

Oscar Y10-77-1HC

MD
1" : 100'

Company: Noble Energy Inc
Well Name: Oscar Y10-77-1HC

API: 05-123-38197

Rig Id: Precision 828

State: Colorado

County/Parish: Weld

Country: USA

Survey Company: Ensign Directional

Job number: 207-P828-28

Company Man 1 Gary Stapleton

Directional Driller 1 Tyler Batchelder

Directional Driller 2 Matt Mason

MWD 1 Nick Jones

MWD 2 Damien Hunter

Log measurements: Gamma

Depth measured from: KB

Maximum temperature:

Depth **Date**

Start: 1180 ft 4/3/2014

End: 14740 ft 4/12/2014

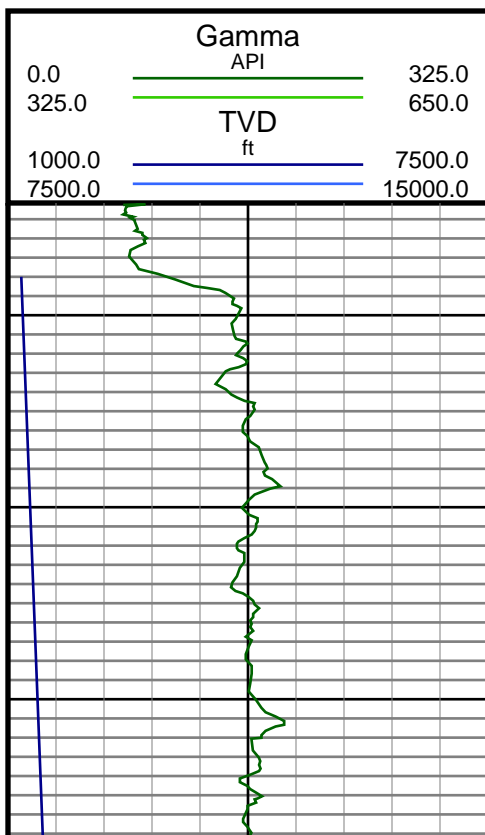
Casing **Depth** **Size**
Surface: 1163 9.625
Intermediate: 7504 7

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

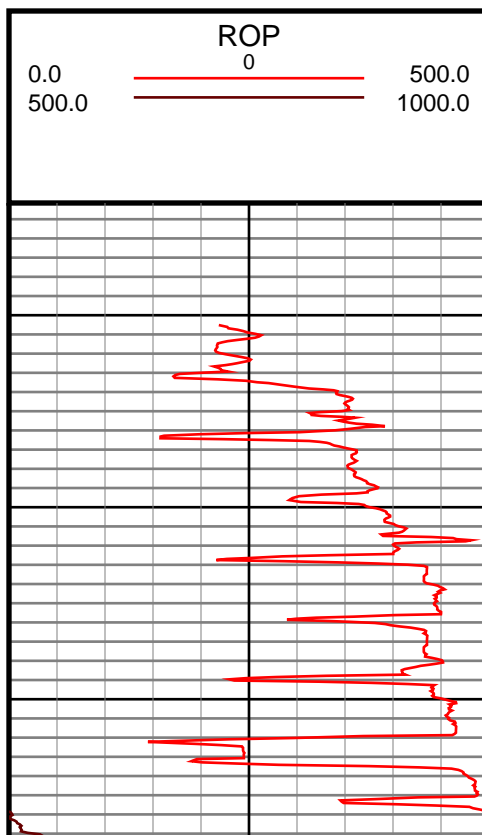
Elevations
KB: 4945
GL: 4929
DF: 4945

Run	Bit Size	Gamma	Survey	Offsets	Start	End	Start	End	Dates
1	8 3/4	63.58	58.58	1180	7514	4/3/2014	4/7/14		
2	6 1/8	66.18	66.68	7514	14740	4/8/14	4/12/14		
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.



MD

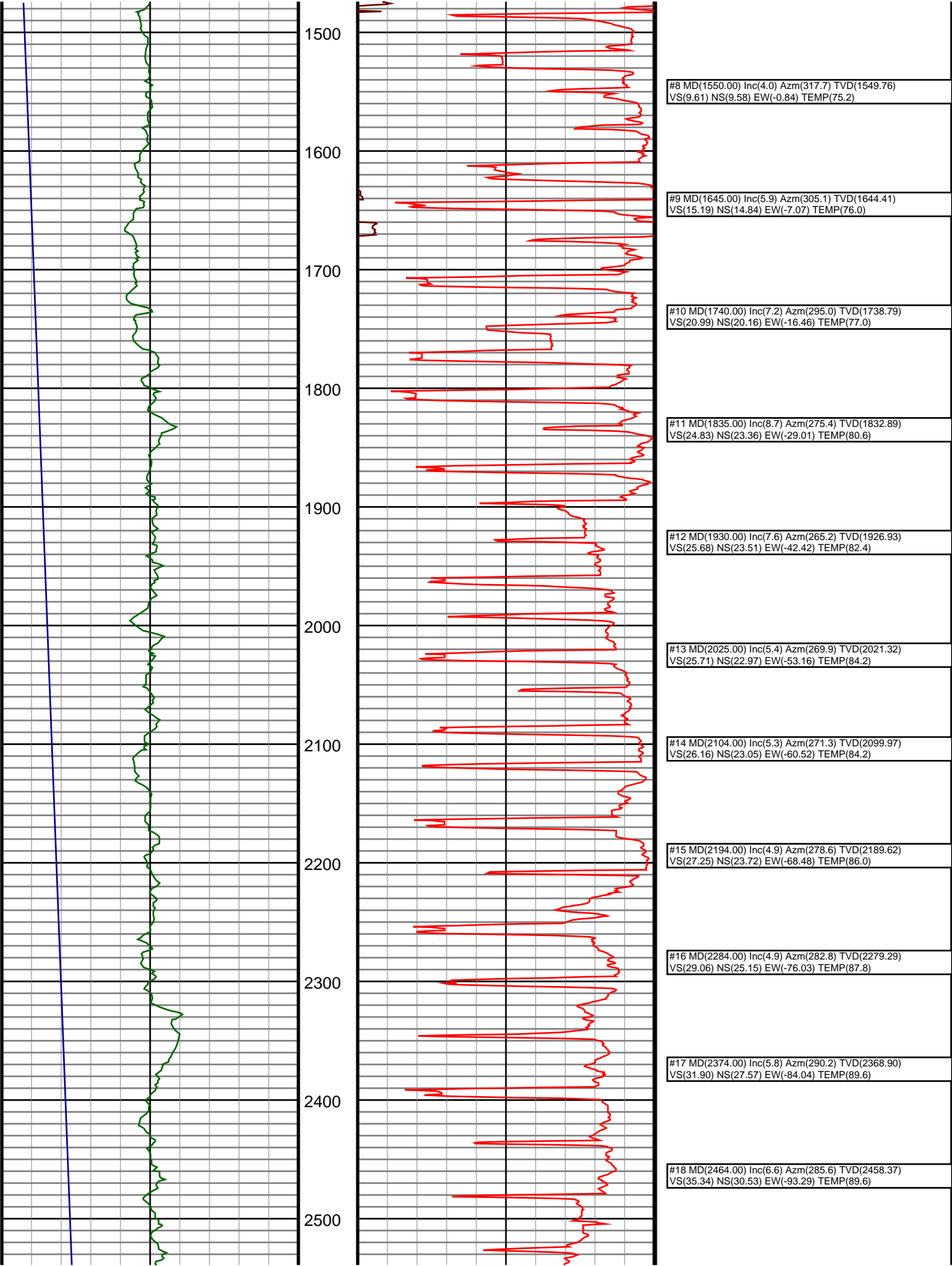


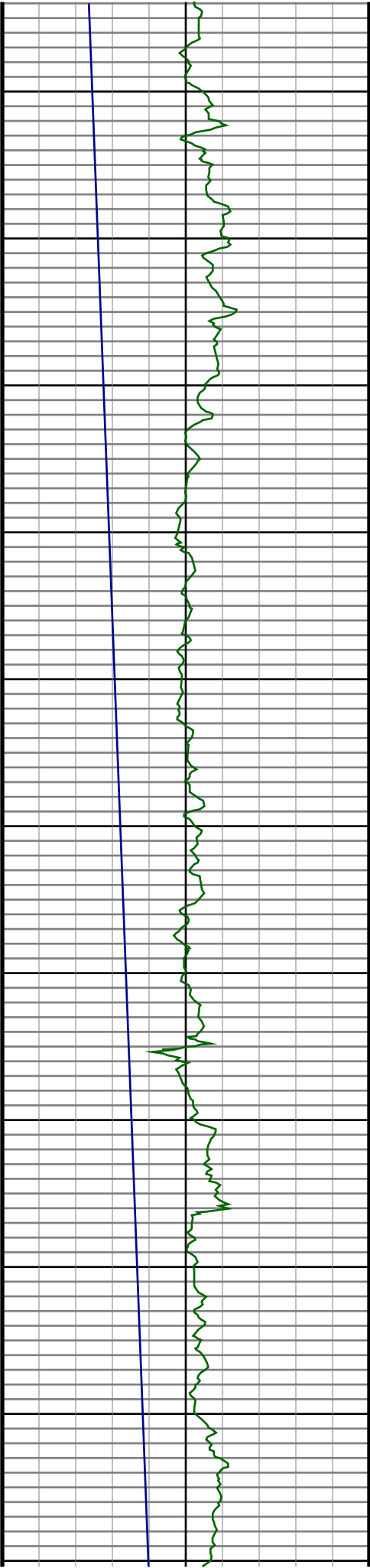
#4 MD(1180.00) Inc(0.2) Azm(192.7) TVD(1179.92)
VS(6.56) NS(6.82) EW(4.96) TEMP(71.6)

#5 MD(1265.00) Inc(0.5) Azm(214.2) TVD(1264.92)
VS(6.12) NS(6.37) EW(4.72) TEMP(71.6)

#6 MD(1360.00) Inc(0.6) Azm(206.5) TVD(1359.92)
VS(5.36) NS(5.58) EW(4.26) TEMP(71.6)

#7 MD(1455.00) Inc(2.0) Azm(306.9) TVD(1454.90)
VS(5.98) NS(6.13) EW(2.71) TEMP(73.4)





2600

2700

2800

2900

3000

3100

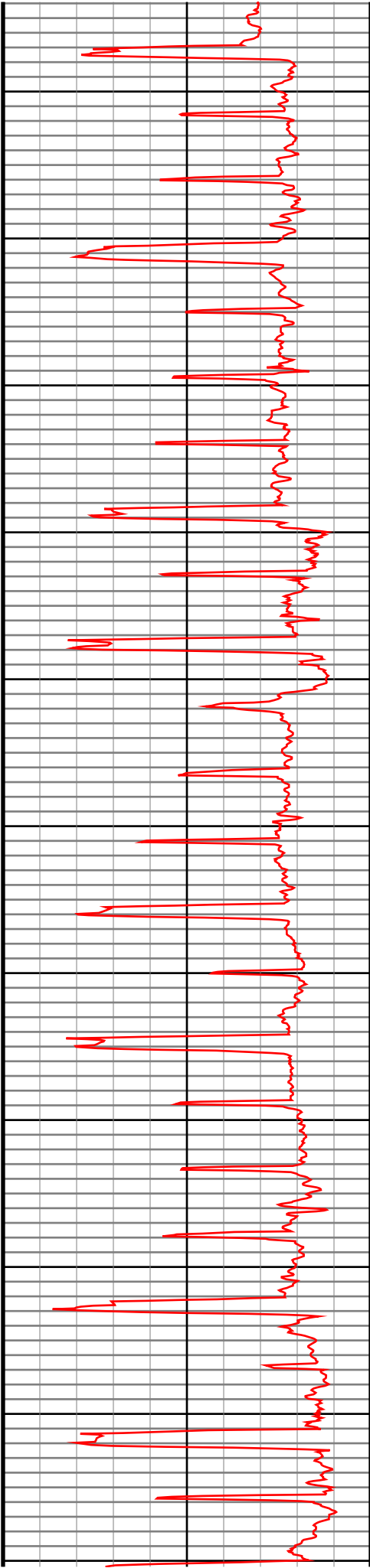
3200

3300

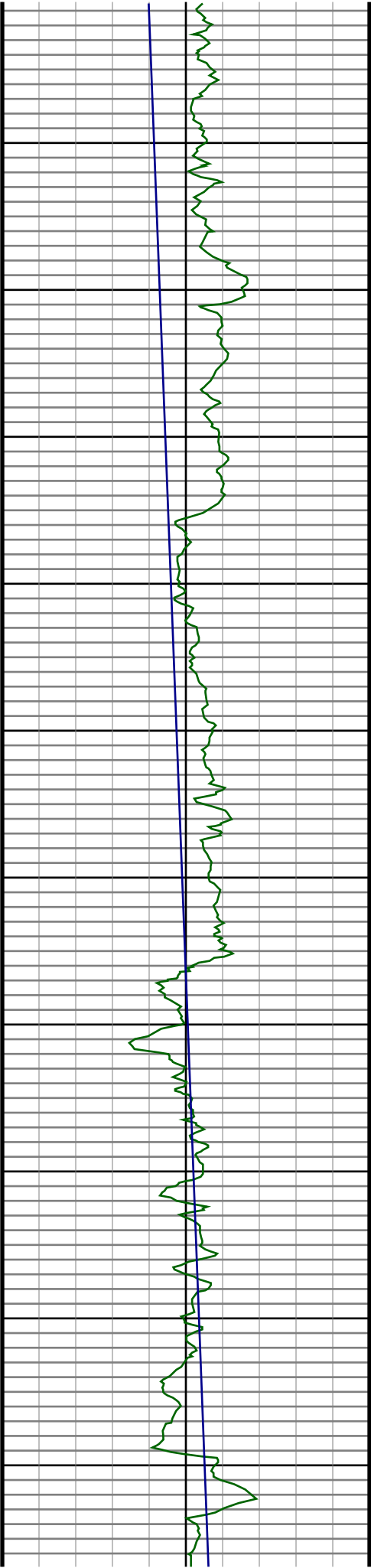
3400

3500

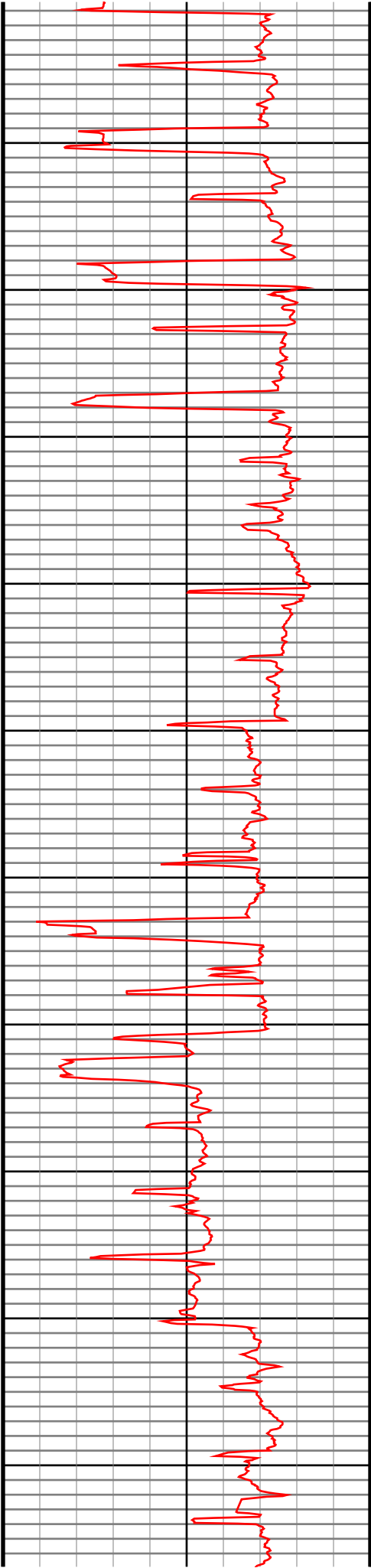
3600



#19 MD(2554.00) Inc(6.1) Azm(279.6) TVD(2547.82) VS(38.03) NS(32.72) EW(-102.99) TEMP(89.6)
#20 MD(2644.00) Inc(6.1) Azm(272.5) TVD(2637.31) VS(39.52) NS(33.72) EW(-112.48) TEMP(91.4)
#21 MD(2733.00) Inc(6.5) Azm(267.8) TVD(2725.77) VS(40.05) NS(33.74) EW(-122.24) TEMP(91.4)
#22 MD(2823.00) Inc(6.3) Azm(263.1) TVD(2815.21) VS(39.78) NS(32.95) EW(-132.23) TEMP(93.2)
#23 MD(2913.00) Inc(6.0) Azm(271.2) TVD(2904.70) VS(39.78) NS(32.45) EW(-141.84) TEMP(93.2)
#24 MD(3003.00) Inc(6.7) Azm(278.3) TVD(2994.15) VS(41.15) NS(33.31) EW(-151.73) TEMP(95.0)
#25 MD(3093.00) Inc(6.7) Azm(278.1) TVD(3083.53) VS(43.19) NS(34.81) EW(-162.13) TEMP(96.8)
#26 MD(3182.00) Inc(7.1) Azm(280.3) TVD(3171.89) VS(45.45) NS(36.52) EW(-172.68) TEMP(102.2)
#27 MD(3272.00) Inc(6.8) Azm(286.4) TVD(3261.23) VS(48.49) NS(39.02) EW(-183.26) TEMP(102.2)
#28 MD(3362.00) Inc(6.3) Azm(281.9) TVD(3350.64) VS(51.53) NS(41.54) EW(-193.21) TEMP(102.2)
#29 MD(3452.00) Inc(6.5) Azm(268.0) TVD(3440.08) VS(52.89) NS(42.38) EW(-203.13) TEMP(104.0)
#30 MD(3542.00) Inc(6.8) Azm(270.6) TVD(3529.48) VS(53.31) NS(42.26) EW(-213.55) TEMP(104.0)



3700
3800
3900
4000
4100
4200
4300
4400
4500
4600



#31 MD(3632.00) Inc(5.1) Azm(273.2) TVD(3618.99)
VS(54.07) NS(42.54) EW(-222.87) TEMP(109.4)

#32 MD(3721.00) Inc(5.0) Azm(275.5) TVD(3707.65)
VS(55.07) NS(43.13) EW(-230.68) TEMP(109.4)

#33 MD(3811.00) Inc(5.0) Azm(289.8) TVD(3797.31)
VS(57.16) NS(44.84) EW(-238.28) TEMP(109.4)

#34 MD(3901.00) Inc(5.8) Azm(289.0) TVD(3886.91)
VS(60.39) NS(47.65) EW(-246.27) TEMP(111.2)

#35 MD(3991.00) Inc(6.2) Azm(284.9) TVD(3976.41)
VS(63.58) NS(50.38) EW(-255.26) TEMP(111.2)

#36 MD(4081.00) Inc(6.5) Azm(284.8) TVD(4065.86)
VS(66.63) NS(52.93) EW(-264.89) TEMP(111.2)

#37 MD(4171.00) Inc(6.1) Azm(280.5) TVD(4155.32)
VS(69.30) NS(55.10) EW(-274.51) TEMP(113.0)

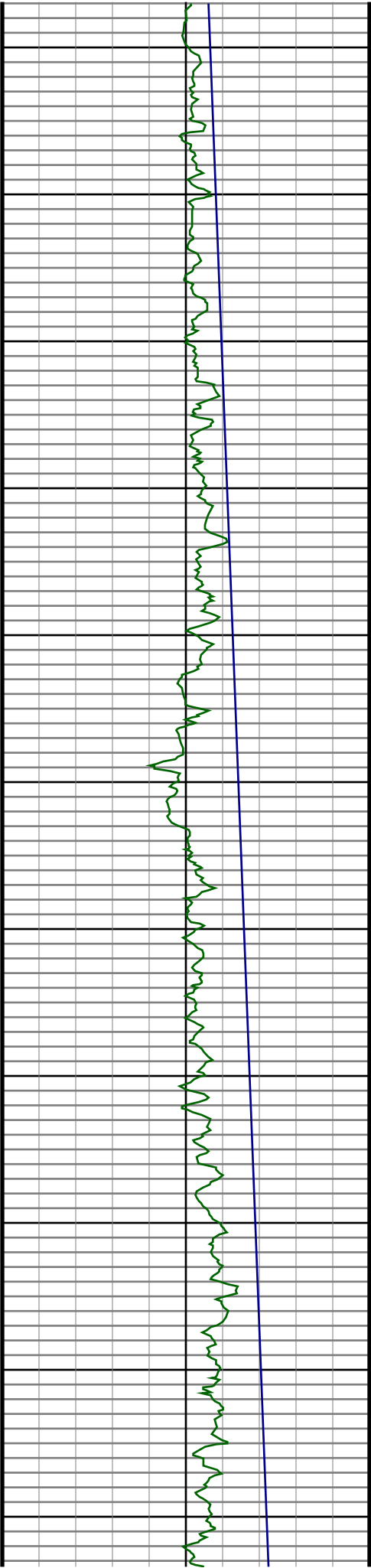
#38 MD(4261.00) Inc(6.0) Azm(280.4) TVD(4244.82)
VS(71.50) NS(56.82) EW(-283.84) TEMP(116.6)

#39 MD(4351.00) Inc(7.0) Azm(289.3) TVD(4334.24)
VS(74.67) NS(59.48) EW(-293.64) TEMP(116.6)

#40 MD(4441.00) Inc(6.8) Azm(289.0) TVD(4423.59)
VS(78.74) NS(63.03) EW(-303.86) TEMP(118.4)

#41 MD(4531.00) Inc(6.7) Azm(287.0) TVD(4512.96)
VS(82.53) NS(66.30) EW(-313.92) TEMP(118.4)

#42 MD(4620.00) Inc(6.7) Azm(285.9) TVD(4601.36)
VS(85.98) NS(69.24) EW(-323.87) TEMP(120.2)



4700

4800

4900

5000

5100

5200

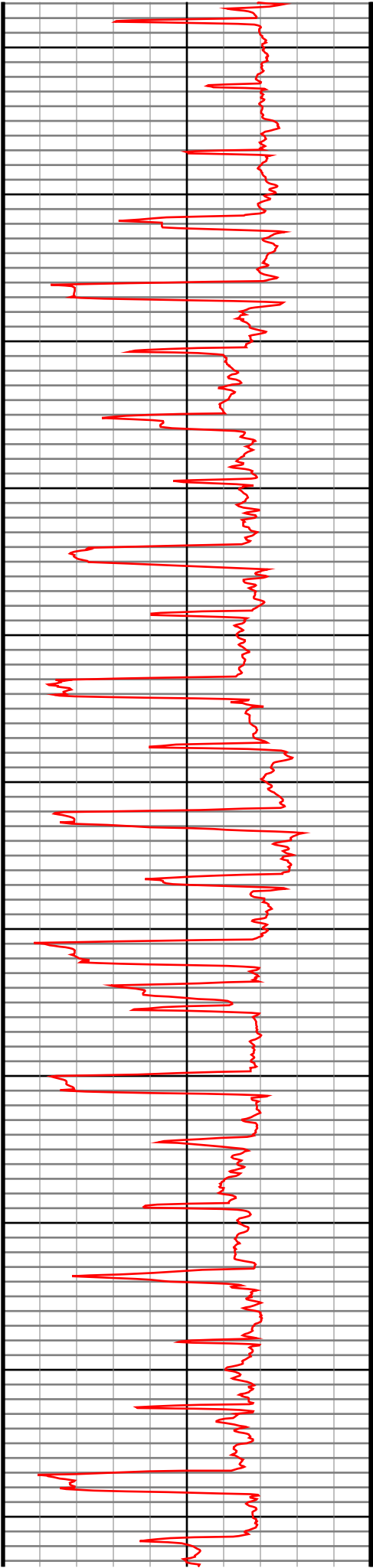
5300

5400

5500

5600

5700



#43 MD(4710.00) Inc(6.6) Azm(283.3) TVD(4690.75)
VS(89.13) NS(71.87) EW(-333.96) TEMP(122.0)

#44 MD(4800.00) Inc(5.5) Azm(275.9) TVD(4780.25)
VS(91.25) NS(73.50) EW(-343.28) TEMP(122.0)

#45 MD(4890.00) Inc(5.1) Azm(284.6) TVD(4869.87)
VS(93.12) NS(74.95) EW(-351.44) TEMP(122.0)

#46 MD(4980.00) Inc(4.4) Azm(278.9) TVD(4959.56)
VS(95.04) NS(76.50) EW(-358.72) TEMP(122.0)

#47 MD(5070.00) Inc(4.7) Azm(269.2) TVD(5049.27)
VS(95.89) NS(76.98) EW(-365.82) TEMP(123.8)

#48 MD(5159.00) Inc(4.7) Azm(275.1) TVD(5137.98)
VS(96.54) NS(77.25) EW(-373.10) TEMP(123.8)

#49 MD(5249.00) Inc(2.9) Azm(274.9) TVD(5227.77)
VS(97.37) NS(77.77) EW(-379.04) TEMP(127.4)

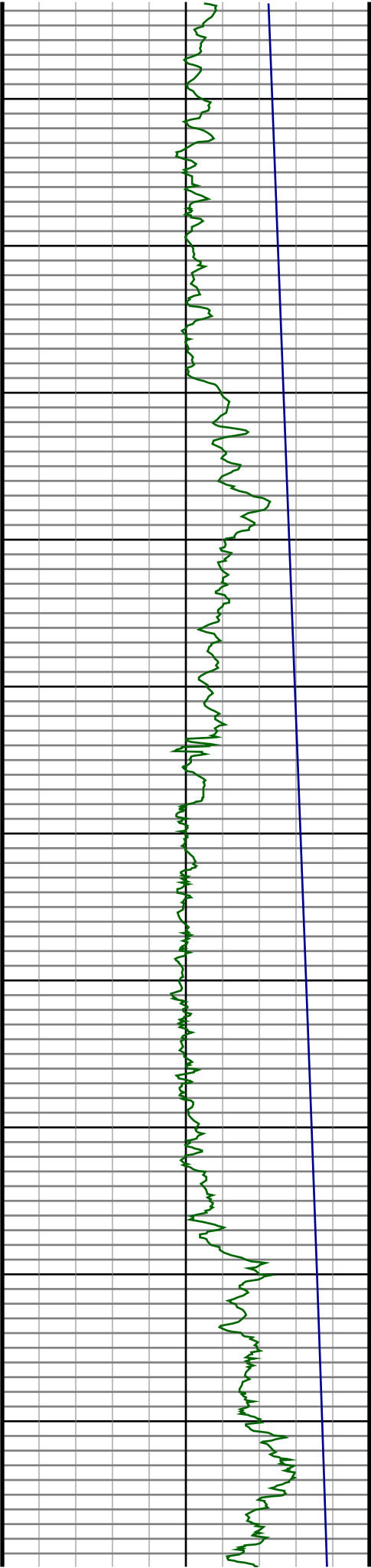
#50 MD(5339.00) Inc(1.3) Azm(256.8) TVD(5317.71)
VS(97.51) NS(77.74) EW(-382.30) TEMP(127.4)

#51 MD(5428.00) Inc(1.0) Azm(44.8) TVD(5406.70)
VS(97.85) NS(78.06) EW(-382.74) TEMP(122.0)

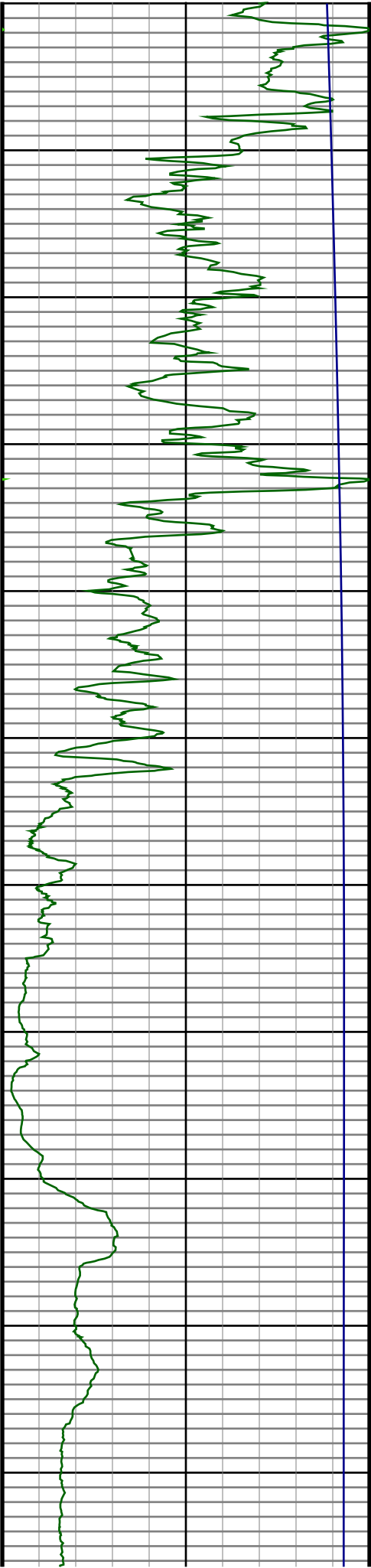
#52 MD(5518.00) Inc(1.1) Azm(54.3) TVD(5496.69)
VS(98.84) NS(79.12) EW(-381.48) TEMP(123.8)

#53 MD(5608.00) Inc(1.7) Azm(45.6) TVD(5586.66)
VS(100.19) NS(80.56) EW(-379.83) TEMP(125.6)

#54 MD(5698.00) Inc(0.8) Azm(3.1) TVD(5676.64)
VS(101.70) NS(82.12) EW(-378.84) TEMP(125.6)



#55 MD(5788.00) Inc(0.9) Azm(32.4) TVD(5766.63) VS(102.90) NS(63.34) EW(-378.43) TEMP(127.4)
#56 MD(5878.00) Inc(0.8) Azm(62.3) TVD(5856.62) VS(103.74) NS(84.23) EW(-377.49) TEMP(129.2)
#57 MD(5968.00) Inc(0.8) Azm(322.6) TVD(5946.62) VS(104.52) NS(85.02) EW(-377.32) TEMP(131.0)
#58 MD(6058.00) Inc(0.9) Azm(327.5) TVD(6036.61) VS(105.66) NS(86.12) EW(-378.08) TEMP(168.8)
#59 MD(6148.00) Inc(1.2) Azm(358.6) TVD(6126.59) VS(107.21) NS(87.65) EW(-378.48) TEMP(132.8)
#60 MD(6238.00) Inc(1.2) Azm(356.4) TVD(6216.57) VS(109.10) NS(89.54) EW(-378.57) TEMP(134.6)
#61 MD(6282.00) Inc(1.8) Azm(359.9) TVD(6260.56) VS(110.25) NS(90.69) EW(-378.60) TEMP(134.6)
#62 MD(6327.00) Inc(4.3) Azm(4.6) TVD(6305.49) VS(112.63) NS(93.08) EW(-378.46) TEMP(134.6)
#63 MD(6371.00) Inc(7.3) Azm(3.9) TVD(6349.26) VS(117.04) NS(97.51) EW(-378.14) TEMP(136.4)
#64 MD(6416.00) Inc(10.3) Azm(0.3) TVD(6393.73) VS(123.89) NS(104.39) EW(-377.92) TEMP(-61.6)
#65 MD(6461.00) Inc(12.3) Azm(0.4) TVD(6437.85) VS(132.70) NS(113.21) EW(-377.87) TEMP(136.4)
#66 MD(6506.00) Inc(14.5) Azm(0.2) TVD(6481.62) VS(143.11) NS(123.63) EW(-377.82) TEMP(138.2)
#67 MD(6551.00) Inc(17.1) Azm(0.5) TVD(6524.92) VS(155.34) NS(135.88) EW(-377.74) TEMP(140.0)
#68 MD(6596.00) Inc(20.4) Azm(359.0) TVD(6567.53) VS(169.78) NS(150.35) EW(-377.82) TEMP(140.0)
#69 MD(6641.00) Inc(23.6) Azm(358.3) TVD(6609.24) VS(186.63) NS(167.20) EW(-378.22) TEMP(141.8)
#70 MD(6686.00) Inc(26.5) Azm(356.7) TVD(6650.01) VS(205.68) NS(186.23) EW(-379.07) TEMP(143.6)
#71 MD(6731.00) Inc(29.0) Azm(356.7) TVD(6689.83) VS(226.63) NS(207.14) EW(-380.27) TEMP(145.4)
#72 MD(6776.00) Inc(31.9) Azm(358.6) TVD(6728.62) VS(249.43) NS(229.92) EW(-381.19) TEMP(145.4)



6800

6900

7000

7100

7200

7300

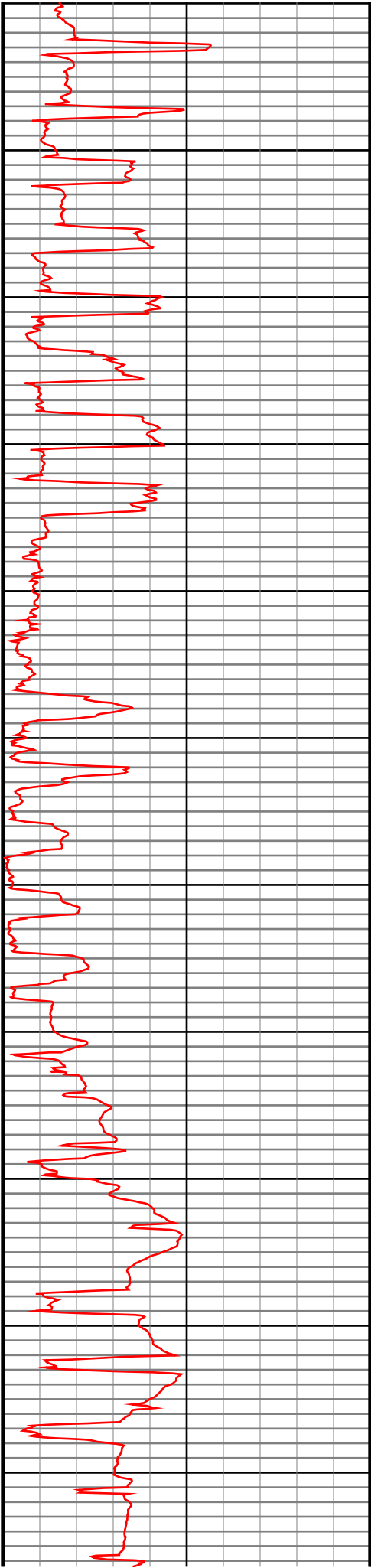
7400

7500

7600

7700

7800



#73 MD(6821.00) Inc(36.1) Azm(0.2) TVD(6765.92)
VS(274.56) NS(255.08) EW(-381.44) TEMP(145.4)

#74 MD(6866.00) Inc(40.4) Azm(1.0) TVD(6801.25)
VS(302.36) NS(282.93) EW(-381.14) TEMP(145.4)

#75 MD(6911.00) Inc(44.0) Azm(0.2) TVD(6834.58)
VS(332.53) NS(313.15) EW(-380.83) TEMP(145.4)

#76 MD(6955.00) Inc(47.3) Azm(358.7) TVD(6865.33)
VS(363.96) NS(344.61) EW(-381.14) TEMP(147.2)

#77 MD(7000.00) Inc(51.0) Azm(356.7) TVD(6894.76)
VS(397.98) NS(378.61) EW(-382.52) TEMP(149.0)

#78 MD(7045.00) Inc(54.1) Azm(356.0) TVD(6922.12)
VS(433.70) NS(414.26) EW(-384.80) TEMP(147.2)

#79 MD(7090.00) Inc(56.8) Azm(356.8) TVD(6947.64)
VS(470.76) NS(451.24) EW(-387.12) TEMP(147.2)

#80 MD(7135.00) Inc(59.9) Azm(357.7) TVD(6971.25)
VS(509.06) NS(489.50) EW(-388.96) TEMP(147.2)

#81 MD(7180.00) Inc(64.2) Azm(359.0) TVD(6992.34)
VS(548.79) NS(529.22) EW(-390.09) TEMP(147.2)

#82 MD(7225.00) Inc(69.9) Azm(359.0) TVD(7009.88)
VS(590.19) NS(570.64) EW(-390.81) TEMP(150.8)

#83 MD(7270.00) Inc(74.8) Azm(359.8) TVD(7023.52)
VS(633.02) NS(613.51) EW(-391.26) TEMP(152.6)

#84 MD(7315.00) Inc(78.1) Azm(359.6) TVD(7034.06)
VS(676.71) NS(657.25) EW(-391.49) TEMP(154.4)

#85 MD(7360.00) Inc(81.3) Azm(0.8) TVD(7042.11)
VS(720.91) NS(701.51) EW(-391.33) TEMP(158.0)

#86 MD(7405.00) Inc(84.9) Azm(1.3) TVD(7047.51)
VS(765.47) NS(746.17) EW(-390.51) TEMP(161.6)

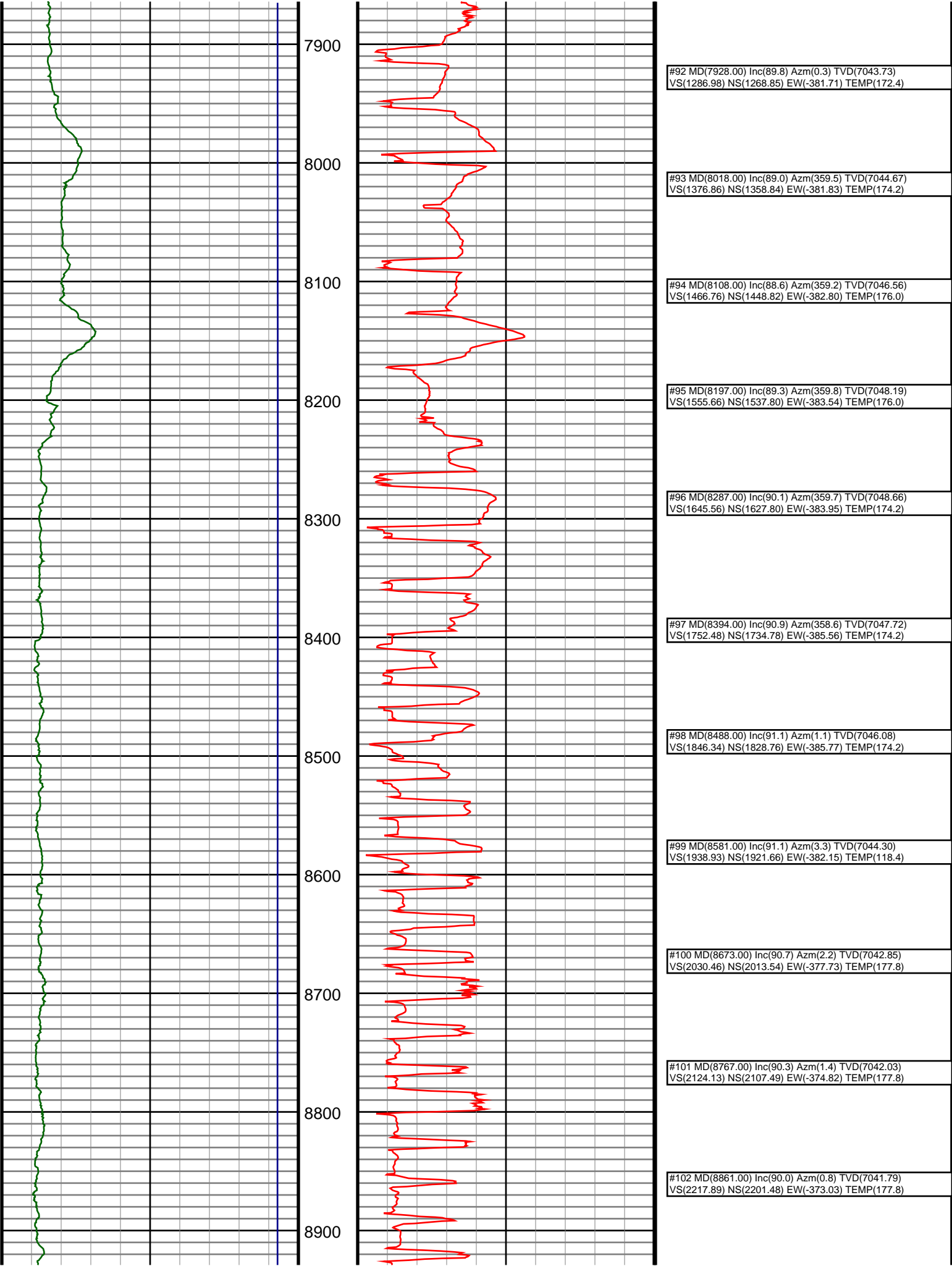
#87 MD(7450.00) Inc(88.5) Azm(1.8) TVD(7050.10)
VS(810.24) NS(791.07) EW(-389.30) TEMP(158.0)

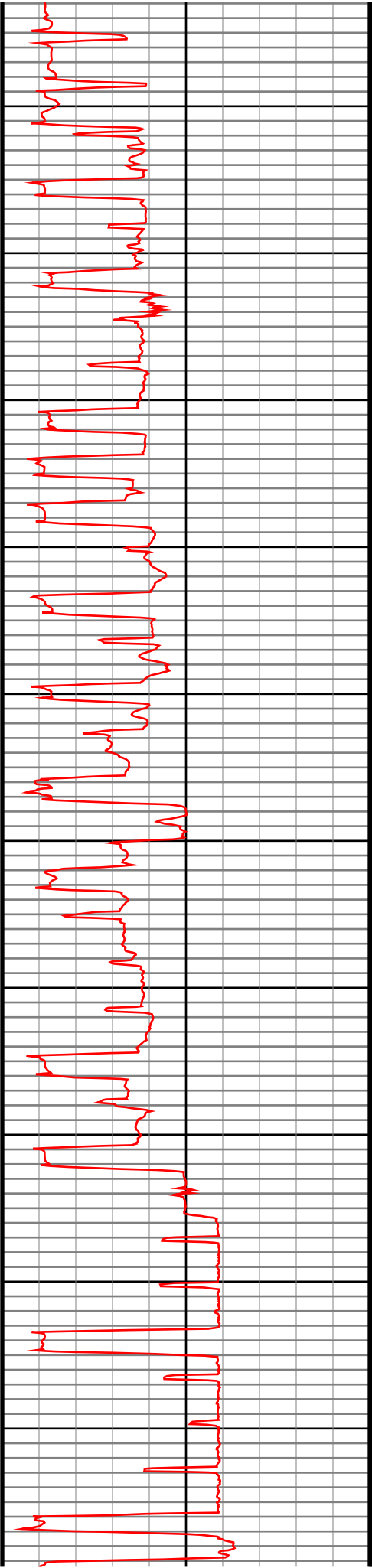
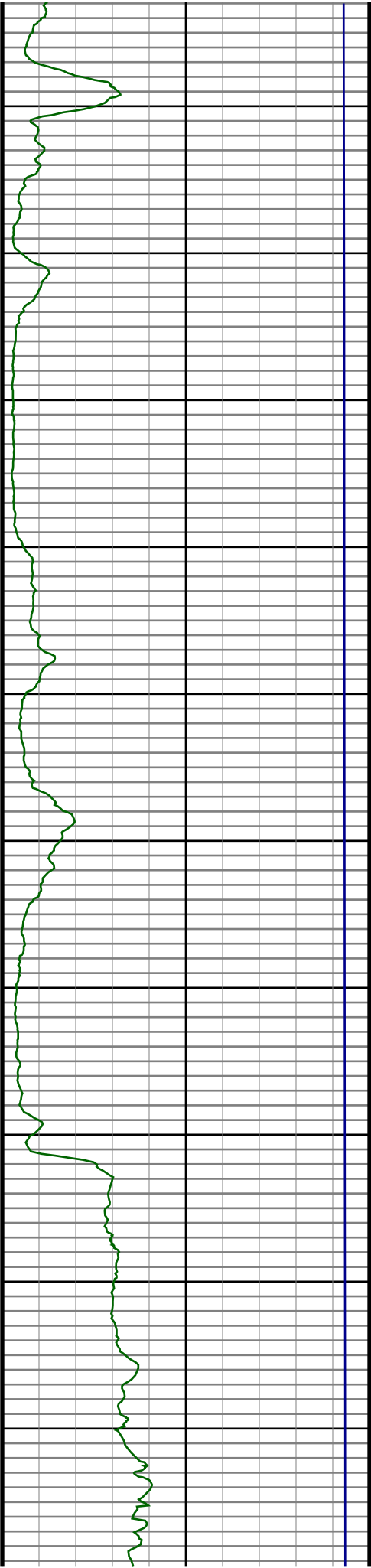
#88 MD(7568.00) Inc(92.2) Azm(1.9) TVD(7049.38)
VS(927.80) NS(908.99) EW(-385.44) TEMP(174.2)

#89 MD(7658.00) Inc(92.3) Azm(1.2) TVD(7045.85)
VS(1017.45) NS(998.89) EW(-383.00) TEMP(170.6)

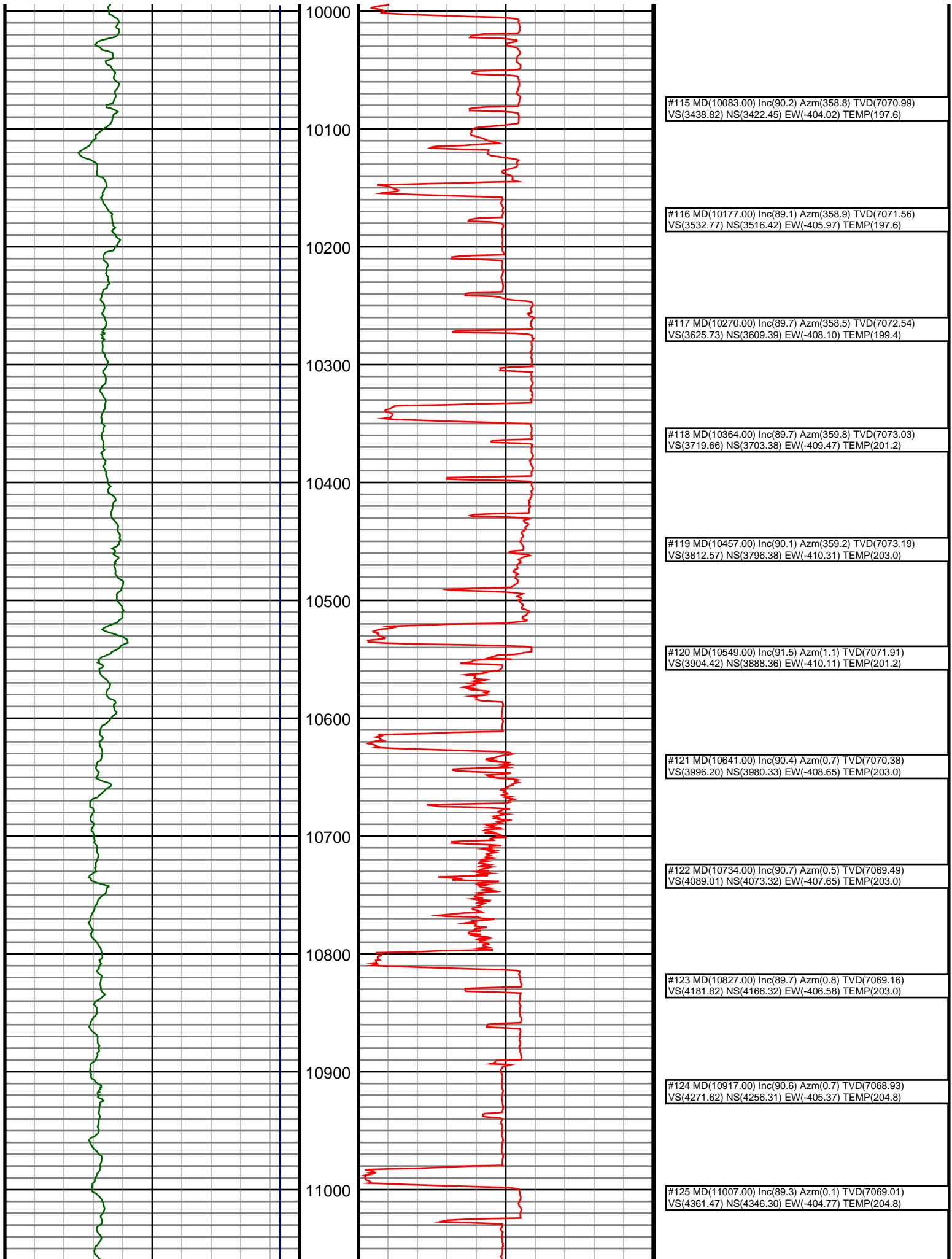
#90 MD(7748.00) Inc(90.3) Azm(359.9) TVD(7043.81)
VS(1107.25) NS(1088.85) EW(-382.15) TEMP(170.6)

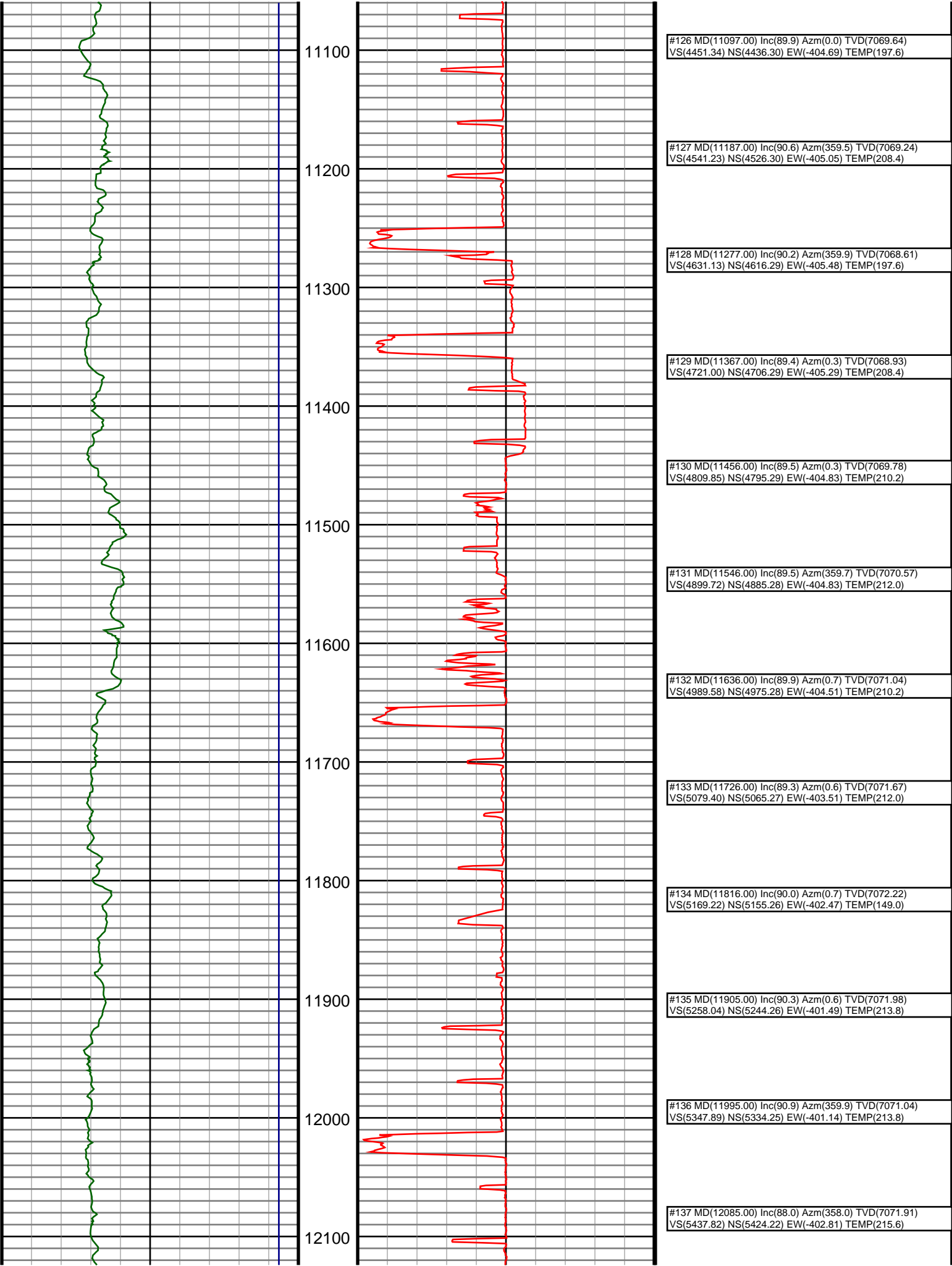
#91 MD(7838.00) Inc(90.0) Azm(0.2) TVD(7043.57)
VS(1197.12) NS(1178.85) EW(-382.09) TEMP(172.4)

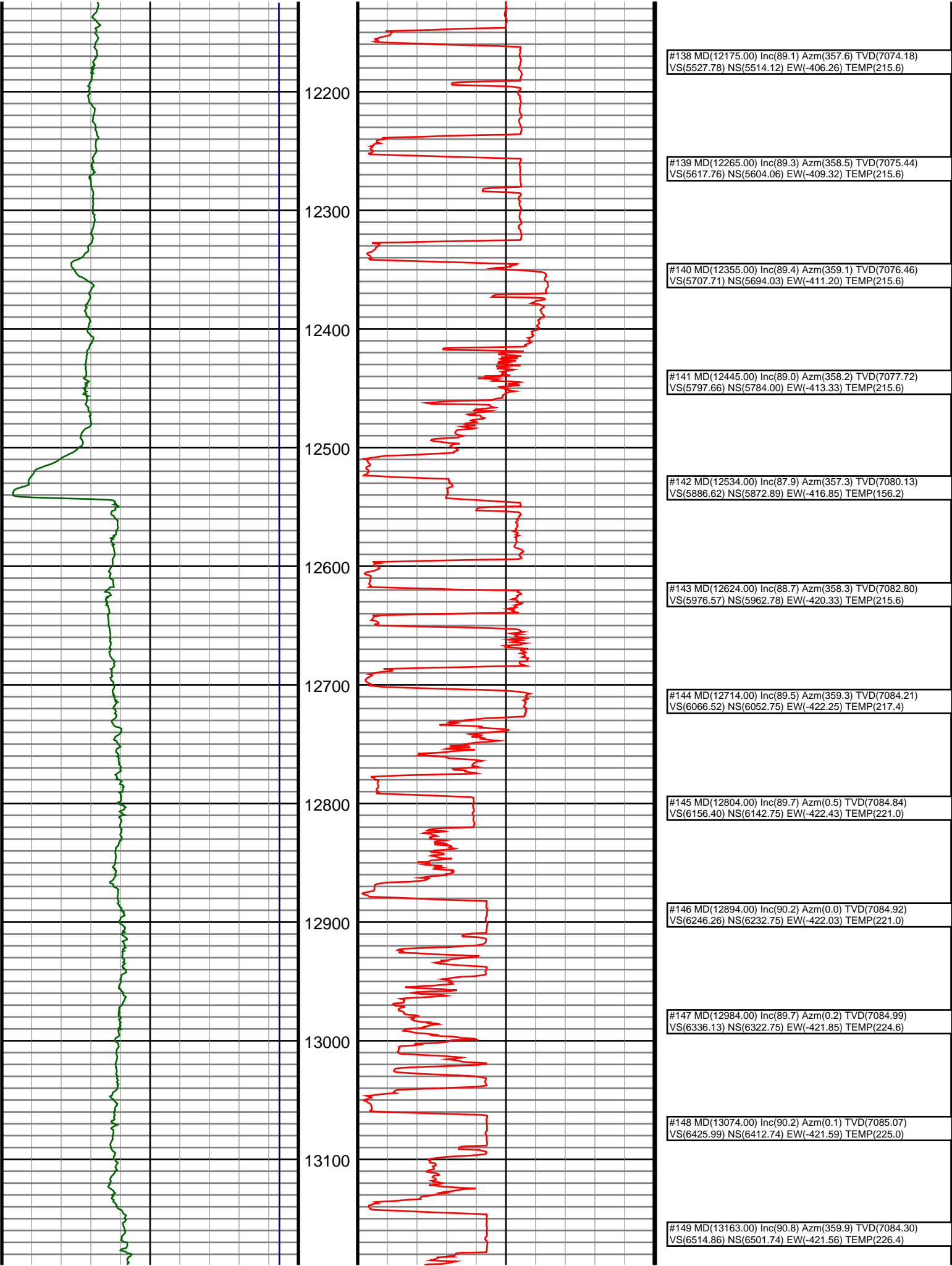


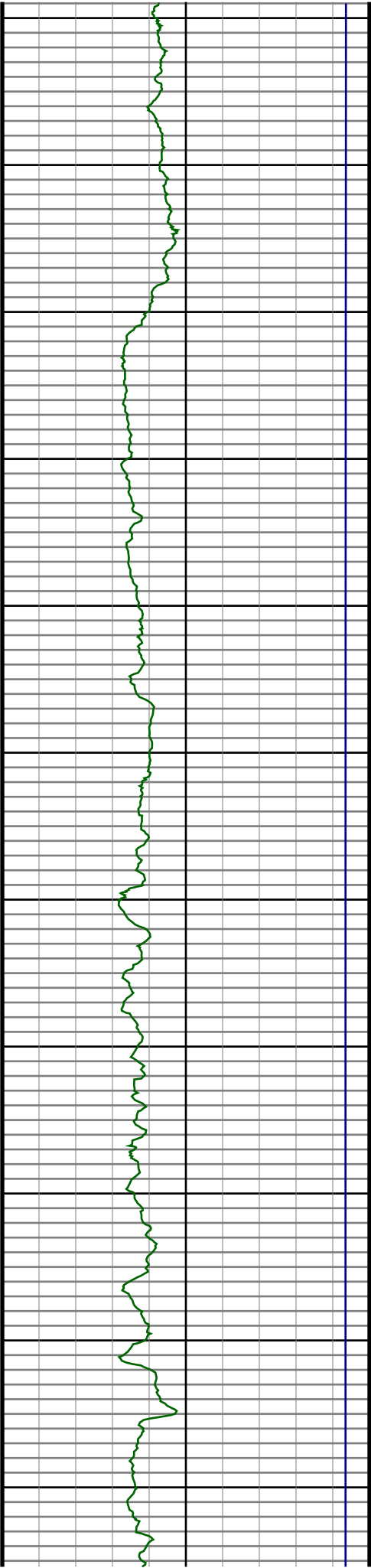


#103 MD(8955.00) Inc(88.2) Azm(359.8) TVD(7043.26) VS(2311.72) NS(2295.46) EW(-372.48) TEMP(177.8)
#104 MD(9049.00) Inc(85.1) Azm(357.6) TVD(7048.76) VS(2405.50) NS(2389.26) EW(-374.54) TEMP(181.4)
#105 MD(9143.00) Inc(89.1) Azm(357.7) TVD(7053.51) VS(2499.35) NS(2483.04) EW(-378.34) TEMP(183.2)
#106 MD(9238.00) Inc(89.7) Azm(357.3) TVD(7054.50) VS(2594.34) NS(2577.94) EW(-382.50) TEMP(185.0)
#107 MD(9331.00) Inc(89.2) Azm(358.1) TVD(7055.40) VS(2687.33) NS(2670.86) EW(-386.26) TEMP(185.0)
#108 MD(9425.00) Inc(89.0) Azm(358.2) TVD(7056.87) VS(2781.30) NS(2764.80) EW(-389.25) TEMP(186.8)
#109 MD(9520.00) Inc(88.3) Azm(359.0) TVD(7059.11) VS(2876.24) NS(2859.75) EW(-391.53) TEMP(190.4)
#110 MD(9614.00) Inc(88.9) Azm(358.3) TVD(7061.41) VS(2970.17) NS(2953.69) EW(-393.74) TEMP(190.4)
#111 MD(9708.00) Inc(88.6) Azm(359.3) TVD(7063.46) VS(3064.10) NS(3047.65) EW(-395.68) TEMP(190.4)
#112 MD(9802.00) Inc(87.9) Azm(358.2) TVD(7066.33) VS(3158.01) NS(3141.58) EW(-397.74) TEMP(192.2)
#113 MD(9896.00) Inc(88.6) Azm(358.4) TVD(7069.20) VS(3251.94) NS(3235.49) EW(-400.55) TEMP(194.0)
#114 MD(9989.00) Inc(89.5) Azm(359.3) TVD(7070.74) VS(3344.88) NS(3328.46) EW(-402.43) TEMP(194.0)









13200

13300

13400

13500

13600

13700

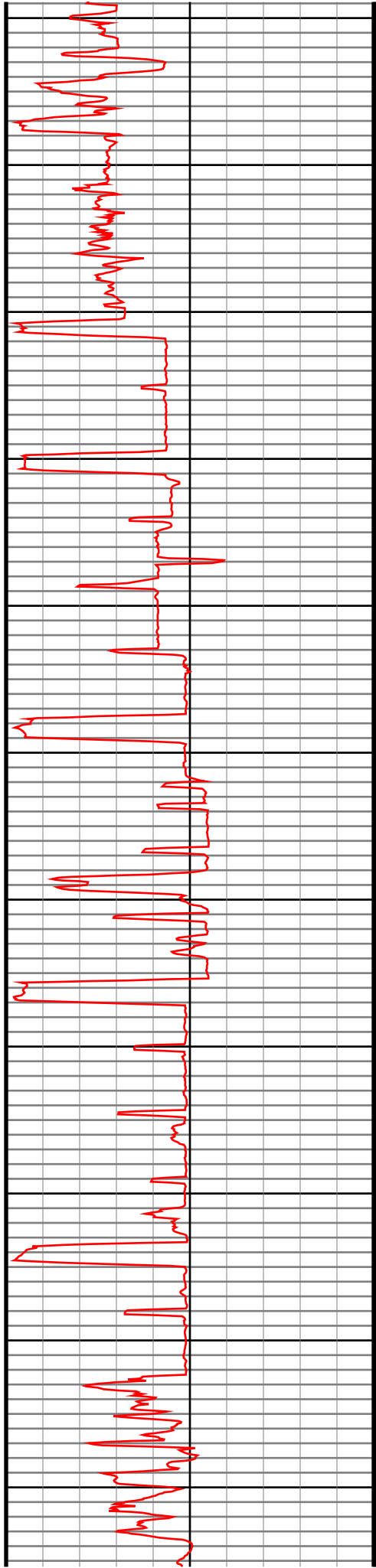
13800

13900

14000

14100

14200



#150 MD(13253.00) Inc(90.4) Azm(359.4) TVD(7083.35)
VS(6604.76) NS(6591.73) EW(-422.08) TEMP(226.4)

#151 MD(13343.00) Inc(91.3) Azm(359.6) TVD(7082.02)
VS(6694.67) NS(6681.72) EW(-422.84) TEMP(228.2)

#152 MD(13433.00) Inc(91.1) Azm(0.2) TVD(7080.13)
VS(6784.53) NS(6771.70) EW(-423.03) TEMP(226.4)

#153 MD(13523.00) Inc(90.6) Azm(0.2) TVD(7078.80)
VS(6874.39) NS(6861.69) EW(-422.73) TEMP(226.4)

#154 MD(13613.00) Inc(90.8) Azm(0.1) TVD(7077.70)
VS(6964.24) NS(6951.68) EW(-422.43) TEMP(228.2)

#155 MD(13703.00) Inc(90.2) Azm(0.8) TVD(7076.91)
VS(7054.07) NS(7041.67) EW(-421.64) TEMP(226.4)

#156 MD(13793.00) Inc(90.6) Azm(0.5) TVD(7076.29)
VS(7143.89) NS(7131.66) EW(-420.57) TEMP(228.2)

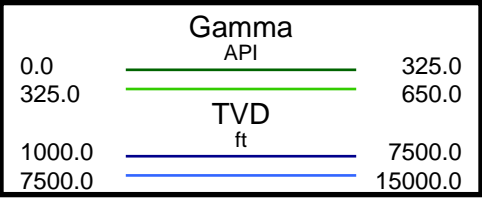
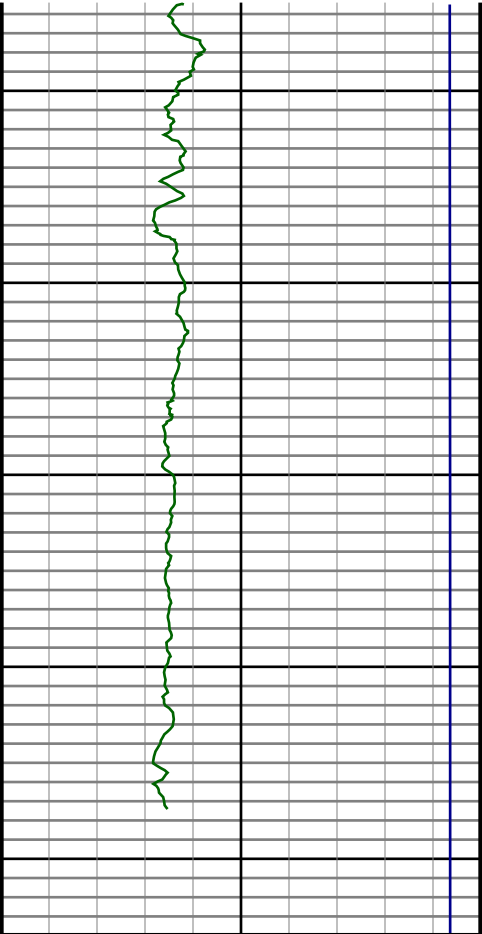
#157 MD(13883.00) Inc(89.7) Azm(0.9) TVD(7076.05)
VS(7233.70) NS(7221.66) EW(-419.43) TEMP(228.2)

#158 MD(13972.00) Inc(90.3) Azm(0.8) TVD(7076.05)
VS(7322.49) NS(7310.65) EW(-418.06) TEMP(230.0)

#159 MD(14062.00) Inc(89.6) Azm(0.9) TVD(7076.13)
VS(7412.29) NS(7400.63) EW(-416.70) TEMP(228.2)

#160 MD(14152.00) Inc(89.9) Azm(0.8) TVD(7076.52)
VS(7502.09) NS(7490.62) EW(-415.33) TEMP(230.0)

#161 MD(14242.00) Inc(89.7) Azm(1.1) TVD(7076.84)
VS(7591.87) NS(7580.61) EW(-413.78) TEMP(230.0)



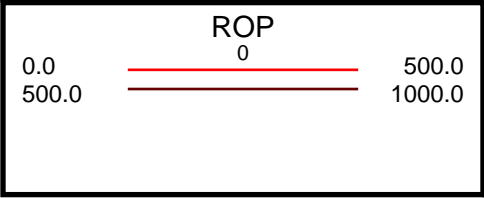
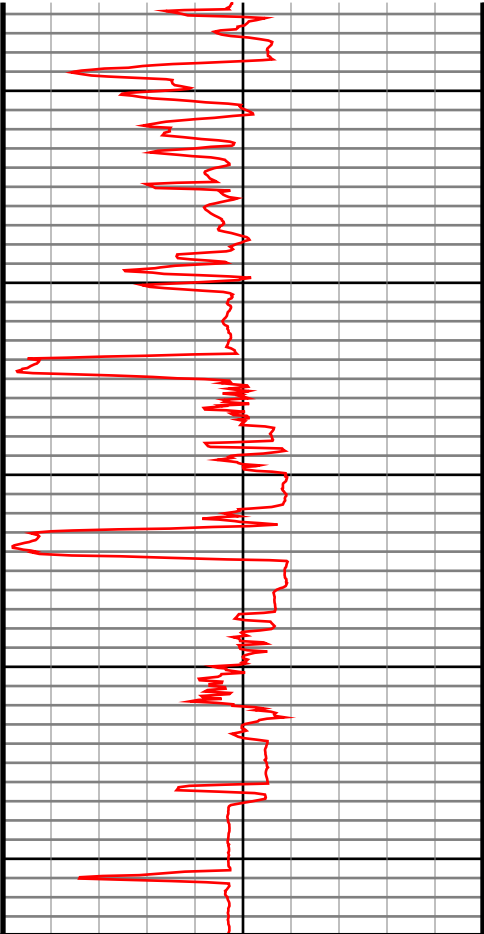
14300

14400

14500

14600

14700



#162 MD(14332.00) Inc(89.1) Azm(0.4) TVD(7077.78)
VS(7681.67) NS(7670.59) EW(-412.55) TEMP(231.8)

#163 MD(14422.00) Inc(88.5) Azm(359.1) TVD(7079.66)
VS(7771.55) NS(7760.57) EW(-412.95) TEMP(230.0)

#164 MD(14512.00) Inc(89.2) Azm(358.1) TVD(7081.47)
VS(7861.49) NS(7850.52) EW(-415.15) TEMP(230.0)

#165 MD(14601.00) Inc(90.0) Azm(358.8) TVD(7082.09)
VS(7950.46) NS(7939.49) EW(-417.54) TEMP(231.8)

#166 MD(14678.00) Inc(89.9) Azm(358.6) TVD(7082.16)
VS(8027.43) NS(8016.47) EW(-419.32) TEMP(233.6)