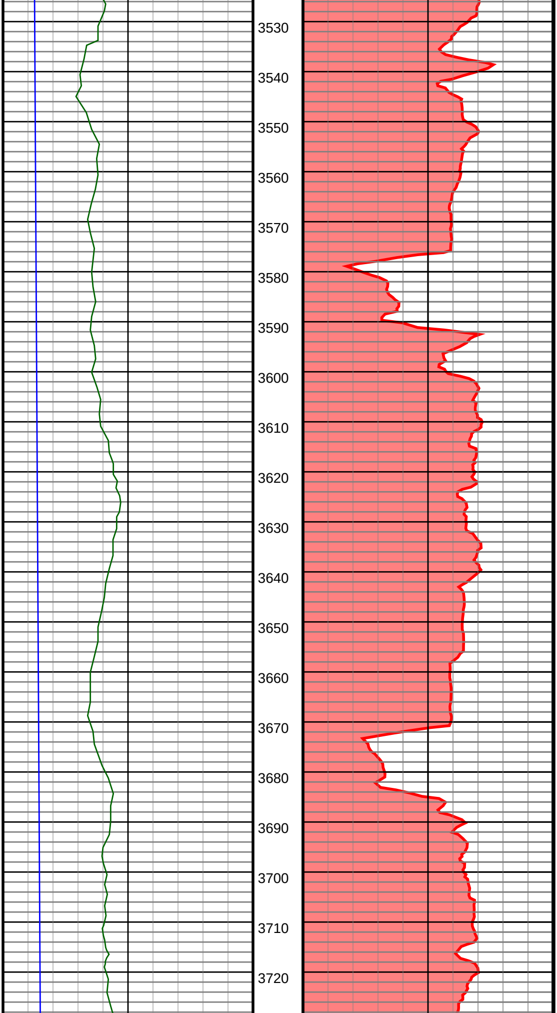
#26 MD(3058.00) Inc(6.0) Azm(181.0) TVD(3053.31)
VS(-100.29) NS(-99.94) EW(-19.11)





#29 MD(3339.00) Inc(7.5) Azm(186.7) TVD(3332.66)
VS(-130.52) NS(-130.15) EW(-20.65)

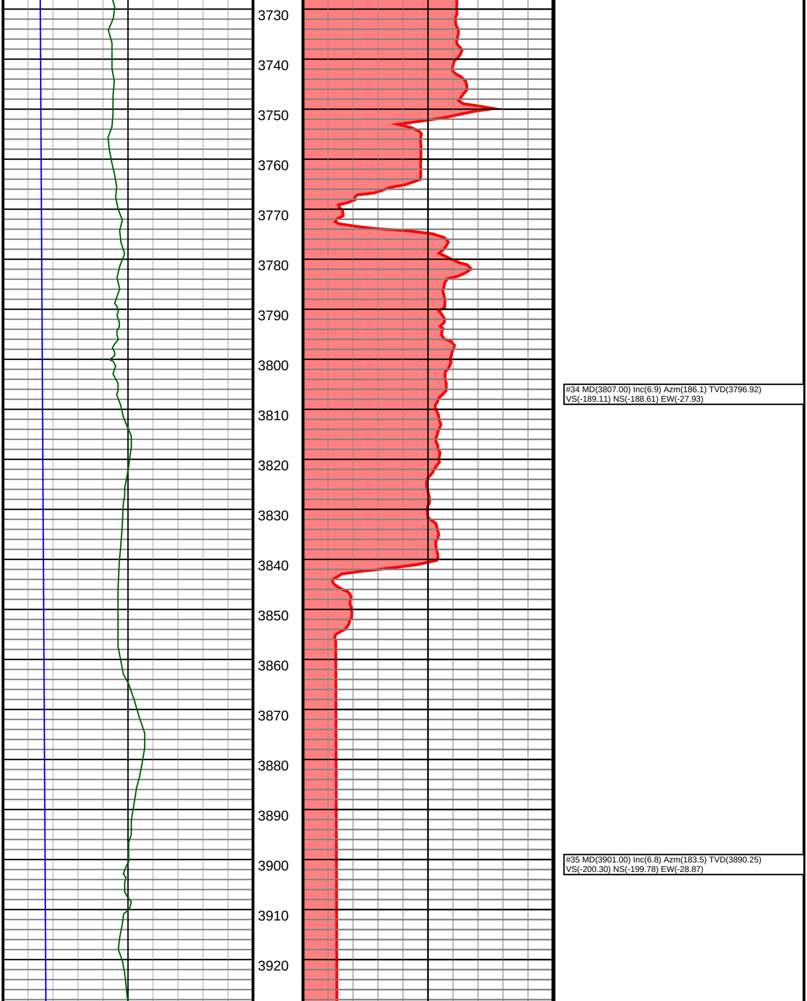
#30 MD(3434.00) Inc(7.6) Azm(190.0) TVD(3426.84)
VS(-142.90) NS(-142.50) EW(-22.46)



#31 MD(3528.00) Inc(7.7) Azm(189.8) TVD(3520.00)
VS(-155.27) NS(-154.82) EW(-24.61)

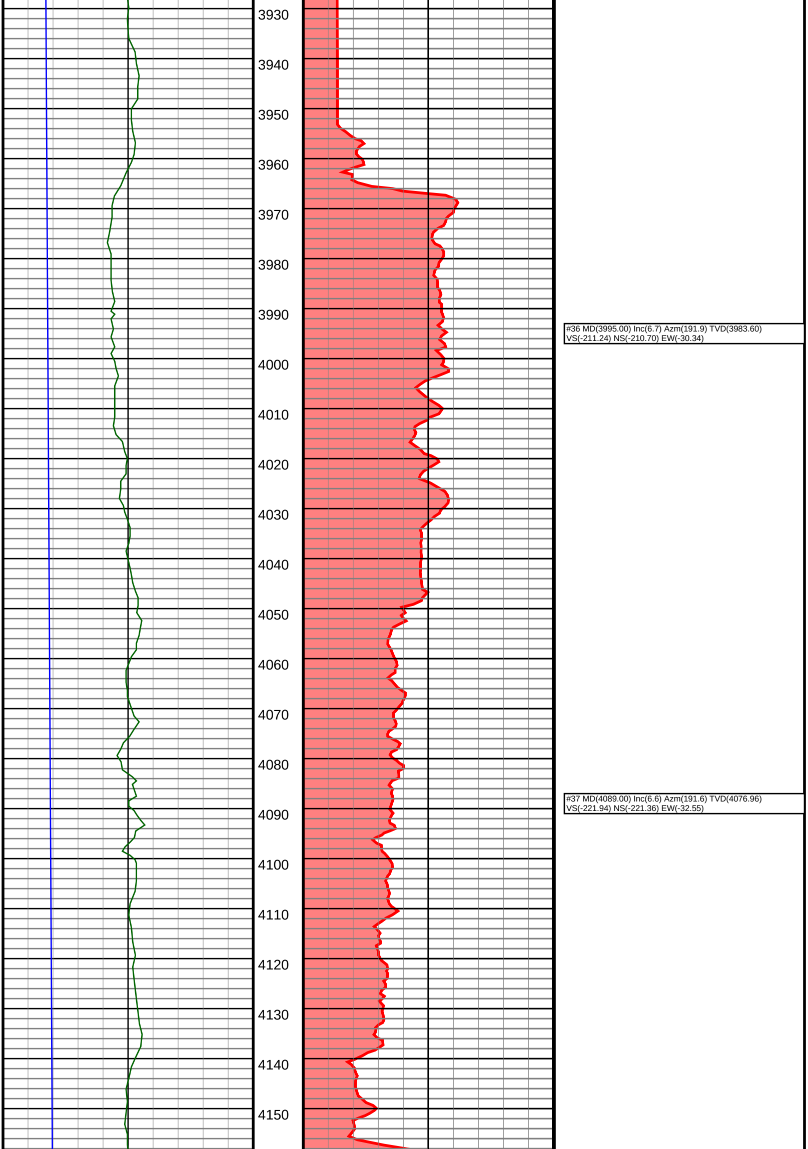
#32 MD(3621.00) Inc(7.5) Azm(181.2) TVD(3612.19)
VS(-167.49) NS(-167.03) EW(-25.80)

#33 MD(3716.00) Inc(6.2) Azm(188.1) TVD(3706.51)
VS(-178.79) NS(-178.31) EW(-26.65)



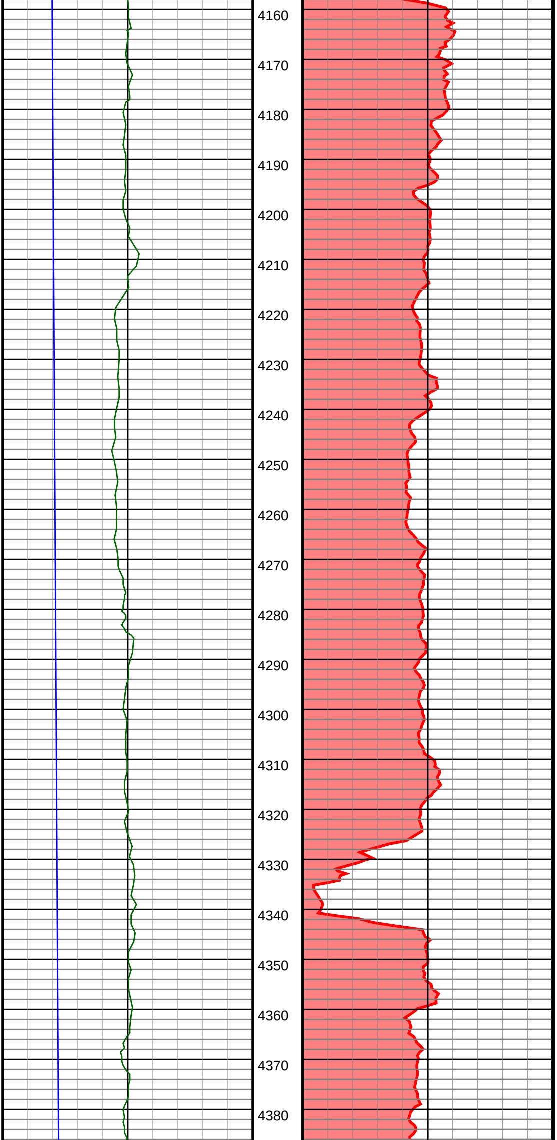
#34 MD(3807.00) Inc(6.9) Azm(186.1) TVD(3796.92)
VS(-189.11) NS(-188.61) EW(-27.93)

#35 MD(3901.00) Inc(6.8) Azm(183.5) TVD(3890.25)
VS(-200.30) NS(-199.78) EW(-28.87)



#36 MD(3995.00) Inc(6.7) Azm(191.9) TVD(3983.60)
VS(-211.24) NS(-210.70) EW(-30.34)

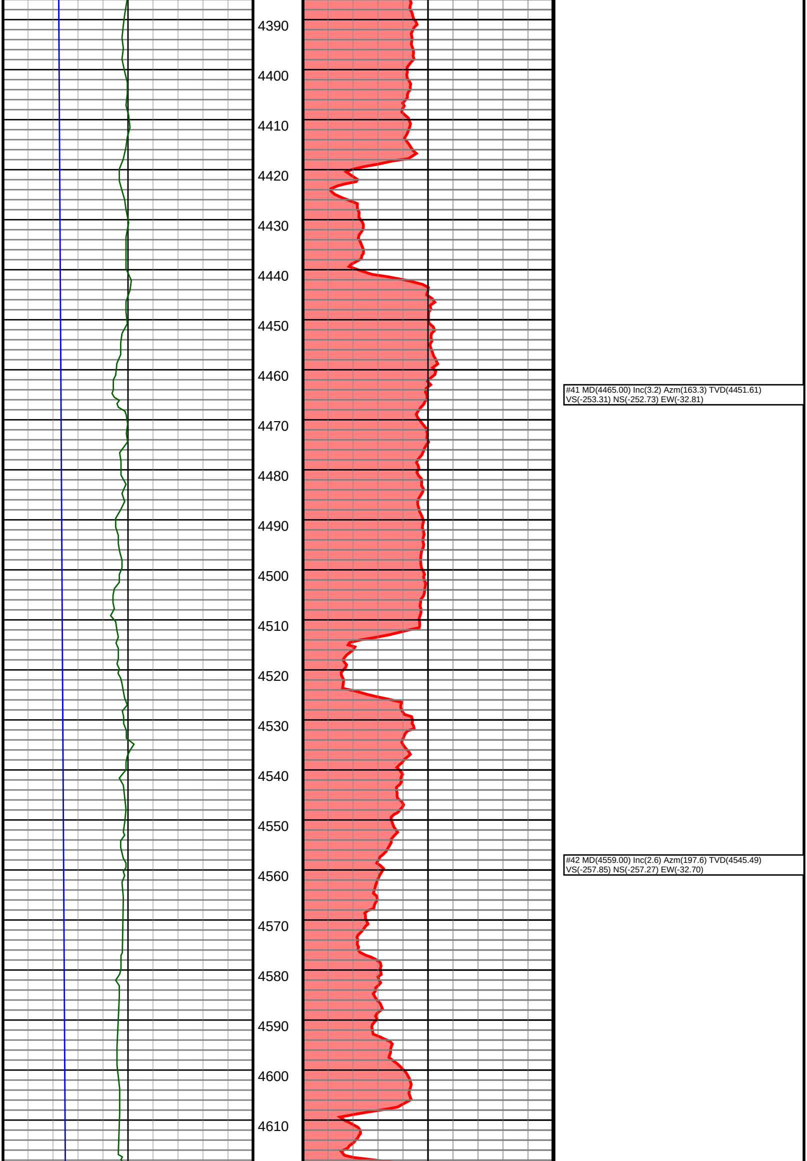
#37 MD(4089.00) Inc(6.6) Azm(191.6) TVD(4076.96)
VS(-221.94) NS(-221.36) EW(-32.55)

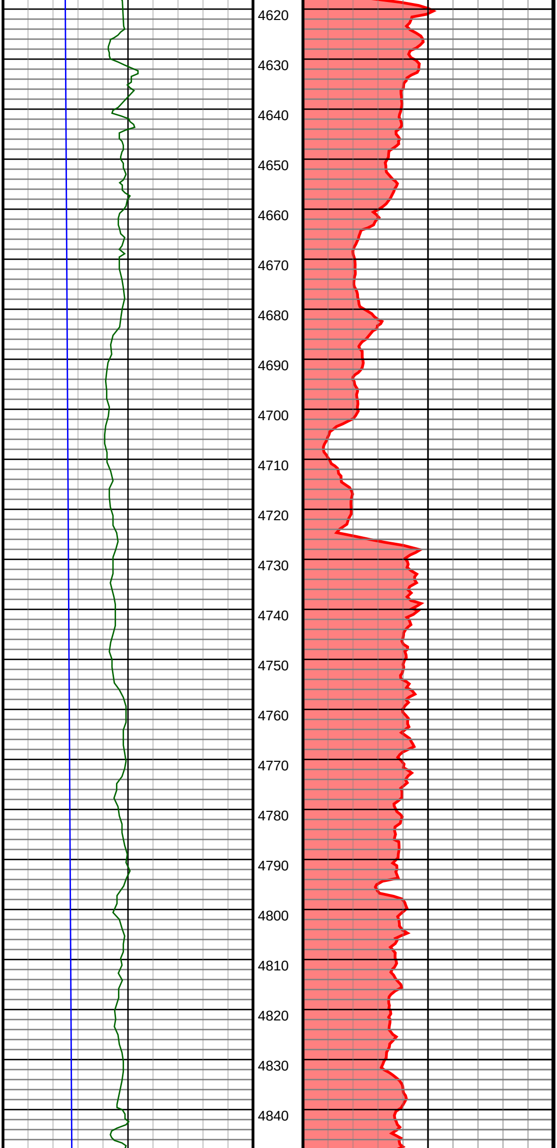


#38 MD(4182.00) Inc(4.8) Azm(179.3) TVD(4169.50)
VS(-231.09) NS(-230.48) EW(-33.58)

#39 MD(4277.00) Inc(5.2) Azm(177.5) TVD(4264.14)
VS(-239.35) NS(-238.76) EW(-33.35)

#40 MD(4371.00) Inc(4.4) Azm(183.2) TVD(4357.81)
VS(-247.21) NS(-246.61) EW(-33.36)

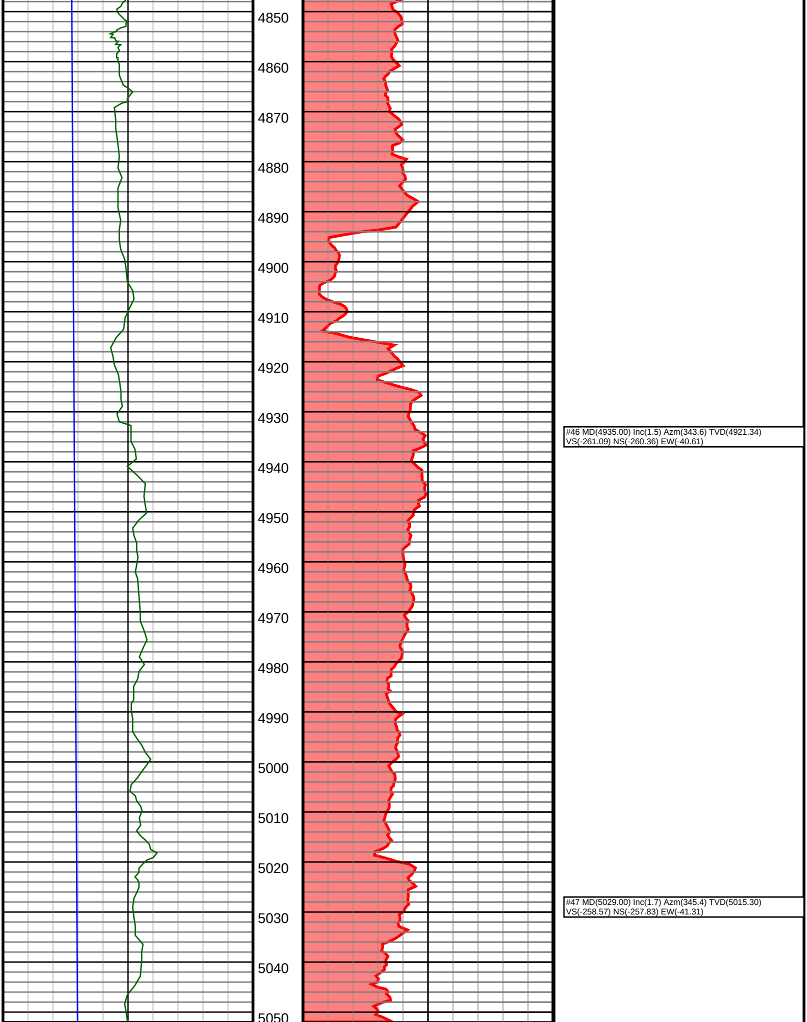




#43 MD(4653.00) Inc(1.8) Azm(222.5) TVD(4639.43)
VS(-261.01) NS(-260.39) EW(-34.34)

#44 MD(4748.00) Inc(1.5) Azm(271.9) TVD(4734.39)
VS(-262.11) NS(-261.45) EW(-36.59)

#45 MD(4842.00) Inc(1.5) Azm(267.4) TVD(4828.36)
VS(-262.17) NS(-261.47) EW(-39.05)



#46 MD(4935.00) Inc(1.5) Azm(343.6) TVD(4921.34)
VS(-261.09) NS(-260.36) EW(-40.61)

#47 MD(5029.00) Inc(1.7) Azm(345.4) TVD(5015.30)
VS(-258.57) NS(-257.83) EW(-41.31)

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Bit Projection 10632'
INC: 90.30
AZM: 0.20
TVD: 6291.18'
VS: 4320.51'

#125 MD(8902.00) Inc(90.0) Azm(0.9) TVD(6289.36)
VS(2591.07) NS(2590.48) EW(55.59)

#126 MD(8995.00) Inc(91.5) Azm(1.2) TVD(6288.14)
VS(2684.06) NS(2683.46) EW(57.29)

#127 MD(9088.00) Inc(89.0) Azm(0.5) TVD(6287.74)
VS(2777.05) NS(2776.44) EW(58.67)

#128 MD(9183.00) Inc(87.3) Azm(0.2) TVD(6290.80)
VS(2871.99) NS(2871.38) EW(59.25)

#129 MD(9276.00) Inc(88.4) Azm(0.7) TVD(6294.29)
VS(2964.92) NS(2964.31) EW(59.98)

#130 MD(9370.00) Inc(89.4) Azm(0.2) TVD(6296.10)
VS(3058.89) NS(3058.29) EW(60.72)

#131 MD(9464.00) Inc(90.7) Azm(0.5) TVD(6296.02)
VS(3152.88) NS(3152.29) EW(61.29)

#132 MD(9557.00) Inc(89.6) Azm(0.3) TVD(6295.77)
VS(3245.88) NS(3245.28) EW(61.94)

#133 MD(9651.00) Inc(90.5) Azm(1.9) TVD(6295.69)
VS(3339.87) NS(3339.26) EW(63.74)

#134 MD(9744.00) Inc(90.3) Azm(2.6) TVD(6295.04)
VS(3432.85) NS(3432.19) EW(67.40)

#135 MD(9837.00) Inc(90.0) Azm(2.6) TVD(6294.80)
VS(3525.82) NS(3525.09) EW(71.61)

#136 MD(9930.00) Inc(91.5) Azm(3.5) TVD(6293.58)
VS(3618.75) NS(3617.95) EW(76.56)

#137 MD(10024.00) Inc(90.2) Azm(2.8) TVD(6292.19)
VS(3712.68) NS(3711.79) EW(81.73)

#138 MD(10117.00) Inc(90.7) Azm(3.3) TVD(6291.46)
VS(3805.62) NS(3804.66) EW(86.67)

#139 MD(10211.00) Inc(90.3) Azm(2.6) TVD(6290.63)
VS(3899.57) NS(3898.53) EW(91.51)

#140 MD(10304.00) Inc(89.3) Azm(0.7) TVD(6290.96)
VS(3992.56) NS(3991.49) EW(94.19)

#141 MD(10398.00) Inc(89.9) Azm(0.0) TVD(6291.62)
VS(4086.55) NS(4085.48) EW(94.76)

#142 MD(10492.00) Inc(90.0) Azm(0.2) TVD(6291.70)
VS(4180.53) NS(4179.48) EW(94.93)

#143 MD(10575.00) Inc(90.3) Azm(0.2) TVD(6291.48)
VS(4263.52) NS(4262.48) EW(95.22)