ENSIGN Directional

SRC PHELPS A-32CHZ

MD
5":100'

Company:	Synergy Resources
Well Name:	SRC PHELPS A-32CHZ
API:	05 123 37581 00
Rig Id:	Ensign 17
State:	CO
County/Parish:	Weld
Country:	USA
Survey Company:	Ensign Directional
Job number:	
Company Man	Ray Hoffman
Geologist	Mark Scanniello
Directional Driller 1	Chris Saykally
Directional Driller 2	Brett Blank
MWD 1	Brice Burkhardt
MWD 2	Zach Hansberger

Log measurements:
Depth measured from:
Maximum temperature:

	Depth	Date
Start:	1214 ft	1-8-2014
End:	12118 ft	1-22-2014

Casing	Depth	Size
Surface:	1198	9.625
Intermediate:	8049	7

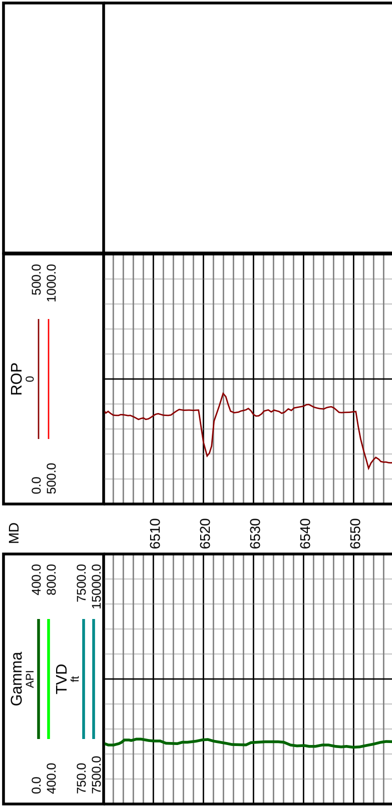
Mud Type:
Density:
Viscosity:
Rm: **Rmf:** **Rmc:**

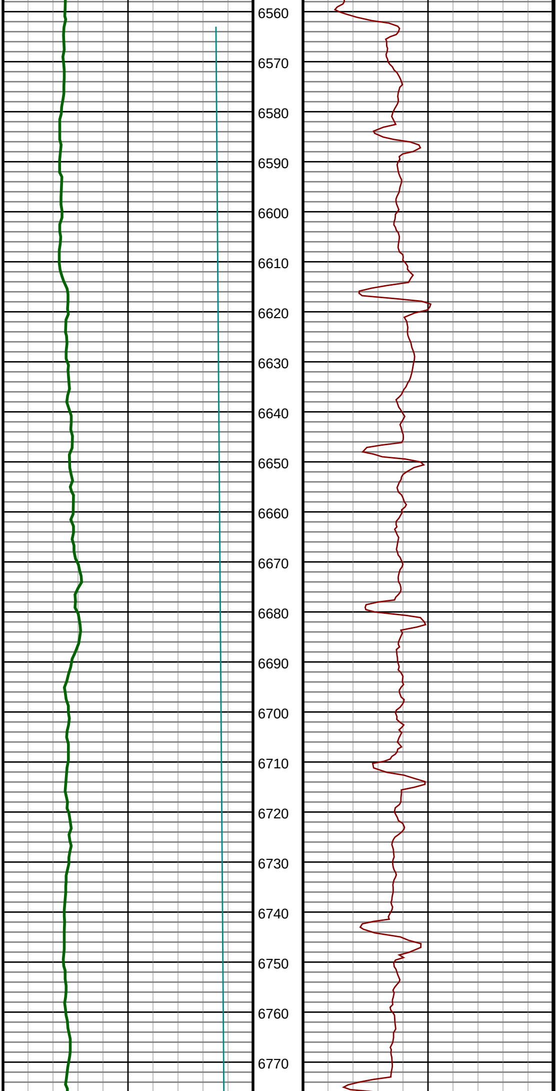
Elevations
KB: 5031
GL: 5019
DF: 5031

		Offsets		Depths		Dates	
Run	**Bit Size**	**Gamma**	**Survey**	**Start**	**End**	**Start**	**End**
1	12.75	-1.00	-1.00	0	1214	1-6-2014	1-7-2014
2	8.75	53.21	48.21	1214	8059	1-8-2014	1-14-2014
3	6.125	60.54	55.45	9152	12118	1-18-2014	1-22-2014
4							
5							
6							
7							
8							
9							
10							

FROM MD 8059-9152 HALLIBURTON LOGGED ON WELL. Ensign took over at 9152 - TD

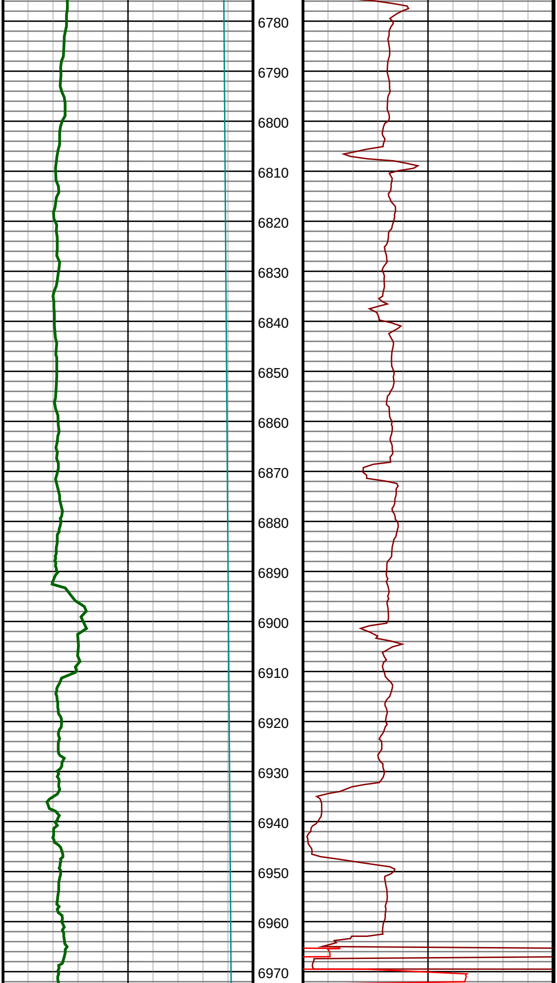
Ensign Directional uses its best efforts to provide its customers with accurate information and interpretations in conjunction with services performed but will not be held liable or responsible for the accuracy of such information or interpretation.





#53 MD(6563.00) Inc(1.9) Azm(15.5) TVD(6500.10)
VS(-185.71) NS(668.61) EW(288.69)

#54 MD(6690.00) Inc(1.2) Azm(354.3) TVD(6627.06)
VS(-185.63) NS(671.96) EW(289.12)

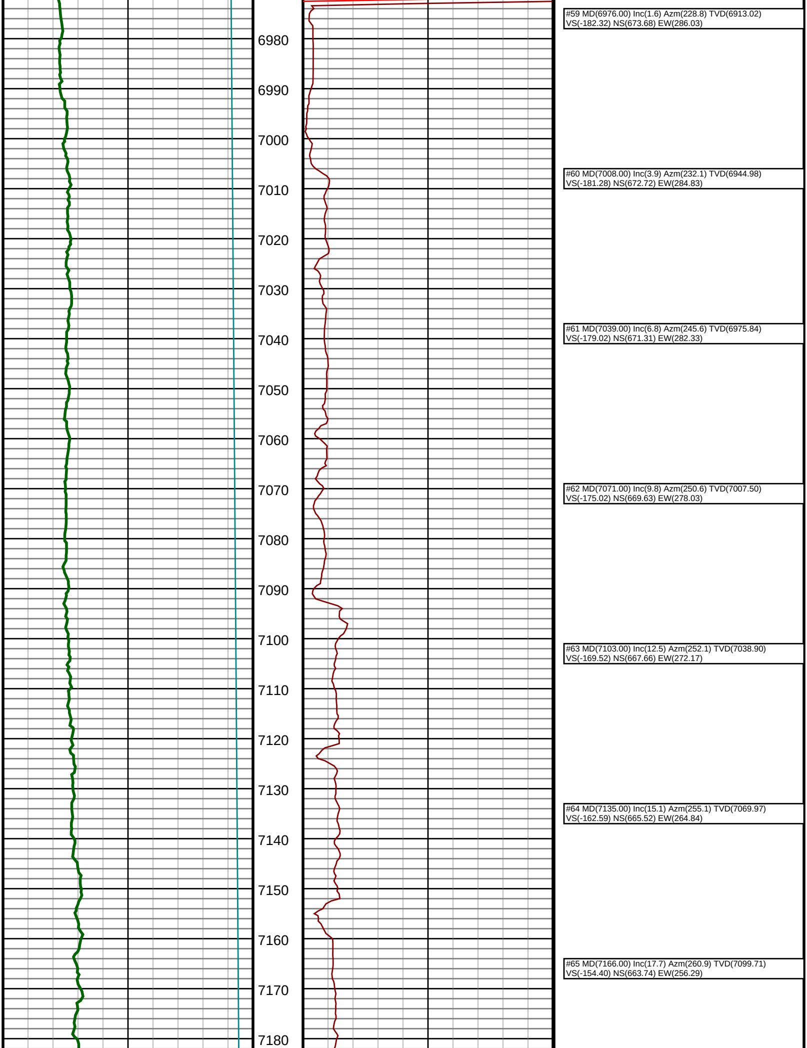


#55 MD(6817.00) Inc(0.9) Azm(309.1) TVD(6754.04)
VS(-184.45) NS(673.91) EW(288.21)

#56 MD(6881.00) Inc(0.9) Azm(278.3) TVD(6818.03)
VS(-183.51) NS(674.30) EW(287.33)

#57 MD(6912.00) Inc(0.7) Azm(258.5) TVD(6849.03)
VS(-183.09) NS(674.30) EW(286.90)

#58 MD(6944.00) Inc(0.8) Azm(230.3) TVD(6881.02)
VS(-182.76) NS(674.12) EW(286.54)



#59 MD(6976.00) Inc(1.6) Azm(228.8) TVD(6913.02)
VS(-182.32) NS(673.68) EW(286.03)

#60 MD(7008.00) Inc(3.9) Azm(232.1) TVD(6944.98)
VS(-181.28) NS(672.72) EW(284.83)

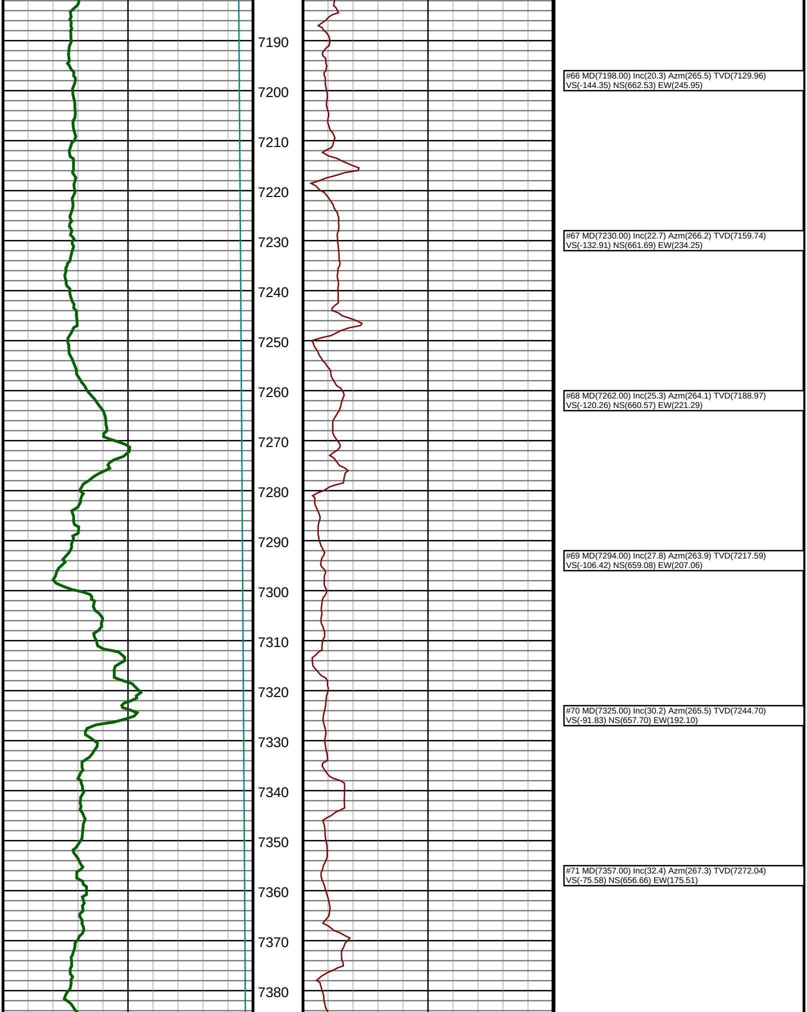
#61 MD(7039.00) Inc(6.8) Azm(245.6) TVD(6975.84)
VS(-179.02) NS(671.31) EW(282.33)

#62 MD(7071.00) Inc(9.8) Azm(250.6) TVD(7007.50)
VS(-175.02) NS(669.63) EW(278.03)

#63 MD(7103.00) Inc(12.5) Azm(252.1) TVD(7038.90)
VS(-169.52) NS(667.66) EW(272.17)

#64 MD(7135.00) Inc(15.1) Azm(255.1) TVD(7069.97)
VS(-162.59) NS(665.52) EW(264.84)

#65 MD(7166.00) Inc(17.7) Azm(260.9) TVD(7099.71)
VS(-154.40) NS(663.74) EW(256.29)



#66 MD(7198.00) Inc(20.3) Azm(265.5) TVD(7129.96)
VS(-144.35) NS(662.53) EW(245.95)

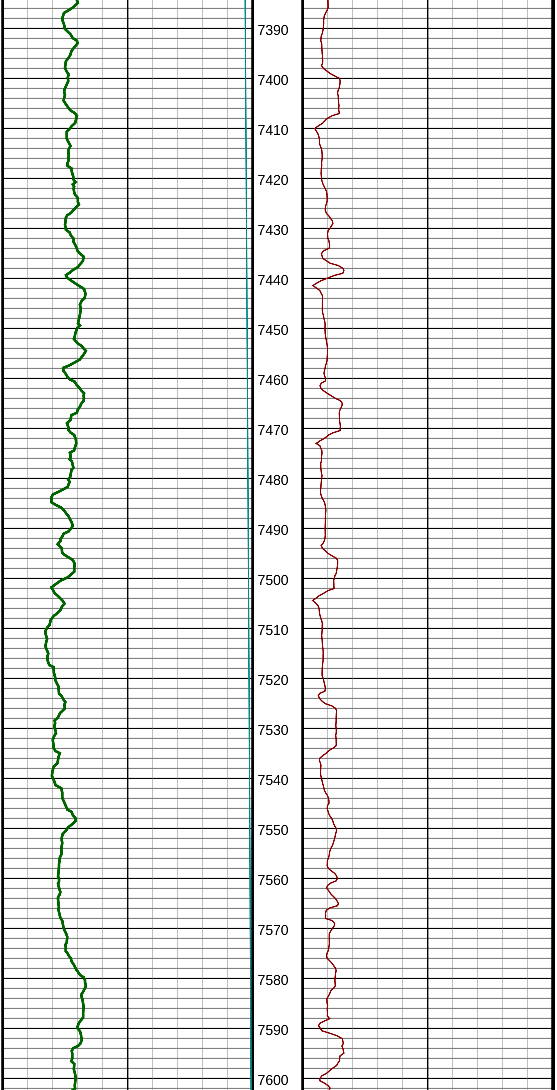
#67 MD(7230.00) Inc(22.7) Azm(266.2) TVD(7159.74)
VS(-132.91) NS(661.69) EW(234.25)

#68 MD(7262.00) Inc(25.3) Azm(264.1) TVD(7188.97)
VS(-120.26) NS(660.57) EW(221.29)

#69 MD(7294.00) Inc(27.8) Azm(263.9) TVD(7217.59)
VS(-106.42) NS(659.08) EW(207.06)

#70 MD(7325.00) Inc(30.2) Azm(265.5) TVD(7244.70)
VS(-91.83) NS(657.70) EW(192.10)

#71 MD(7357.00) Inc(32.4) Azm(267.3) TVD(7272.04)
VS(-75.58) NS(656.66) EW(175.51)



#72 MD(7389.00) Inc(34.5) Azm(268.8) TVD(7298.74)
VS(-58.24) NS(656.07) EW(157.88)

#73 MD(7421.00) Inc(36.8) Azm(269.2) TVD(7324.74)
VS(-39.85) NS(655.75) EW(139.24)

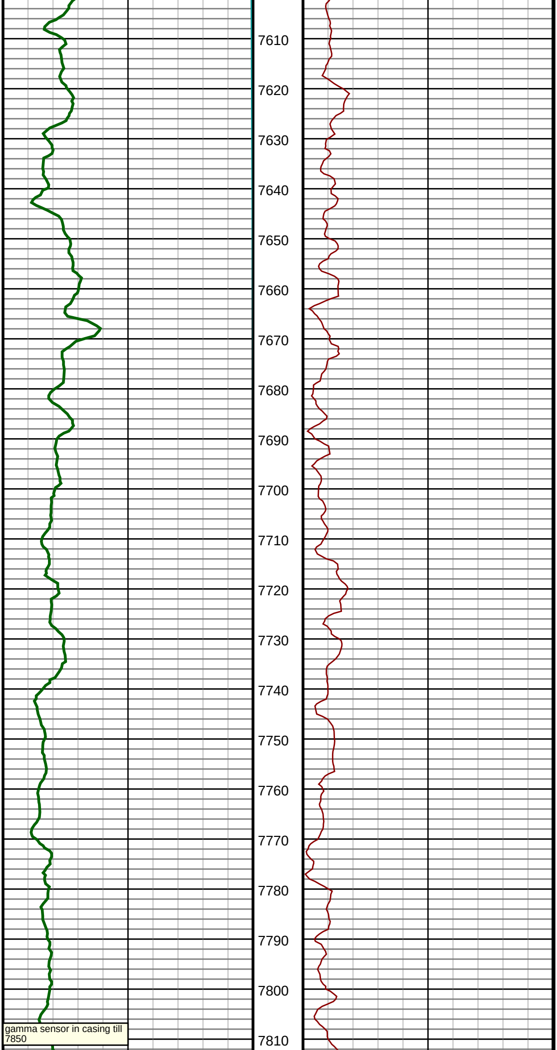
#74 MD(7452.00) Inc(39.8) Azm(271.0) TVD(7349.07)
VS(-20.85) NS(655.79) EW(120.03)

#75 MD(7484.00) Inc(42.0) Azm(272.2) TVD(7373.26)
VS(-0.05) NS(656.38) EW(99.09)

#76 MD(7516.00) Inc(44.5) Azm(272.5) TVD(7396.56)
VS(21.74) NS(657.28) EW(77.18)

#77 MD(7548.00) Inc(47.3) Azm(271.7) TVD(7418.83)
VS(44.57) NS(658.12) EW(54.22)

#78 MD(7579.00) Inc(50.5) Azm(271.7) TVD(7439.20)
VS(67.76) NS(658.81) EW(30.87)



gamma sensor in casing till 7850

#79 MD(7611.00) Inc(52.9) Azm(271.5) TVD(7459.04)
VS(92.69) NS(659.51) EW(5.77)

#80 MD(7643.00) Inc(55.2) Azm(272.0) TVD(7477.82)
VS(118.41) NS(660.30) EW(-20.12)

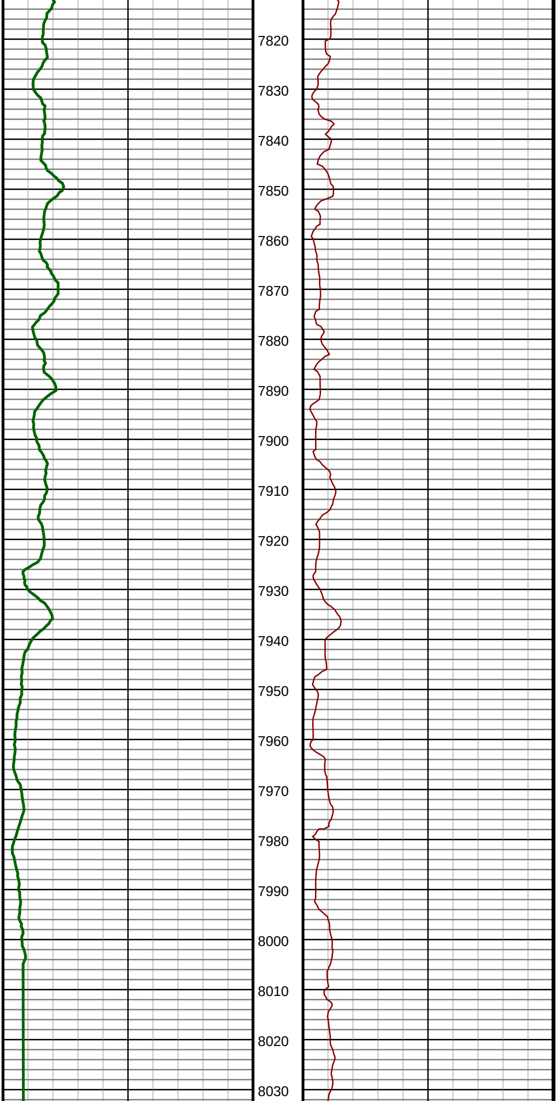
#81 MD(7675.00) Inc(57.9) Azm(272.7) TVD(7495.46)
VS(144.95) NS(661.40) EW(-46.80)

#82 MD(7706.00) Inc(60.3) Azm(272.7) TVD(7511.38)
VS(171.40) NS(662.65) EW(-73.36)

#83 MD(7738.00) Inc(62.3) Azm(274.3) TVD(7526.74)
VS(199.36) NS(664.37) EW(-101.38)

#84 MD(7770.00) Inc(64.5) Azm(274.5) TVD(7541.07)
VS(227.90) NS(666.57) EW(-129.90)

#85 MD(7802.00) Inc(66.7) Azm(273.8) TVD(7554.29)
VS(256.95) NS(668.67) EW(-158.97)



#86 MD(7833.00) Inc(68.7) Azm(273.9) TVD(7566.05)
VS(285.53) NS(670.60) EW(-187.58)

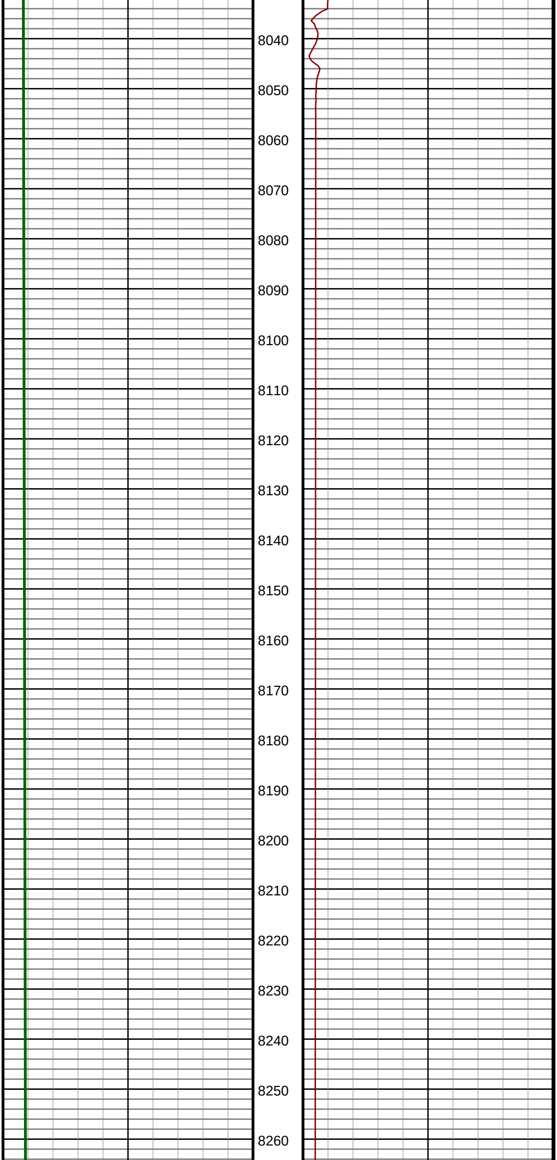
#87 MD(7865.00) Inc(71.2) Azm(273.4) TVD(7577.02)
VS(315.48) NS(672.51) EW(-217.58)

#88 MD(7897.00) Inc(74.1) Azm(272.4) TVD(7586.57)
VS(345.87) NS(674.05) EW(-248.08)

#89 MD(7929.00) Inc(76.2) Azm(271.0) TVD(7594.77)
VS(376.57) NS(674.97) EW(-279.00)

#90 MD(7960.00) Inc(78.5) Azm(270.6) TVD(7601.55)
VS(406.54) NS(675.39) EW(-309.24)

#91 MD(8009.00) Inc(81.3) Azm(269.5) TVD(7610.15)
VS(454.24) NS(675.43) EW(-357.47)



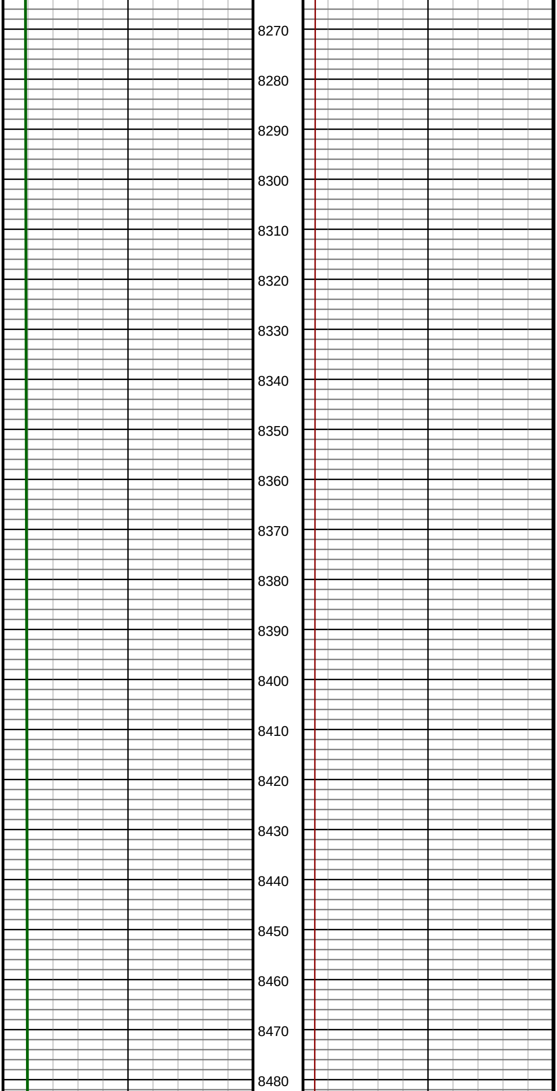
#92 MD(8067.00) Inc(83.6) Azm(267.4) TVD(7617.79)
VS(510.83) NS(673.87) EW(-414.94)

#93 MD(8130.00) Inc(84.1) Azm(266.2) TVD(7624.58)
VS(572.15) NS(670.41) EW(-477.48)

#94 MD(8194.00) Inc(85.1) Azm(266.9) TVD(7630.62)
VS(634.47) NS(666.62) EW(-541.08)

#95 MD(8226.00) Inc(85.6) Azm(267.0) TVD(7633.21)
VS(665.72) NS(664.93) EW(-572.93)

#96 MD(8257.00) Inc(86.5) Azm(268.1) TVD(7635.35)
VS(696.07) NS(663.62) EW(-603.82)



#97 MD(8289.00) Inc(87.6) Azm(268.9) TVD(7637.00)
VS(727.54) NS(662.80) EW(-635.77)

#98 MD(8321.00) Inc(89.4) Azm(269.8) TVD(7637.83)
VS(759.11) NS(662.43) EW(-667.76)

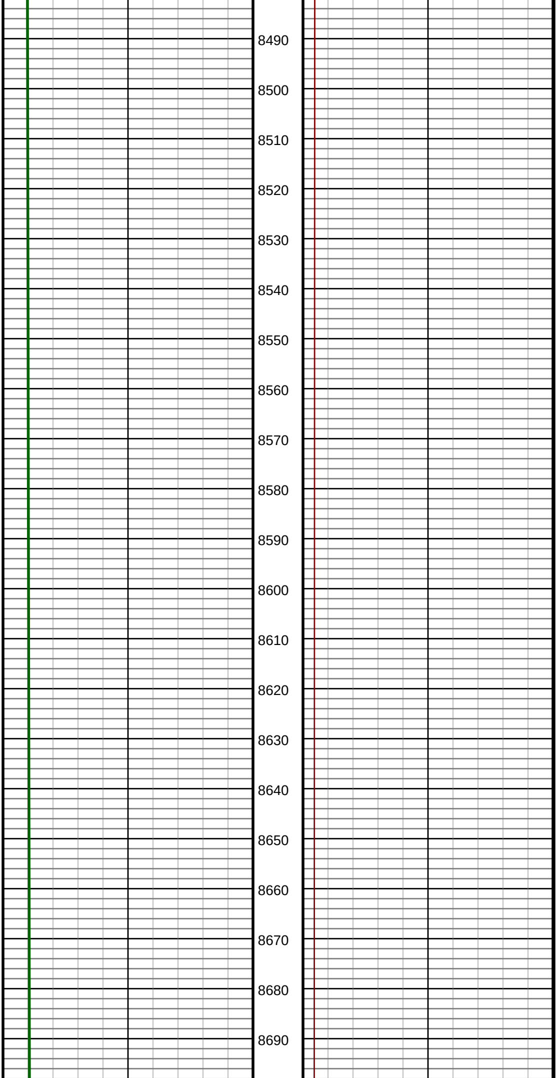
#99 MD(8352.00) Inc(90.1) Azm(270.0) TVD(7637.97)
VS(789.75) NS(662.37) EW(-698.75)

#100 MD(8384.00) Inc(90.7) Azm(270.5) TVD(7637.74)
VS(821.41) NS(662.51) EW(-730.75)

#101 MD(8416.00) Inc(92.3) Azm(271.1) TVD(7636.88)
VS(853.11) NS(662.95) EW(-762.74)

#102 MD(8448.00) Inc(93.0) Azm(271.2) TVD(7635.40)
VS(884.80) NS(663.59) EW(-794.70)

#103 MD(8479.00) Inc(93.3) Azm(271.5) TVD(7633.70)
VS(915.51) NS(664.32) EW(-825.64)



#104 MD(8511.00) Inc(92.7) Azm(270.8) TVD(7632.00)
VS(947.20) NS(664.96) EW(-857.59)

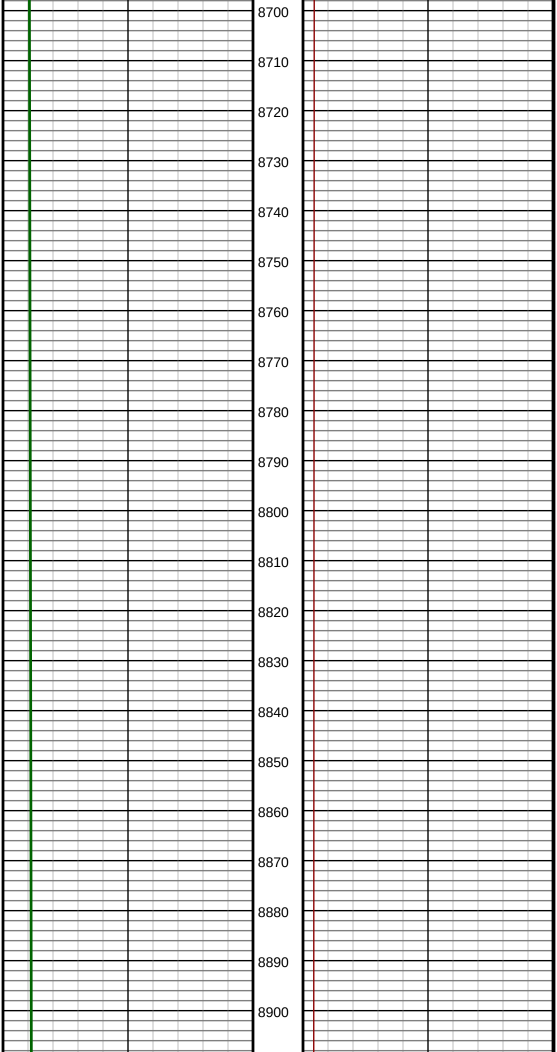
#105 MD(8543.00) Inc(92.5) Azm(270.8) TVD(7630.54)
VS(978.87) NS(665.41) EW(-889.55)

#106 MD(8574.00) Inc(92.3) Azm(270.8) TVD(7629.24)
VS(1009.56) NS(665.84) EW(-920.52)

#107 MD(8606.00) Inc(92.6) Azm(270.4) TVD(7627.88)
VS(1041.22) NS(666.18) EW(-952.49)

#108 MD(8638.00) Inc(92.8) Azm(270.1) TVD(7626.38)
VS(1072.85) NS(666.33) EW(-984.46)

#109 MD(8670.00) Inc(91.8) Azm(270.5) TVD(7625.09)
VS(1104.49) NS(666.50) EW(-1016.43)



#110 MD(8701.00) Inc(90.7) Azm(270.4) TVD(7624.39)
VS(1135.17) NS(666.74) EW(-1047.42)

#111 MD(8733.00) Inc(89.8) Azm(270.1) TVD(7624.25)
VS(1166.83) NS(666.88) EW(-1079.42)

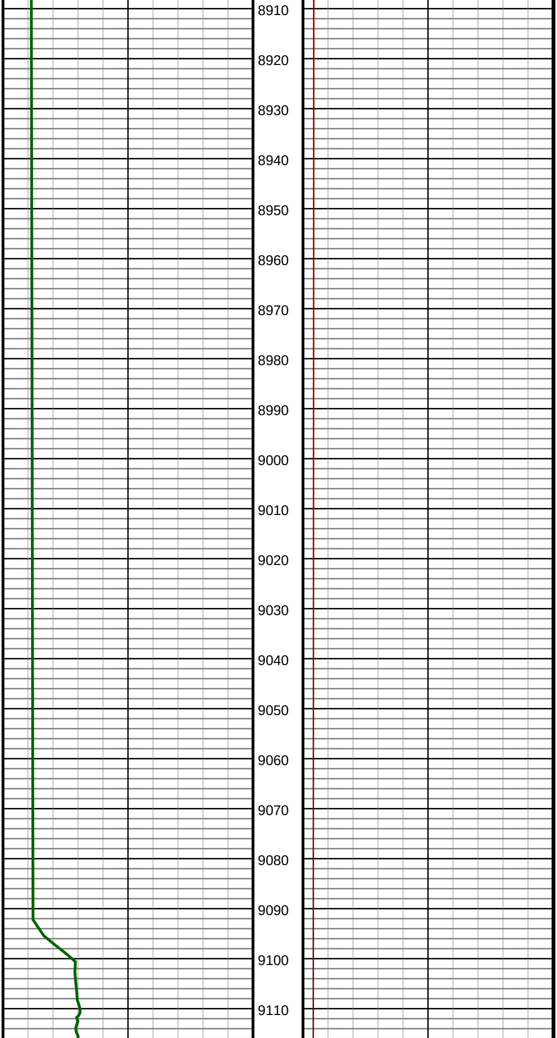
#112 MD(8765.00) Inc(90.0) Azm(270.4) TVD(7624.32)
VS(1198.49) NS(667.02) EW(-1111.42)

#113 MD(8797.00) Inc(90.2) Azm(269.8) TVD(7624.27)
VS(1230.14) NS(667.08) EW(-1143.42)

#114 MD(8828.00) Inc(90.5) Azm(269.4) TVD(7624.09)
VS(1260.76) NS(666.86) EW(-1174.42)

#115 MD(8860.00) Inc(89.9) Azm(269.9) TVD(7623.97)
VS(1292.37) NS(666.67) EW(-1206.42)

#116 MD(8892.00) Inc(90.6) Azm(270.4) TVD(7623.83)
VS(1324.03) NS(666.75) EW(-1238.42)



#117 MD(8924.00) Inc(89.9) Azm(270.4) TVD(7623.70)
VS(1355.70) NS(666.97) EW(-1270.41)

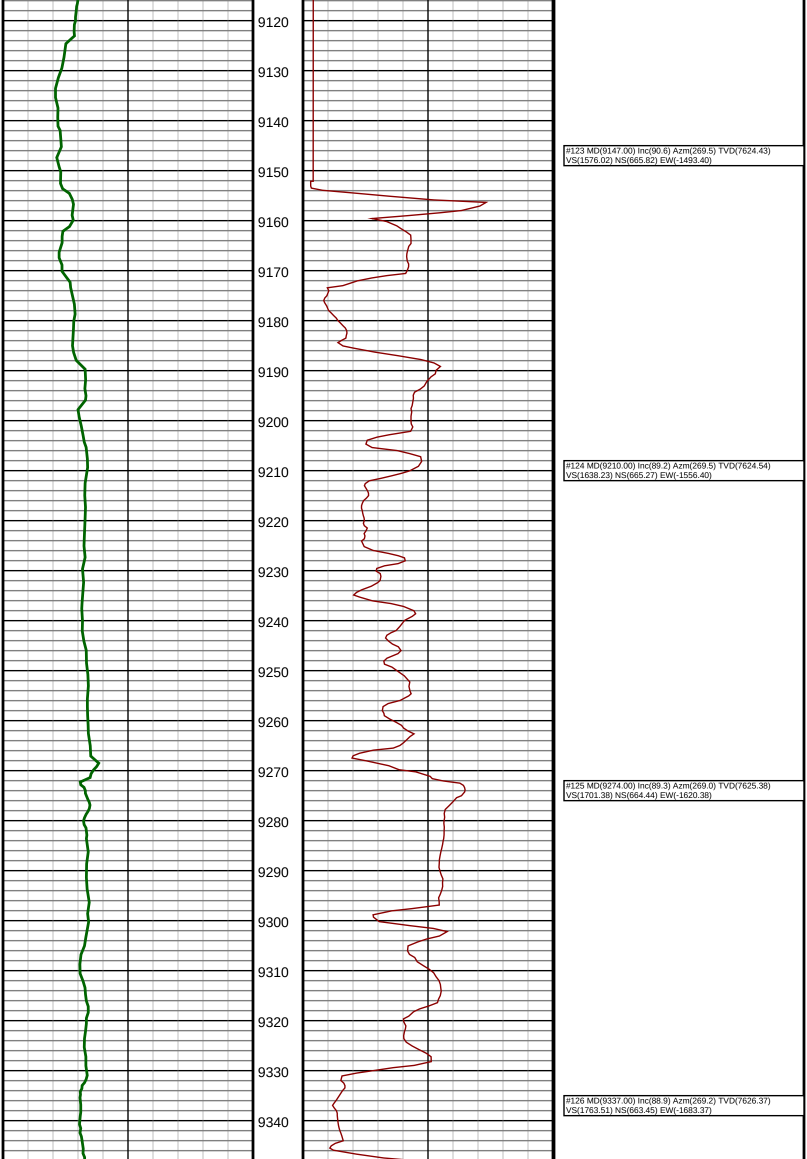
#118 MD(8955.00) Inc(89.9) Azm(269.9) TVD(7623.77)
VS(1386.37) NS(667.06) EW(-1301.41)

#119 MD(8987.00) Inc(88.9) Azm(269.9) TVD(7624.11)
VS(1418.00) NS(667.00) EW(-1333.41)

#120 MD(9019.00) Inc(89.4) Azm(269.9) TVD(7624.60)
VS(1449.63) NS(666.94) EW(-1365.41)

#121 MD(9050.00) Inc(89.7) Azm(269.3) TVD(7624.85)
VS(1480.25) NS(666.73) EW(-1396.41)

#122 MD(9083.00) Inc(90.2) Azm(269.5) TVD(7624.88)
VS(1512.82) NS(666.38) EW(-1429.40)

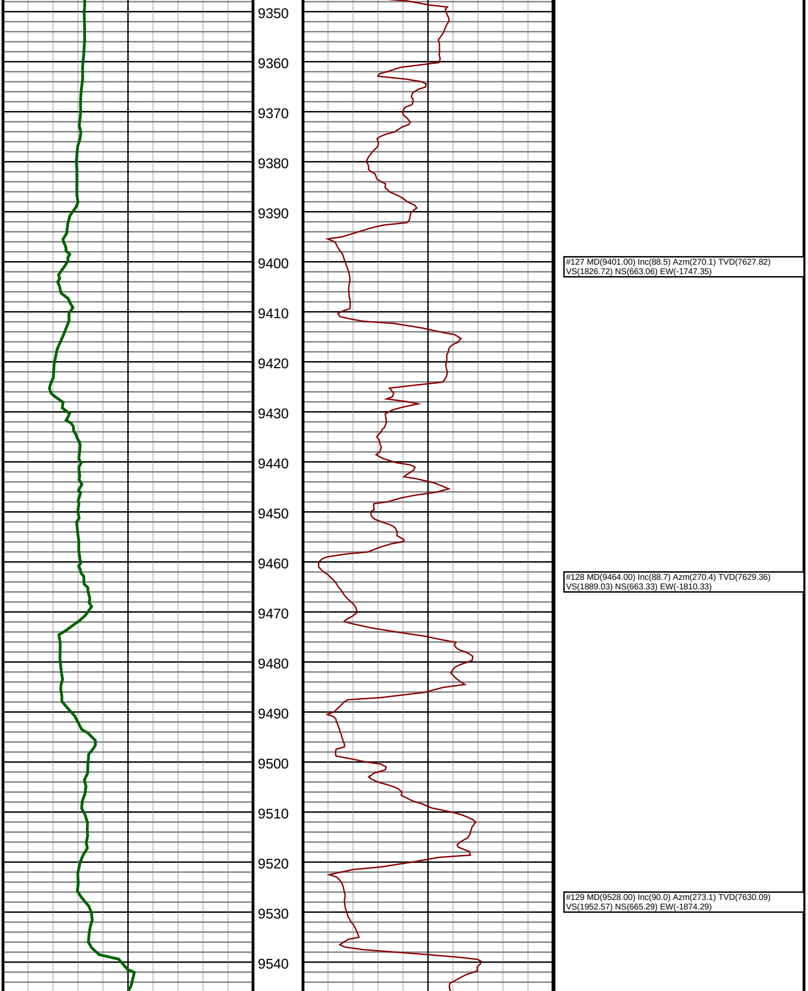


#123 MD(9147.00) Inc(90.6) Azm(269.5) TVD(7624.43)
VS(1576.02) NS(665.82) EW(-1493.40)

#124 MD(9210.00) Inc(89.2) Azm(269.5) TVD(7624.54)
VS(1638.23) NS(665.27) EW(-1556.40)

#125 MD(9274.00) Inc(89.3) Azm(269.0) TVD(7625.38)
VS(1701.38) NS(664.44) EW(-1620.38)

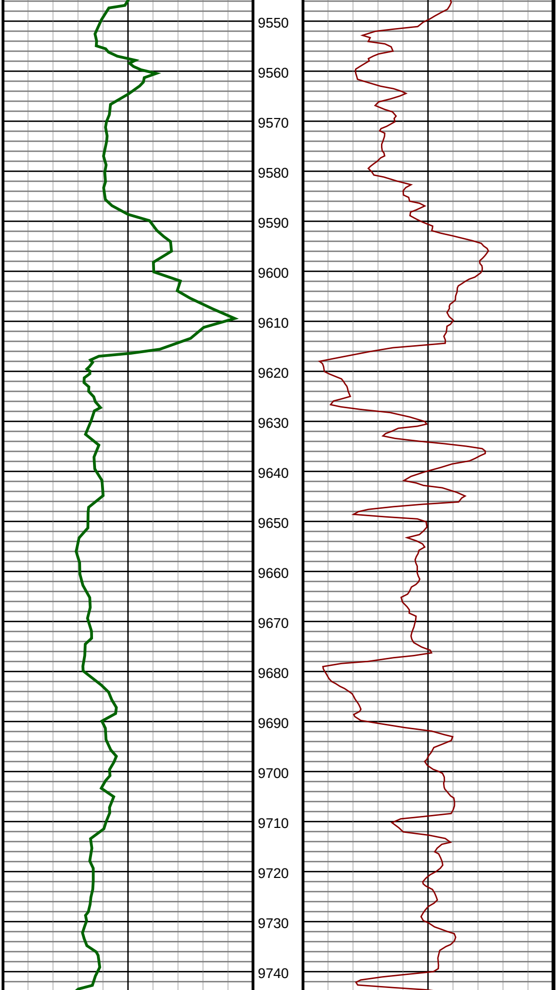
#126 MD(9337.00) Inc(88.9) Azm(269.2) TVD(7626.37)
VS(1763.51) NS(663.45) EW(-1683.37)



#127 MD(9401.00) Inc(88.5) Azm(270.1) TVD(7627.82)
VS(1826.72) NS(663.06) EW(-1747.35)

#128 MD(9464.00) Inc(88.7) Azm(270.4) TVD(7629.36)
VS(1889.03) NS(663.33) EW(-1810.33)

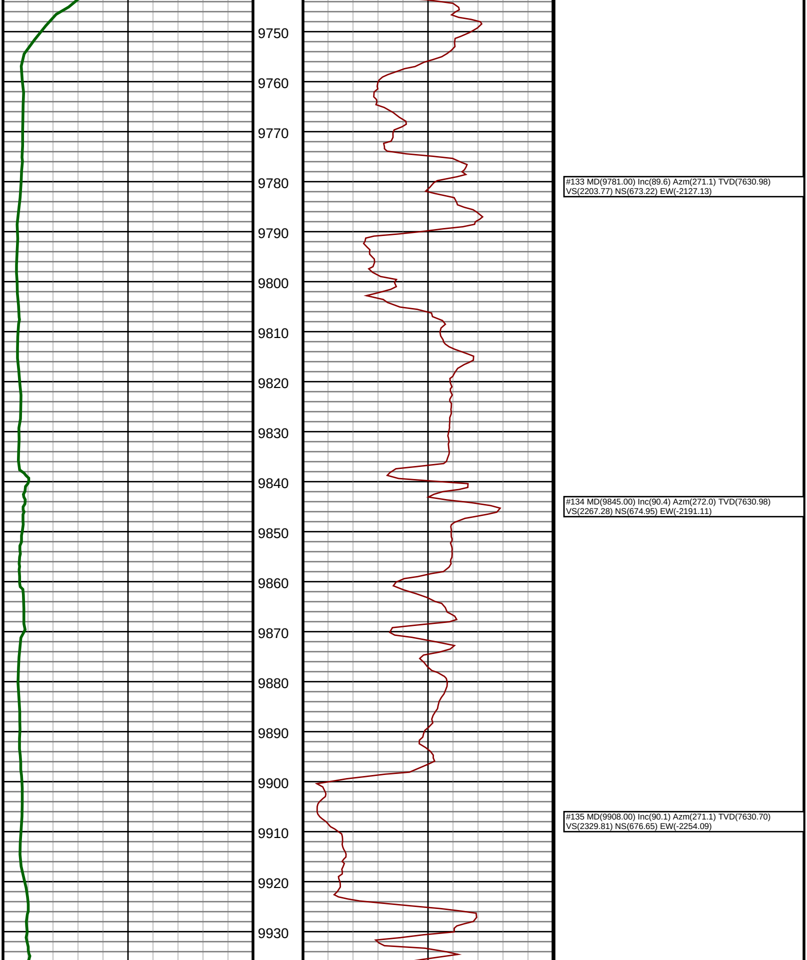
#129 MD(9528.00) Inc(90.0) Azm(273.1) TVD(7630.09)
VS(1952.57) NS(665.29) EW(-1874.29)



#130 MD(9591.00) Inc(90.3) Azm(272.9) TVD(7629.92)
VS(2015.27) NS(668.58) EW(-1937.20)

#131 MD(9654.00) Inc(89.3) Azm(270.6) TVD(7630.14)
VS(2077.82) NS(670.51) EW(-2000.17)

#132 MD(9718.00) Inc(89.8) Azm(271.6) TVD(7630.65)
VS(2141.27) NS(671.73) EW(-2064.15)



#133 MD(9781.00) Inc(89.6) Azm(271.1) TVD(7630.98)
VS(2203.77) NS(673.22) EW(-2127.13)

#134 MD(9845.00) Inc(90.4) Azm(272.0) TVD(7630.98)
VS(2267.28) NS(674.95) EW(-2191.11)

#135 MD(9908.00) Inc(90.1) Azm(271.1) TVD(7630.70)
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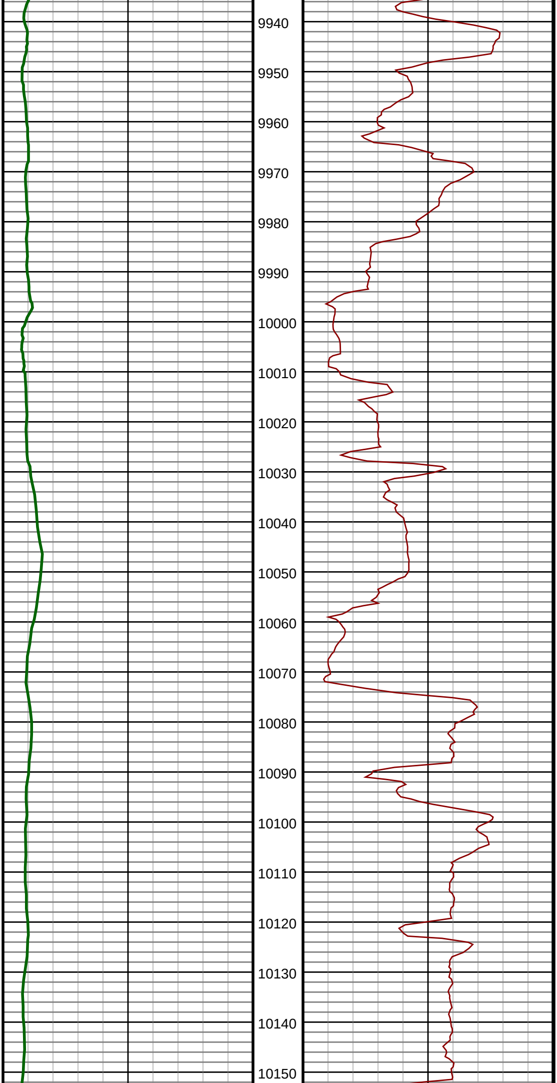
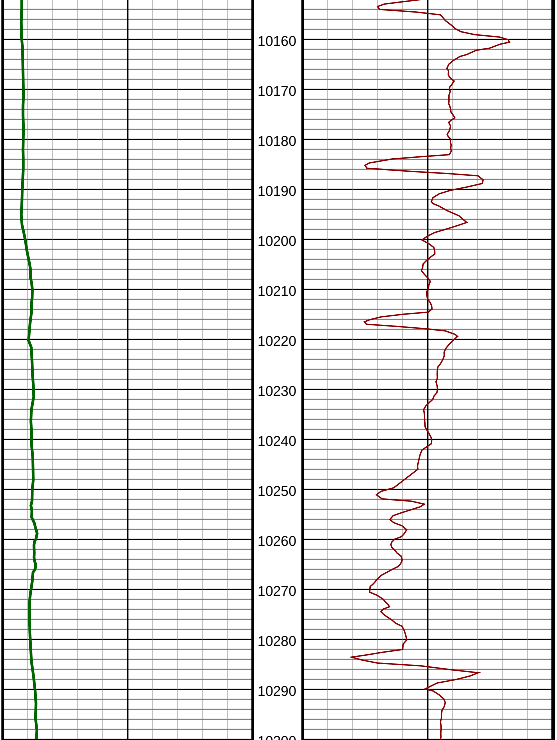


#136 MD(9972.00) Inc(88.8) Azm(270.6) TVD(7631.31)
VS(2393.22) NS(677.60) EW(-2318.07)

#137 MD(10035.00) Inc(90.0) Azm(269.9) TVD(7631.97)
VS(2455.55) NS(677.88) EW(-2381.07)

#138 MD(10099.00) Inc(90.7) Azm(269.4) TVD(7631.58)
VS(2518.78) NS(677.49) EW(-2445.07)



#139 MD(10162.00) Inc(91.2) Azm(269.5) TVD(7630.54)
VS(2580.97) NS(676.88) EW(-2508.05)

#140 MD(10226.00) Inc(91.5) Azm(268.5) TVD(7629.03)
VS(2644.06) NS(675.77) EW(-2572.03)

#141 MD(10289.00) Inc(91.4) Azm(268.3) TVD(7627.44)
VS(2706.05) NS(674.01) EW(-2634.98)

#142 MD(10353.00) Inc(90.7) Azm(267.1) TVD(7626.26) VS(2768.88) NS(671.44) EW(-2698.92)

#143 MD(10416.00) Inc(90.7) Azm(266.5) TVD(7625.49) VS(2830.55) NS(667.92) EW(-2761.81)

#144 MD(10480.00) Inc(88.0) Azm(268.5) TVD(7626.22) VS(2893.35) NS(665.13) EW(-2825.74)

#145 MD(10543.00) Inc(87.8) Azm(269.0) TVD(7628.53) VS(2955.38) NS(663.76) EW(-2888.68)

#146 MD(10607.00) Inc(88.3) Azm(271.3) TVD(7630.71) VS(3018.65) NS(663.93) EW(-2952.64)

#147 MD(10670.00) Inc(87.9) Azm(270.1) TVD(7632.80) VS(3081.02) NS(664.70) EW(-3015.60)

#148 MD(10734.00) Inc(88.0) Azm(270.4) TVD(7635.09) VS(3144.30) NS(664.97) EW(-3079.56)

#149 MD(10797.00) Inc(88.3) Azm(271.8) TVD(7637.12) VS(3206.73) NS(666.18) EW(-3142.51)

#150 MD(10861.00) Inc(87.9) Azm(271.8) TVD(7639.24) VS(3270.25) NS(668.19) EW(-3206.44)

#151 MD(10924.00) Inc(89.3) Azm(272.5) TVD(7640.78) VS(3332.83) NS(670.56) EW(-3269.38)

#152 MD(10988.00) Inc(89.3) Azm(272.2) TVD(7641.56) VS(3396.45) NS(673.18) EW(-3333.32)

#153 MD(11051.00) Inc(89.5) Azm(271.5) TVD(7642.22) VS(3459.01) NS(675.21) EW(-3396.28)

#154 MD(11115.00) Inc(90.5) Azm(270.6) TVD(7642.22) VS(3522.46) NS(676.39) EW(-3460.27)

#155 MD(11178.00) Inc(90.7) Azm(269.7) TVD(7641.56) VS(3584.77) NS(676.55) EW(-3523.27)

#156 MD(11242.00) Inc(90.3) Azm(269.0) TVD(7641.00) VS(3647.94) NS(675.82) EW(-3587.26)

#157 MD(11305.00) Inc(90.0) Azm(269.4) TVD(7640.84) VS(3710.10) NS(674.95) EW(-3650.25)

#158 MD(11369.00) Inc(90.7) Azm(268.5) TVD(7640.45) VS(3773.19) NS(673.77) EW(-3714.24)

#159 MD(11432.00) Inc(90.8) Azm(269.4) TVD(7639.62) VS(3835.30) NS(672.62) EW(-3777.22)

#160 MD(11496.00) Inc(91.0) Azm(270.1) TVD(7638.62) VS(3898.53) NS(672.34) EW(-3841.22)

#161 MD(11559.00) Inc(91.3) Azm(269.9) TVD(7637.35) VS(3960.82) NS(672.34) EW(-3904.20)

#162 MD(11623.00) Inc(91.5) Azm(269.9) TVD(7635.79) VS(4024.06) NS(672.23) EW(-3968.18)

#163 MD(11686.00) Inc(91.2) Azm(269.5) TVD(7634.31) VS(4086.29) NS(671.90) EW(-4031.16)

#164 MD(11750.00) Inc(90.4) Azm(269.4) TVD(7633.41) VS(4149.47) NS(671.28) EW(-4095.16)

#165 MD(11813.00) Inc(90.2) Azm(268.5) TVD(7633.08) VS(4211.58) NS(670.13) EW(-4158.14)

#166 MD(11877.00) Inc(90.2) Azm(268.1) TVD(7632.86) VS(4274.56) NS(668.23) EW(-4222.11)

#167 MD(11940.00) Inc(90.2) Azm(268.8) TVD(7632.64) VS(4336.57) NS(666.53) EW(-4285.09)

#168 MD(12004.00) Inc(89.1) Azm(269.5) TVD(7633.03) VS(4399.71) NS(665.58) EW(-4349.08)

#169 MD(12063.00) Inc(88.9) Azm(268.7) TVD(7634.06) VS(4457.89) NS(664.65) EW(-4408.06)