ENSIGN Directional

Jacobucci 32S-203

MD
2":100'

Company: Petroleum Development Corp.
Well Name: Jacobucci 32S-203
API: 05123419410000
County/Parish: WELD
State: COLORADO
Country: UNITED STATES
Job number: 158-207-42
Field: WATTENBURG
Rig Id: Ensign 158
Survey Company: Ensign Directional Services
Operator: Petroleum Development Corp.
Company Man: Dean Haight/Carl Gerrard
Daylight DD: Breven Williams/David Van Dorin
Night DD: Daryl Bailey/Tyler Batchelder
Daylight MWD: Kim Surprise/Richard Stahl
Night MWD: Matt Mason/Kahel Skelton

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

	Depth	**Date**
Start:	0 ft	11-13-2016
End:	14470 ft	11-19-2016

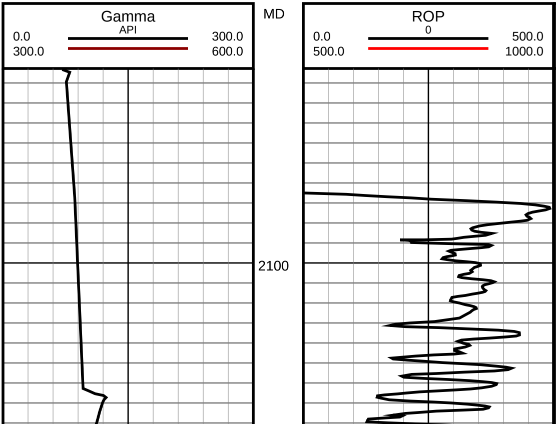
Casing	**Depth**	**Size**
Surface:	2048	9 5/8
Intermediate:		

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

Elevations
KB: 5082
GL: 5059
DF: 5082

		Offsets		**Depths**		**Dates**	
Run	**Bit Size**	**Gamma**	**Survey**	**Start**	**End**	**Start**	**End**
1	12.25		58.92	0	2065	11-13-2016	11-14-2016
2	8.50	62.23	57.23	2065	3277	11-15-2016	11-15-2016
3	8.50	62.22	57.22	3277	14470	11-15-2016	11-19-2016
4							
5							
6							
7							
8							
9							
10							

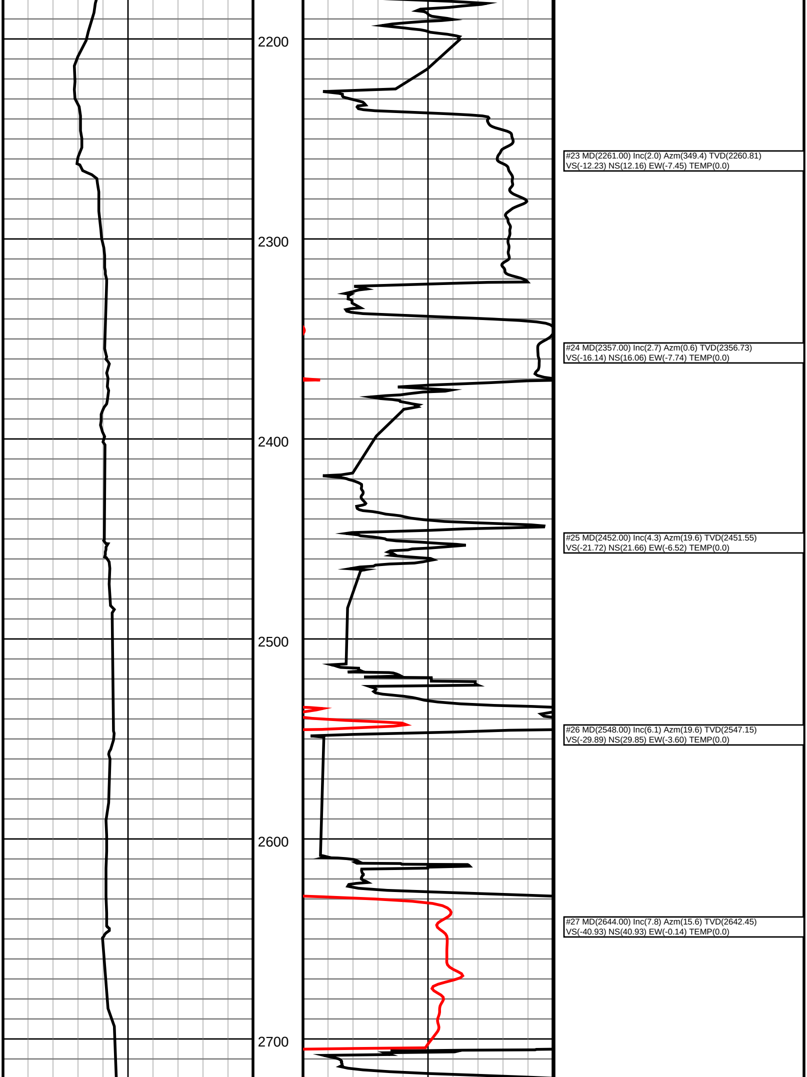
Ensign Directional Services uses its best efforts to provide its customers with accurate information and interpretations in conjunction with services performed but will not be held liable or responsible for the accuracy of such information or interpretation.



#20 MD(2005.00) Inc(0.9) Azm(5.9) TVD(2004.89) VS(-6.30) NS(6.25) EW(-5.41) TEMP(0.0)

#21 MD(2069.00) Inc(1.2) Azm(342.7) TVD(2068.88) VS(-7.44) NS(7.39) EW(-5.56) TEMP(0.0)

#22 MD(2165.00) Inc(1.5) Azm(329.2) TVD(2164.86) VS(-9.49) NS(9.43) EW(-6.50) TEMP(0.0)



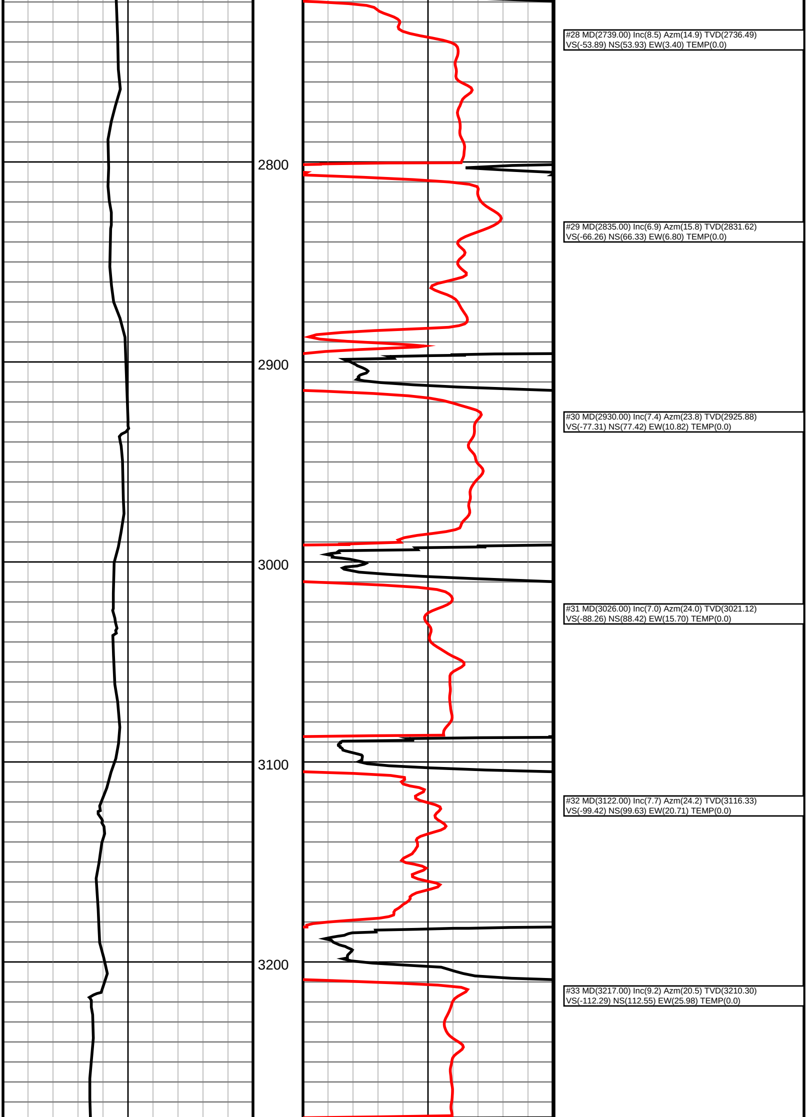
#23 MD(2261.00) Inc(2.0) Azm(349.4) TVD(2260.81)
VS(-12.23) NS(12.16) EW(-7.45) TEMP(0.0)

#24 MD(2357.00) Inc(2.7) Azm(0.6) TVD(2356.73)
VS(-16.14) NS(16.06) EW(-7.74) TEMP(0.0)

#25 MD(2452.00) Inc(4.3) Azm(19.6) TVD(2451.55)
VS(-21.72) NS(21.66) EW(-6.52) TEMP(0.0)

#26 MD(2548.00) Inc(6.1) Azm(19.6) TVD(2547.15)
VS(-29.89) NS(29.85) EW(-3.60) TEMP(0.0)

#27 MD(2644.00) Inc(7.8) Azm(15.6) TVD(2642.45)
VS(-40.93) NS(40.93) EW(-0.14) TEMP(0.0)



#28 MD(2739.00) Inc(8.5) Azm(14.9) TVD(2736.49)
VS(-53.89) NS(53.93) EW(3.40) TEMP(0.0)

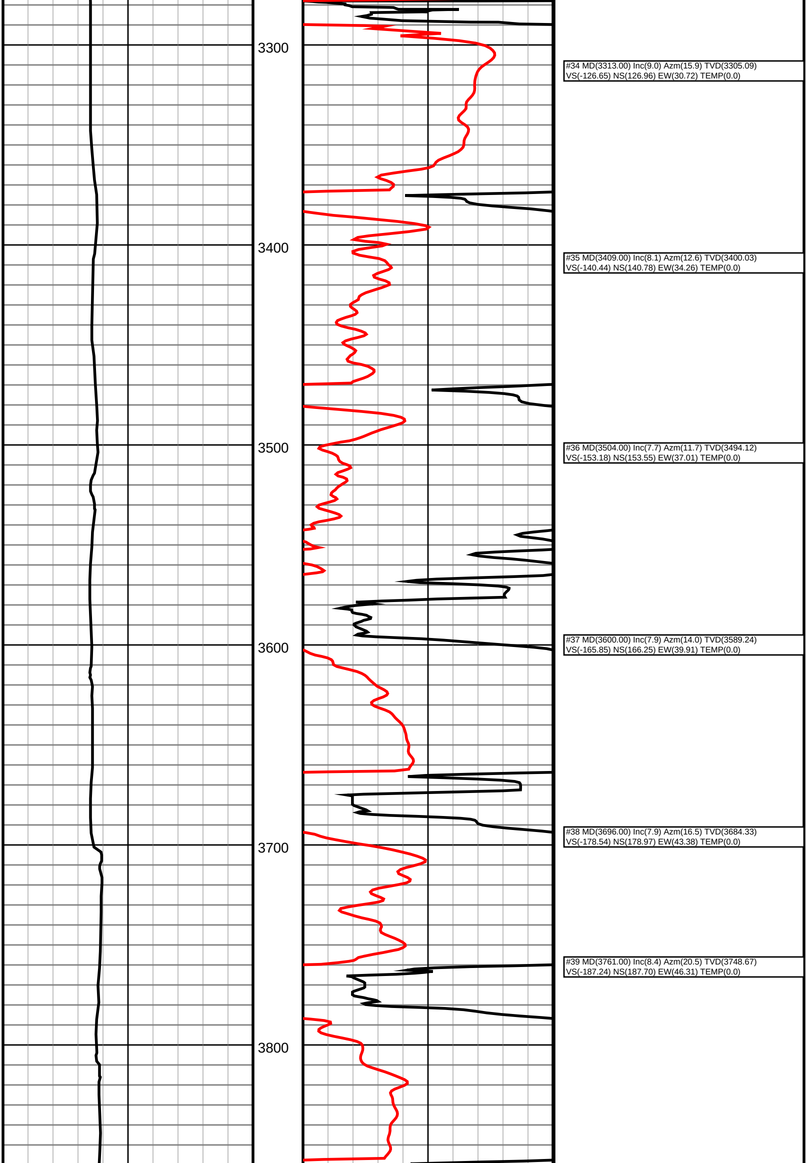
#29 MD(2835.00) Inc(6.9) Azm(15.8) TVD(2831.62)
VS(-66.26) NS(66.33) EW(6.80) TEMP(0.0)

#30 MD(2930.00) Inc(7.4) Azm(23.8) TVD(2925.88)
VS(-77.31) NS(77.42) EW(10.82) TEMP(0.0)

#31 MD(3026.00) Inc(7.0) Azm(24.0) TVD(3021.12)
VS(-88.26) NS(88.42) EW(15.70) TEMP(0.0)

#32 MD(3122.00) Inc(7.7) Azm(24.2) TVD(3116.33)
VS(-99.42) NS(99.63) EW(20.71) TEMP(0.0)

#33 MD(3217.00) Inc(9.2) Azm(20.5) TVD(3210.30)
VS(-112.29) NS(112.55) EW(25.98) TEMP(0.0)



#34 MD(3313.00) Inc(9.0) Azm(15.9) TVD(3305.09)
VS(-126.65) NS(126.96) EW(30.72) TEMP(0.0)

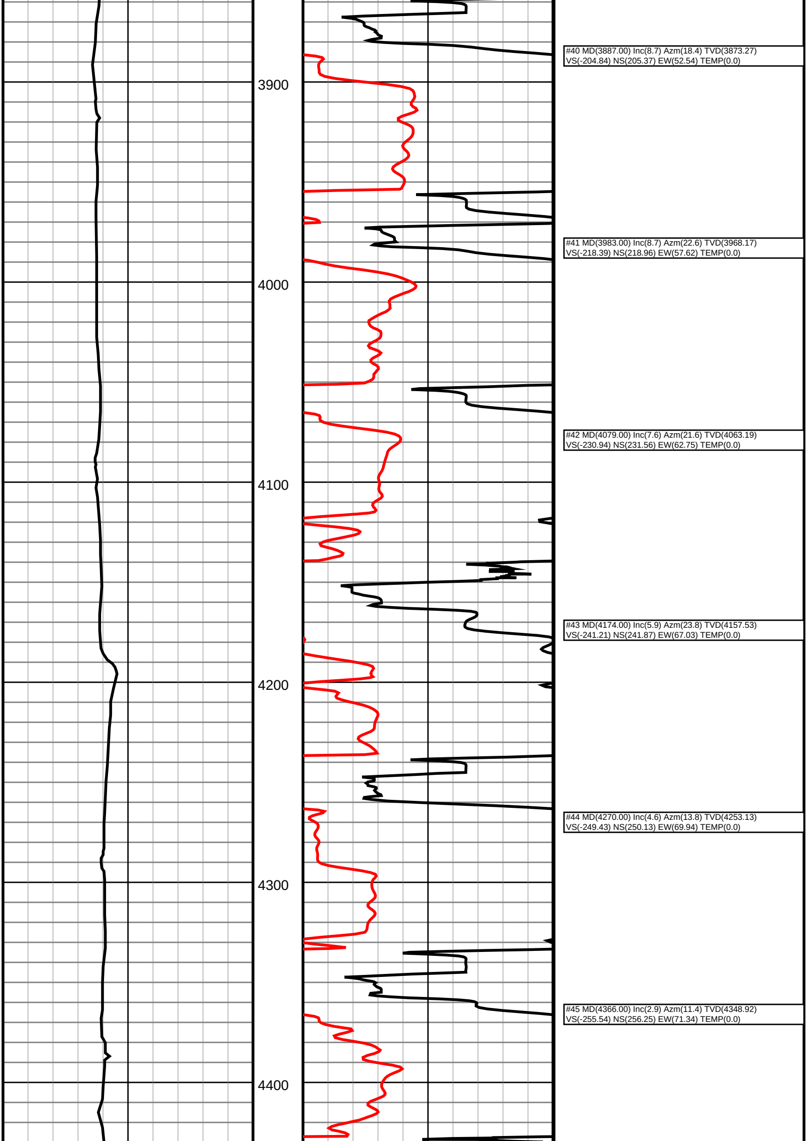
#35 MD(3409.00) Inc(8.1) Azm(12.6) TVD(3400.03)
VS(-140.44) NS(140.78) EW(34.26) TEMP(0.0)

#36 MD(3504.00) Inc(7.7) Azm(11.7) TVD(3494.12)
VS(-153.18) NS(153.55) EW(37.01) TEMP(0.0)

#37 MD(3600.00) Inc(7.9) Azm(14.0) TVD(3589.24)
VS(-165.85) NS(166.25) EW(39.91) TEMP(0.0)

#38 MD(3696.00) Inc(7.9) Azm(16.5) TVD(3684.33)
VS(-178.54) NS(178.97) EW(43.38) TEMP(0.0)

#39 MD(3761.00) Inc(8.4) Azm(20.5) TVD(3748.67)
VS(-187.24) NS(187.70) EW(46.31) TEMP(0.0)



#40 MD(3887.00) Inc(8.7) Azm(18.4) TVD(3873.27)
VS(-204.84) NS(205.37) EW(52.54) TEMP(0.0)

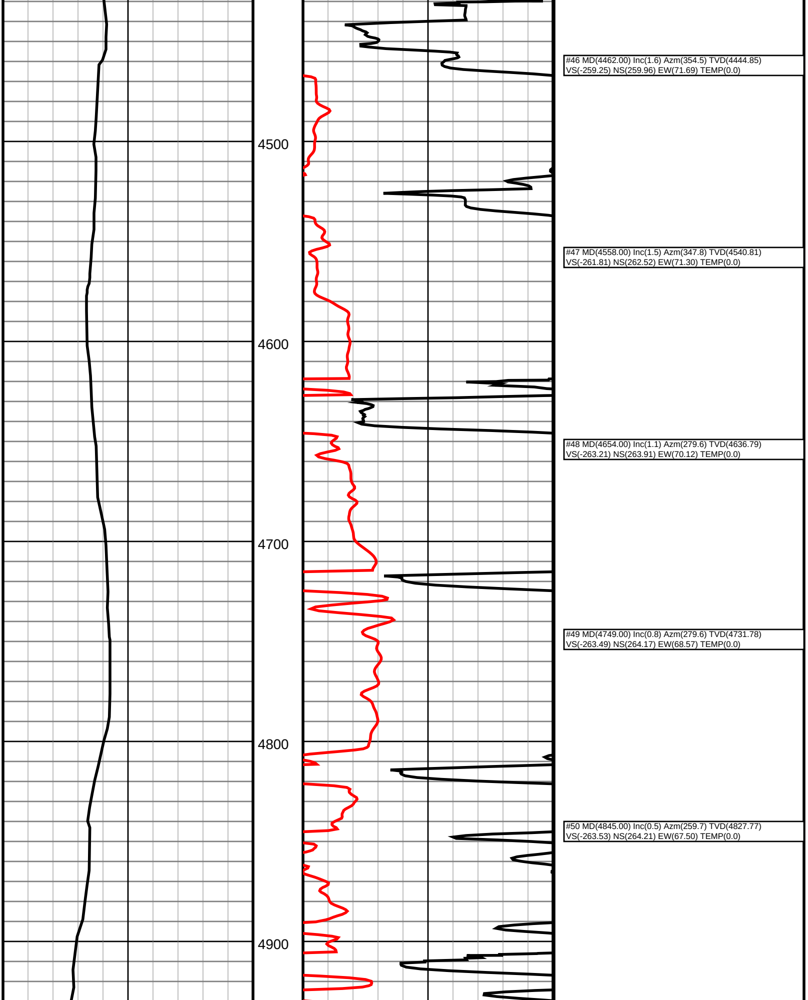
#41 MD(3983.00) Inc(8.7) Azm(22.6) TVD(3968.17)
VS(-218.39) NS(218.96) EW(57.62) TEMP(0.0)

#42 MD(4079.00) Inc(7.6) Azm(21.6) TVD(4063.19)
VS(-230.94) NS(231.56) EW(62.75) TEMP(0.0)

#43 MD(4174.00) Inc(5.9) Azm(23.8) TVD(4157.53)
VS(-241.21) NS(241.87) EW(67.03) TEMP(0.0)

#44 MD(4270.00) Inc(4.6) Azm(13.8) TVD(4253.13)
VS(-249.43) NS(250.13) EW(69.94) TEMP(0.0)

#45 MD(4366.00) Inc(2.9) Azm(11.4) TVD(4348.92)
VS(-255.54) NS(256.25) EW(71.34) TEMP(0.0)



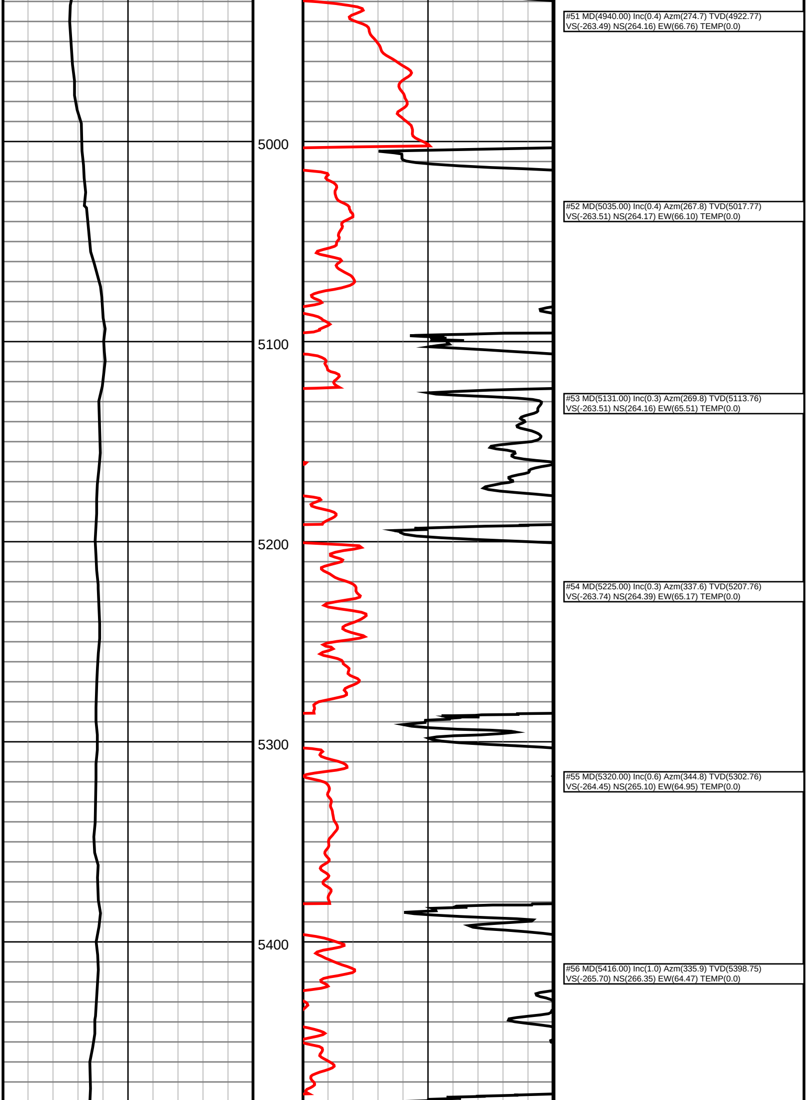
#46 MD(4462.00) Inc(1.6) Azm(354.5) TVD(4444.85)
VS(-259.25) NS(259.96) EW(71.69) TEMP(0.0)

#47 MD(4558.00) Inc(1.5) Azm(347.8) TVD(4540.81)
VS(-261.81) NS(262.52) EW(71.30) TEMP(0.0)

#48 MD(4654.00) Inc(1.1) Azm(279.6) TVD(4636.79)
VS(-263.21) NS(263.91) EW(70.12) TEMP(0.0)

#49 MD(4749.00) Inc(0.8) Azm(279.6) TVD(4731.78)
VS(-263.49) NS(264.17) EW(68.57) TEMP(0.0)

#50 MD(4845.00) Inc(0.5) Azm(259.7) TVD(4827.77)
VS(-263.53) NS(264.21) EW(67.50) TEMP(0.0)



#51 MD(4940.00) Inc(0.4) Azm(274.7) TVD(4922.77)
VS(-263.49) NS(264.16) EW(66.76) TEMP(0.0)

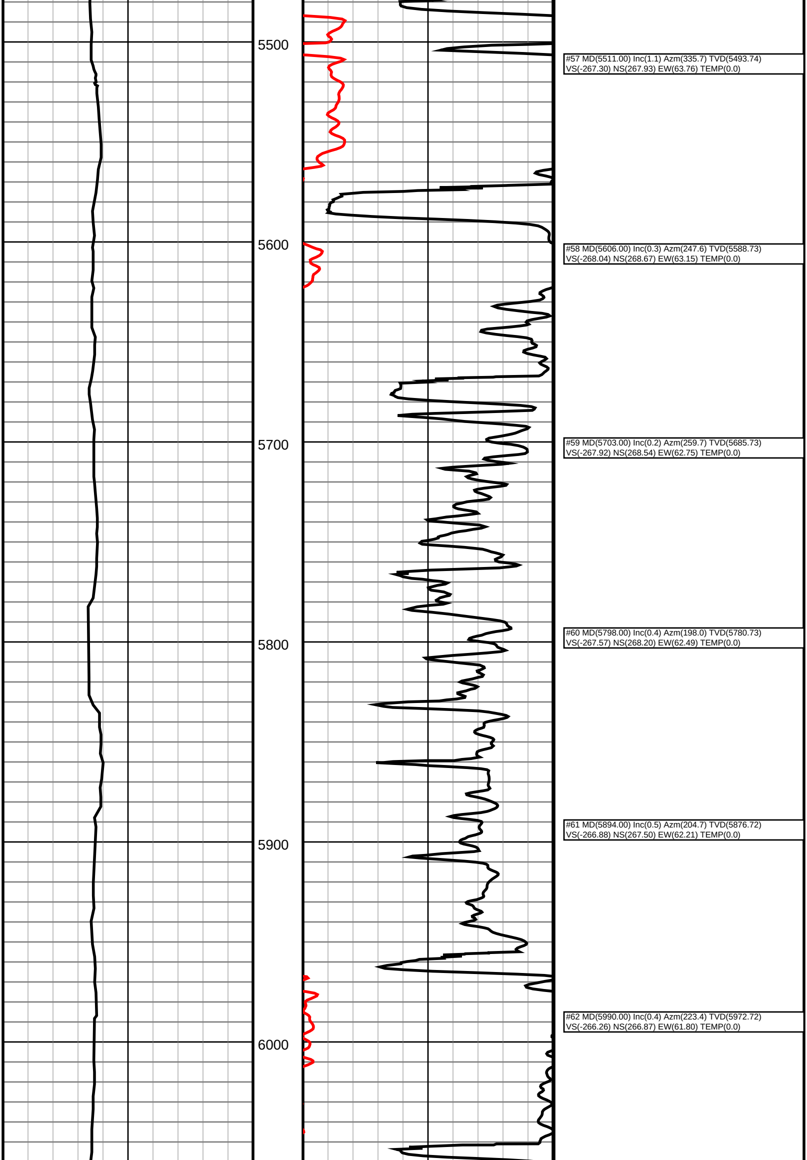
#52 MD(5035.00) Inc(0.4) Azm(267.8) TVD(5017.77)
VS(-263.51) NS(264.17) EW(66.10) TEMP(0.0)

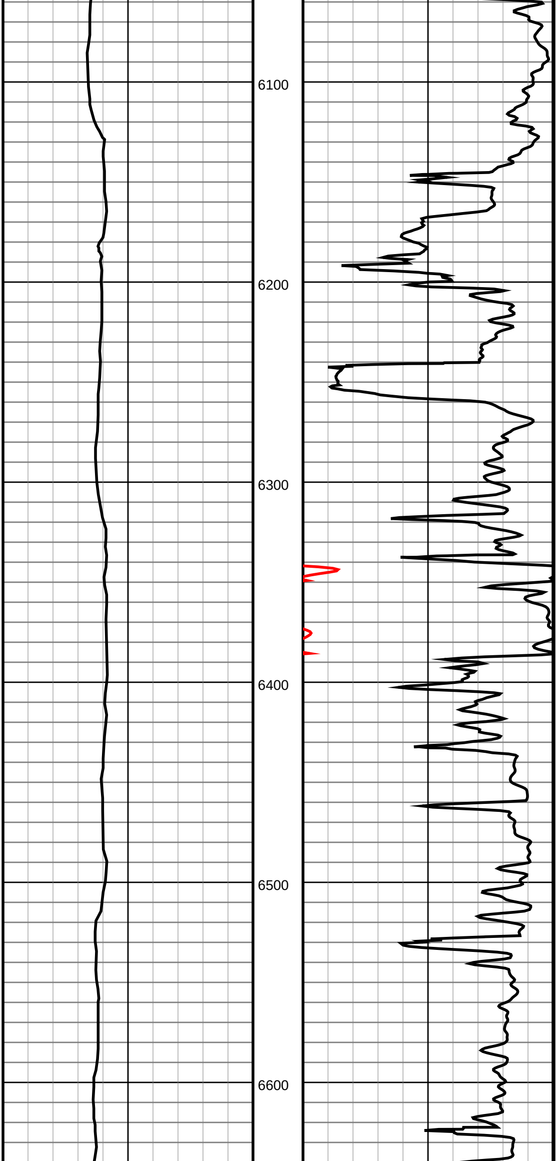
#53 MD(5131.00) Inc(0.3) Azm(269.8) TVD(5113.76)
VS(-263.51) NS(264.16) EW(65.51) TEMP(0.0)

#54 MD(5225.00) Inc(0.3) Azm(337.6) TVD(5207.76)
VS(-263.74) NS(264.39) EW(65.17) TEMP(0.0)

#55 MD(5320.00) Inc(0.6) Azm(344.8) TVD(5302.76)
VS(-264.45) NS(265.10) EW(64.95) TEMP(0.0)

#56 MD(5416.00) Inc(1.0) Azm(335.9) TVD(5398.75)
VS(-265.70) NS(266.35) EW(64.47) TEMP(0.0)





#63 MD(6085.00) Inc(0.4) Azm(205.8) TVD(6067.72)
VS(-265.72) NS(266.33) EW(61.43) TEMP(0.0)

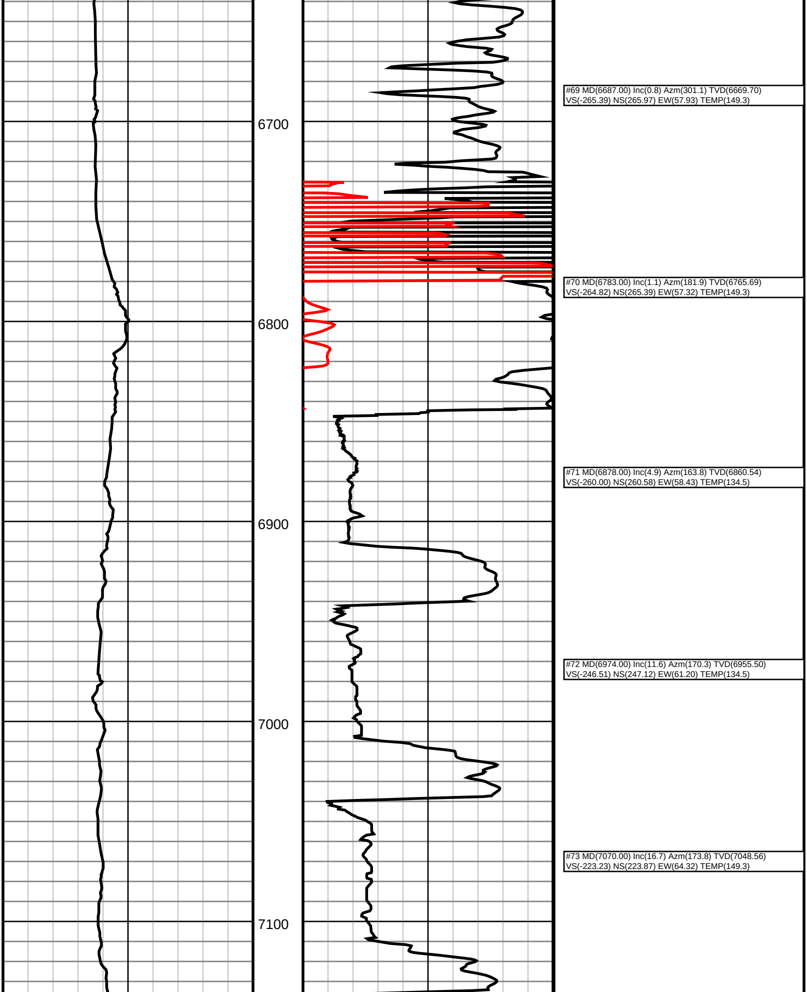
#64 MD(6179.00) Inc(0.6) Azm(229.9) TVD(6161.72)
VS(-265.11) NS(265.72) EW(60.91) TEMP(134.5)

#65 MD(6275.00) Inc(0.4) Azm(185.2) TVD(6257.71)
VS(-264.46) NS(265.06) EW(60.50) TEMP(134.5)

#66 MD(6370.00) Inc(0.1) Azm(272.2) TVD(6352.71)
VS(-264.13) NS(264.74) EW(60.38) TEMP(90.1)

#67 MD(6466.00) Inc(0.3) Azm(271.9) TVD(6448.71)
VS(-264.15) NS(264.75) EW(60.05) TEMP(90.1)

#68 MD(6561.00) Inc(0.7) Azm(304.0) TVD(6543.71)
VS(-264.49) NS(265.08) EW(59.32) TEMP(90.1)



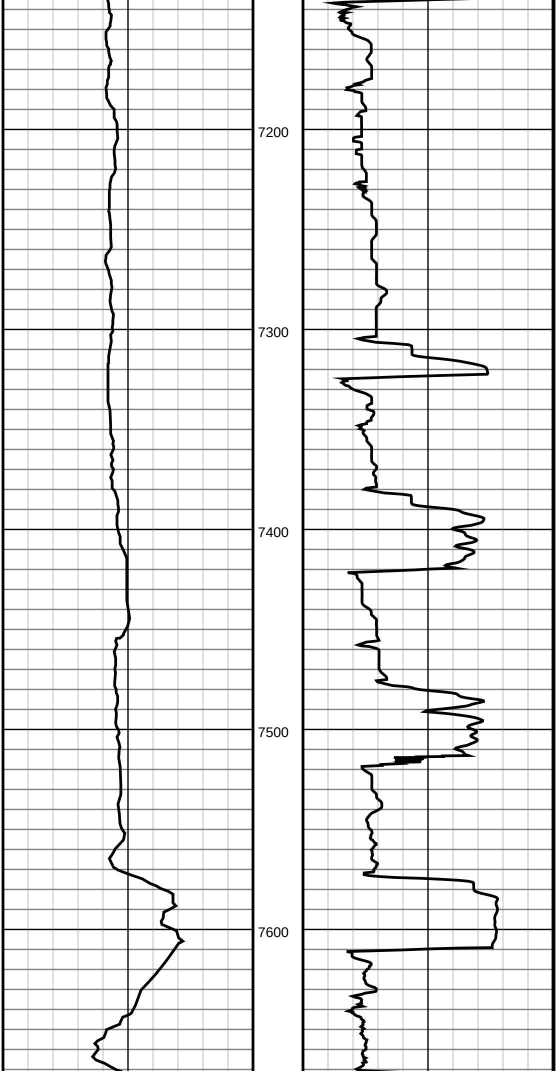
#69 MD(6687.00) Inc(0.8) Azm(301.1) TVD(6669.70)
VS(-265.39) NS(265.97) EW(57.93) TEMP(149.3)

#70 MD(6783.00) Inc(1.1) Azm(181.9) TVD(6765.69)
VS(-264.82) NS(265.39) EW(57.32) TEMP(149.3)

#71 MD(6878.00) Inc(4.9) Azm(163.8) TVD(6860.54)
VS(-260.00) NS(260.58) EW(58.43) TEMP(134.5)

#72 MD(6974.00) Inc(11.6) Azm(170.3) TVD(6955.50)
VS(-246.51) NS(247.12) EW(61.20) TEMP(134.5)

#73 MD(7070.00) Inc(16.7) Azm(173.8) TVD(7048.56)
VS(-223.23) NS(223.87) EW(64.32) TEMP(149.3)



#74 MD(7165.00) Inc(22.2) Azm(178.7) TVD(7138.11)
VS(-191.68) NS(192.33) EW(66.20) TEMP(149.3)

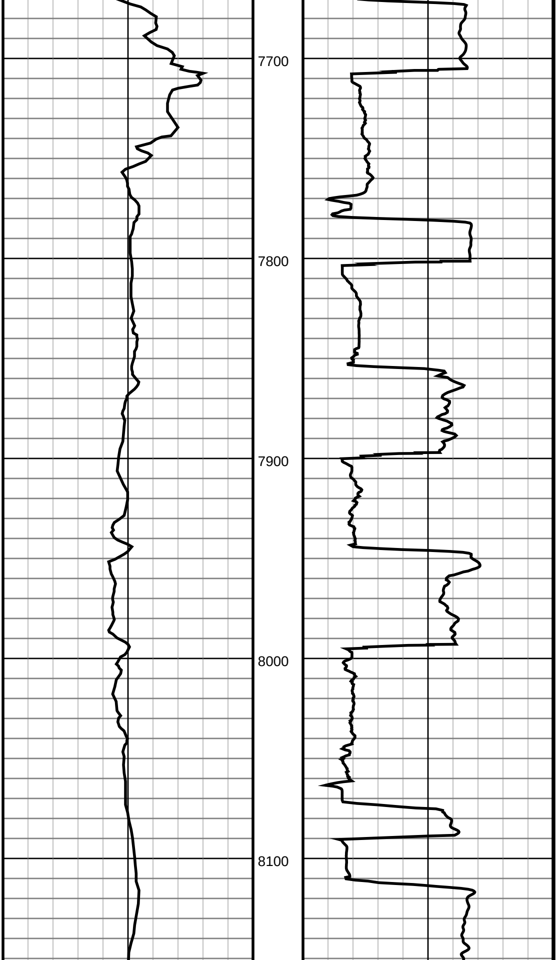
#75 MD(7261.00) Inc(33.0) Azm(181.0) TVD(7223.06)
VS(-147.28) NS(147.93) EW(66.15) TEMP(149.3)

#76 MD(7356.00) Inc(41.2) Azm(179.6) TVD(7298.76)
VS(-90.03) NS(90.68) EW(65.92) TEMP(149.3)

#77 MD(7452.00) Inc(46.7) Azm(180.3) TVD(7367.85)
VS(-23.43) NS(24.08) EW(65.96) TEMP(149.3)

#78 MD(7548.00) Inc(52.9) Azm(177.3) TVD(7429.80)
VS(49.83) NS(-49.18) EW(67.58) TEMP(149.3)

#79 MD(7645.00) Inc(57.9) Azm(177.5) TVD(7484.86)
VS(129.60) NS(-128.91) EW(71.20) TEMP(149.3)



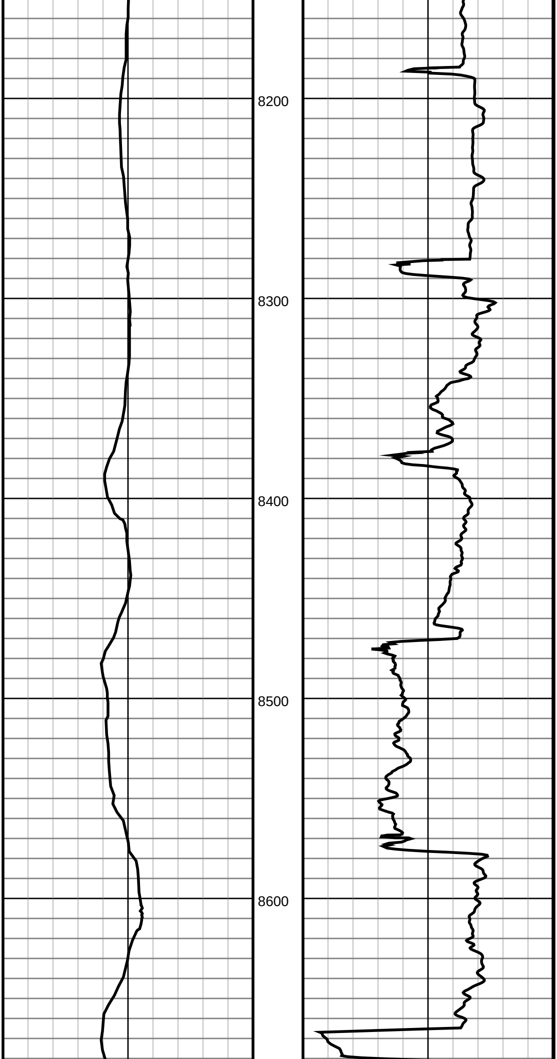
#80 MD(7740.00) Inc(63.7) Azm(177.7) TVD(7531.19)
VS(212.45) NS(-211.73) EW(74.67) TEMP(149.3)

#81 MD(7836.00) Inc(71.3) Azm(180.6) TVD(7567.90)
VS(301.07) NS(-300.34) EW(75.92) TEMP(149.3)

#82 MD(7932.00) Inc(76.9) Azm(180.6) TVD(7594.19)
VS(393.34) NS(-392.62) EW(74.95) TEMP(149.3)

#83 MD(8028.00) Inc(82.5) Azm(181.2) TVD(7611.35)
VS(487.72) NS(-487.03) EW(73.46) TEMP(149.3)

#84 MD(8124.00) Inc(89.3) Azm(181.2) TVD(7618.21)
VS(583.38) NS(-582.70) EW(71.46) TEMP(164.1)



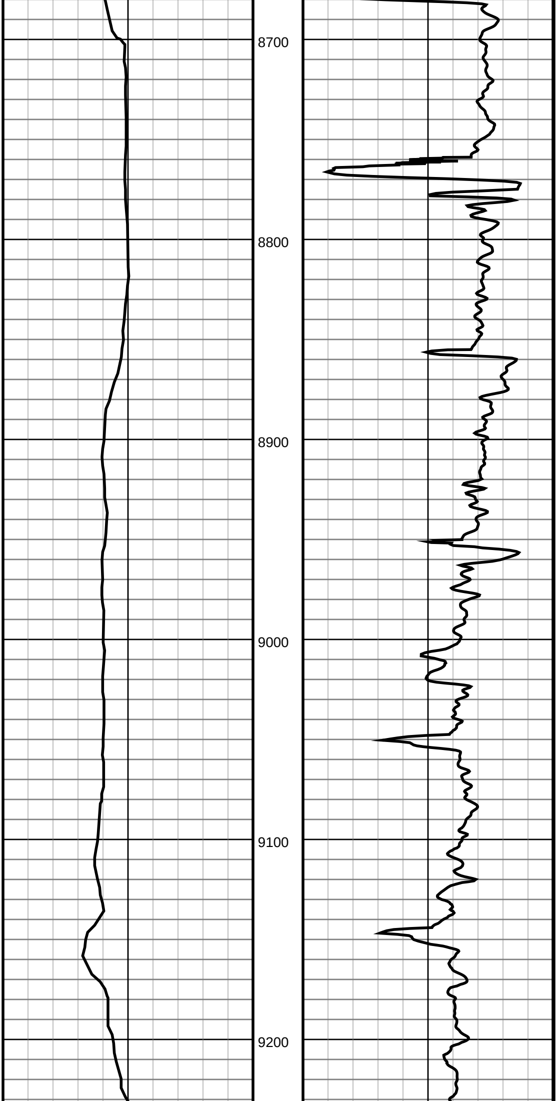
#85 MD(8220.00) Inc(89.7) Azm(180.5) TVD(7619.05)
VS(679.34) NS(-678.69) EW(70.04) TEMP(164.1)

#86 MD(8316.00) Inc(90.0) Azm(180.5) TVD(7619.30)
VS(775.33) NS(-774.69) EW(69.20) TEMP(164.1)

#87 MD(8411.00) Inc(89.6) Azm(180.1) TVD(7619.63)
VS(870.31) NS(-869.68) EW(68.70) TEMP(164.1)

#88 MD(8507.00) Inc(89.7) Azm(179.6) TVD(7620.22)
VS(966.31) NS(-965.68) EW(68.95) TEMP(164.1)

#89 MD(8602.00) Inc(89.3) Azm(178.7) TVD(7621.05)
VS(1061.30) NS(-1060.67) EW(70.36) TEMP(164.1)



#90 MD(8698.00) Inc(90.1) Azm(179.8) TVD(7621.55)
VS(1157.30) NS(-1156.65) EW(71.62) TEMP(164.1)

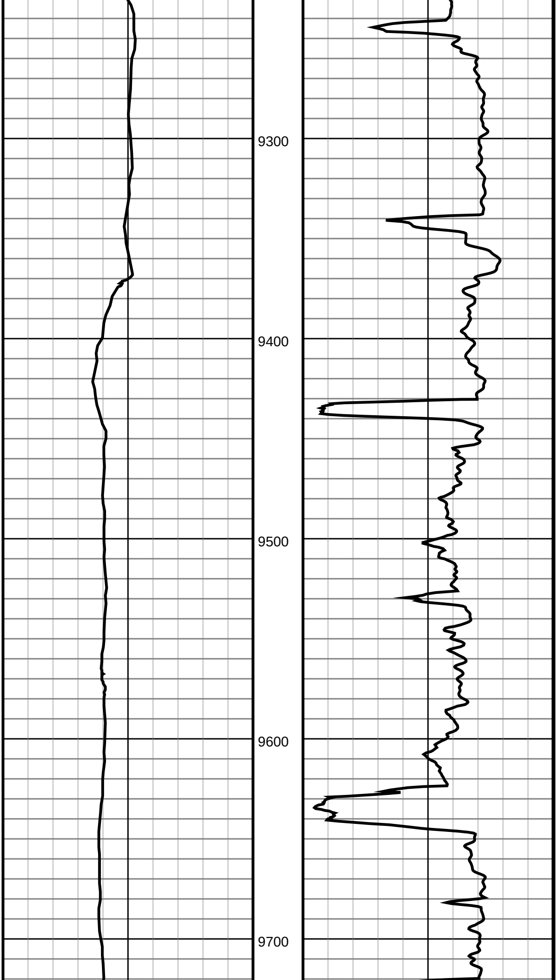
#91 MD(8794.00) Inc(90.0) Azm(181.0) TVD(7621.47)
VS(1253.28) NS(-1252.65) EW(70.95) TEMP(164.1)

#92 MD(8889.00) Inc(90.1) Azm(181.0) TVD(7621.38)
VS(1348.25) NS(-1347.64) EW(69.29) TEMP(164.1)

#93 MD(8985.00) Inc(90.0) Azm(180.8) TVD(7621.30)
VS(1444.22) NS(-1443.62) EW(67.78) TEMP(164.1)

#94 MD(9081.00) Inc(89.7) Azm(180.6) TVD(7621.55)
VS(1540.19) NS(-1539.62) EW(66.61) TEMP(178.9)

#95 MD(9177.00) Inc(90.1) Azm(179.8) TVD(7621.72)
VS(1636.18) NS(-1635.61) EW(66.27) TEMP(178.9)



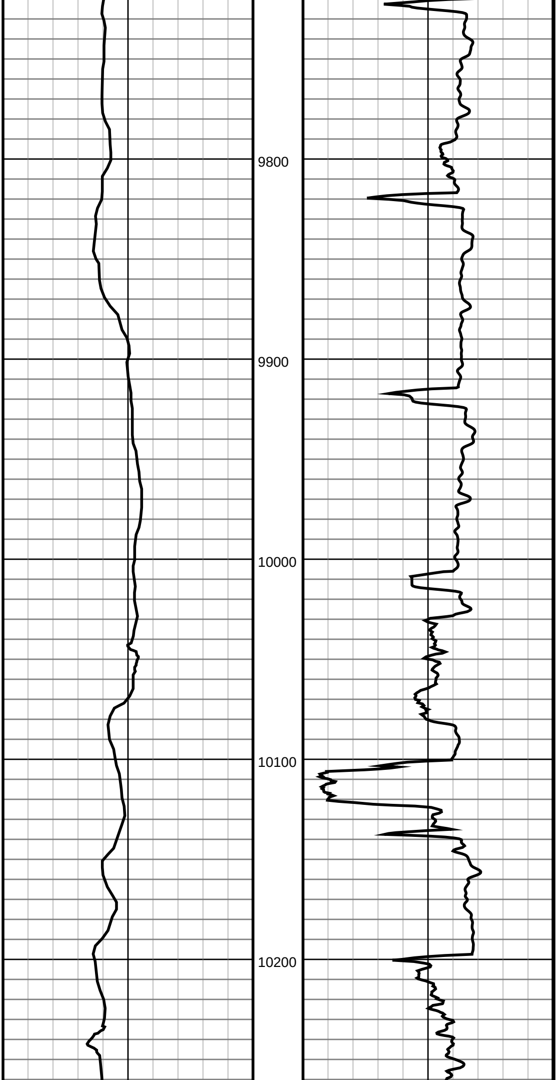
#96 MD(9273.00) Inc(90.4) Azm(179.6) TVD(7621.30)
VS(1732.18) NS(-1731.61) EW(66.78) TEMP(178.9)

#97 MD(9369.00) Inc(90.0) Azm(179.4) TVD(7620.96)
VS(1828.18) NS(-1827.61) EW(67.61) TEMP(178.9)

#98 MD(9465.00) Inc(90.4) Azm(179.6) TVD(7620.63)
VS(1924.18) NS(-1923.60) EW(68.45) TEMP(178.9)

#99 MD(9561.00) Inc(89.9) Azm(179.2) TVD(7620.38)
VS(2020.18) NS(-2019.60) EW(69.46) TEMP(178.9)

#100 MD(9657.00) Inc(91.0) Azm(180.1) TVD(7619.62)
VS(2116.17) NS(-2115.59) EW(70.04) TEMP(178.9)



#101 MD(9752.00) Inc(90.7) Azm(179.8) TVD(7618.21)
VS(2211.16) NS(-2210.58) EW(70.13) TEMP(178.9)

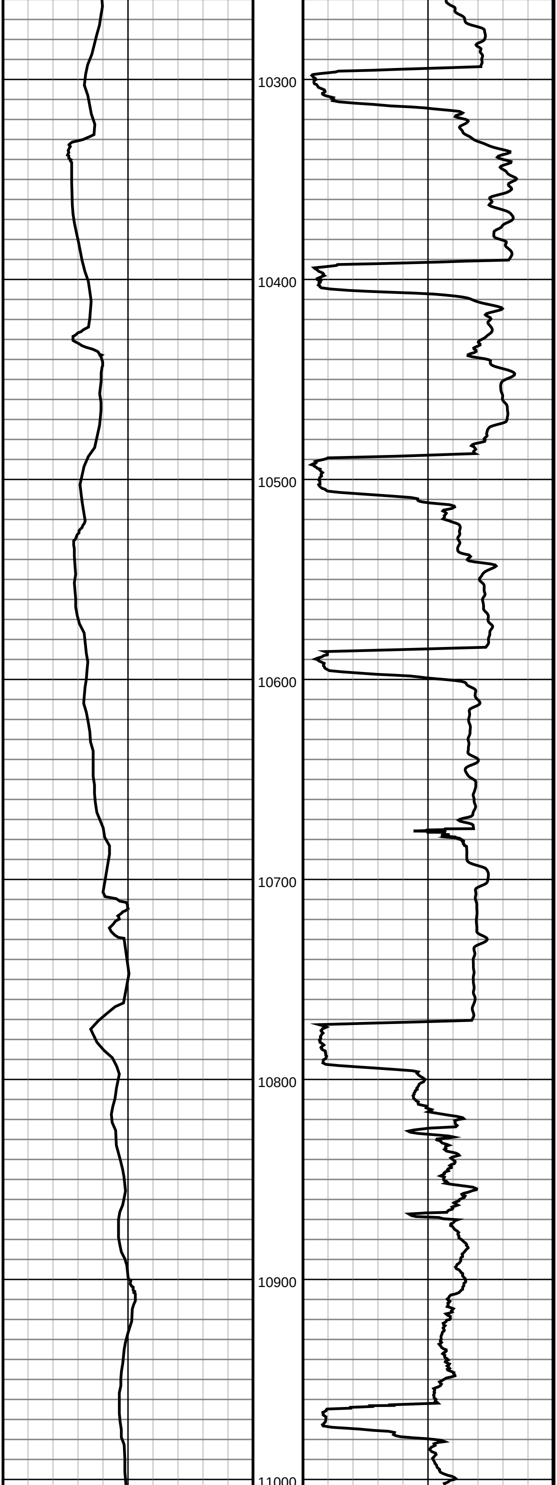
#102 MD(9848.00) Inc(90.8) Azm(179.8) TVD(7616.96)
VS(2307.15) NS(-2306.57) EW(70.46) TEMP(178.9)

#103 MD(9943.00) Inc(90.5) Azm(179.1) TVD(7615.88)
VS(2402.14) NS(-2401.56) EW(71.37) TEMP(178.9)

#104 MD(10039.00) Inc(90.4) Azm(178.7) TVD(7615.13)
VS(2498.13) NS(-2497.54) EW(73.22) TEMP(178.9)

#105 MD(10135.00) Inc(90.9) Azm(180.3) TVD(7614.04)
VS(2594.12) NS(-2593.52) EW(74.05) TEMP(178.9)

#106 MD(10231.00) Inc(92.1) Azm(180.1) TVD(7611.52)
VS(2690.08) NS(-2689.49) EW(73.72) TEMP(178.9)



#107 MD(10327.00) Inc(91.4) Azm(179.9) TVD(7608.59)
VS(2786.03) NS(-2785.44) EW(73.72) TEMP(178.9)

#108 MD(10422.00) Inc(91.6) Azm(180.6) TVD(7606.11)
VS(2880.99) NS(-2880.41) EW(73.30) TEMP(178.9)

#109 MD(10518.00) Inc(90.4) Azm(180.3) TVD(7604.43)
VS(2976.96) NS(-2976.39) EW(72.55) TEMP(178.9)

#110 MD(10614.00) Inc(90.0) Azm(180.6) TVD(7604.09)
VS(3072.94) NS(-3072.39) EW(71.80) TEMP(178.9)

#111 MD(10710.00) Inc(91.7) Azm(180.1) TVD(7602.67)
VS(3168.91) NS(-3168.37) EW(71.21) TEMP(178.9)

#112 MD(10805.00) Inc(89.6) Azm(181.0) TVD(7601.59)
VS(3263.88) NS(-3263.35) EW(70.30) TEMP(193.7)

#113 MD(10901.00) Inc(90.4) Azm(180.8) TVD(7601.59)
VS(3359.85) NS(-3359.34) EW(68.79) TEMP(193.7)

#114 MD(10997.00) Inc(89.6) Azm(180.8) TVD(7601.59)
VS(3455.82) NS(-3455.33) EW(67.45) TEMP(193.7)

#115 MD(11093.00) Inc(89.8) Azm(180.3) TVD(7602.10) VS(3551.81) NS(-3551.32) EW(66.53) TEMP(193.7)

#116 MD(11188.00) Inc(90.0) Azm(180.6) TVD(7602.26) VS(3646.79) NS(-3646.32) EW(65.78) TEMP(193.7)

#117 MD(11284.00) Inc(90.0) Azm(180.1) TVD(7602.26) VS(3742.78) NS(-3742.32) EW(65.20) TEMP(193.7)

#118 MD(11379.00) Inc(90.1) Azm(179.4) TVD(7602.18) VS(3837.78) NS(-3837.32) EW(65.61) TEMP(193.7)

#119 MD(11475.00) Inc(90.3) Azm(178.7) TVD(7601.84) VS(3933.77) NS(-3933.30) EW(67.20) TEMP(193.7)

#120 MD(11571.00) Inc(90.4) Azm(178.7) TVD(7601.26) VS(4029.76) NS(-4029.28) EW(69.38) TEMP(193.7)

#121 MD(11667.00) Inc(91.5) Azm(180.1) TVD(7599.67) VS(4125.75) NS(-4125.25) EW(70.39) TEMP(193.7)

#122 MD(11762.00) Inc(91.1) Azm(180.6) TVD(7597.51) VS(4220.71) NS(-4220.23) EW(69.81) TEMP(193.7)

#123 MD(11858.00) Inc(90.0) Azm(180.5) TVD(7596.59) VS(4316.68) NS(-4316.22) EW(68.88) TEMP(193.7)

#124 MD(11954.00) Inc(88.0) Azm(180.5) TVD(7598.26) VS(4412.65) NS(-4412.19) EW(68.05) TEMP(193.7)

#125 MD(12050.00) Inc(88.5) Azm(180.3) TVD(7601.20) VS(4508.59) NS(-4508.15) EW(67.38) TEMP(193.7)

#126 MD(12146.00) Inc(89.3) Azm(179.8) TVD(7603.04) VS(4604.57) NS(-4604.13) EW(67.29) TEMP(193.7)

#127 MD(12241.00) Inc(90.0) Azm(179.8) TVD(7603.62) VS(4699.56) NS(-4699.13) EW(67.62) TEMP(193.7)

#128 MD(12337.00) Inc(90.6) Azm(179.6) TVD(7603.12) VS(4795.56) NS(-4795.12) EW(68.13) TEMP(193.7)

#129 MD(12433.00) Inc(91.3) Azm(178.7) TVD(7601.52) VS(4891.54) NS(-4891.10) EW(69.55) TEMP(193.7)

#130 MD(12529.00) Inc(90.3) Azm(180.3) TVD(7600.18) VS(4987.53) NS(-4987.08) EW(70.39) TEMP(193.7)

#131 MD(12625.00) Inc(90.7) Azm(180.1) TVD(7599.35) VS(5083.52) NS(-5083.07) EW(70.05) TEMP(193.7)

#132 MD(12721.00) Inc(91.5) Azm(179.6) TVD(7597.50) VS(5179.50) NS(-5179.06) EW(70.30) TEMP(193.7)

#133 MD(12817.00) Inc(90.6) Azm(180.3) TVD(7595.74) VS(5275.47) NS(-5275.04) EW(70.39) TEMP(193.7)

#134 MD(12912.00) Inc(89.4) Azm(181.3) TVD(7595.74) VS(5370.44) NS(-5370.03) EW(69.06) TEMP(193.7)

#135 MD(13008.00) Inc(90.1) Azm(181.2) TVD(7596.16) VS(5466.39) NS(-5466.00) EW(66.97) TEMP(193.7)

#136 MD(13104.00) Inc(90.7) Azm(180.5) TVD(7595.49) VS(5562.36) NS(-5561.99) EW(65.54) TEMP(193.7)

#137 MD(13200.00) Inc(90.3) Azm(181.5) TVD(7594.65) VS(5658.32) NS(-5657.97) EW(63.87) TEMP(193.7)

#138 MD(13296.00) Inc(89.1) Azm(181.3) TVD(7595.16) VS(5754.26) NS(-5753.94) EW(61.52) TEMP(193.7)

#139 MD(13392.00) Inc(89.3) Azm(180.6) TVD(7596.50) VS(5850.22) NS(-5849.91) EW(59.93) TEMP(208.5)

#140 MD(13487.00) Inc(89.8) Azm(180.5) TVD(7597.24) VS(5945.20) NS(-5944.91) EW(59.02) TEMP(208.5)

#141 MD(13583.00) Inc(90.3) Azm(179.9) TVD(7597.16) VS(6041.19) NS(-6040.90) EW(58.68) TEMP(208.5)

#142 MD(13679.00) Inc(90.7) Azm(179.8) TVD(7596.32) VS(6137.18) NS(-6136.90) EW(58.94) TEMP(208.5)

#143 MD(13775.00) Inc(89.4) Azm(179.8) TVD(7596.24) VS(6233.18) NS(-6232.90) EW(59.27) TEMP(208.5)

#144 MD(13871.00) Inc(89.5) Azm(179.2) TVD(7597.16) VS(6329.17) NS(-6328.89) EW(60.11) TEMP(208.5)

#145 MD(13967.00) Inc(90.4) Azm(179.4) TVD(7597.24) VS(6425.17) NS(-6424.88) EW(61.28) TEMP(208.5)

#146 MD(14063.00) Inc(90.8) Azm(179.4) TVD(7596.24) VS(6521.17) NS(-6520.87) EW(62.29) TEMP(208.5)

#147 MD(14159.00) Inc(91.6) Azm(179.1) TVD(7594.23) VS(6617.14) NS(-6616.84) EW(63.54) TEMP(208.5)

#148 MD(14255.00) Inc(90.8) Azm(179.4) TVD(7592.22) VS(6713.12) NS(-6712.81) EW(64.80) TEMP(208.5)

#149 MD(14350.00) Inc(90.5) Azm(179.1) TVD(7591.14) VS(6808.11) NS(-6807.79) EW(66.04) TEMP(208.5)

#150 MD(14410.00) Inc(90.0) Azm(178.9) TVD(7590.88) VS(6868.11) NS(-6867.78) EW(67.09) TEMP(208.5)