ENSIGN Directional

jacobucci 32K-403

TVD
5":100'

Company: Petroleum Development Corp.
Well Name: Jacobucci 32K-403
API: 051234116900
County/Parish: WELD
State: COLORADO
Country: UNITED STATES
Job number: 121-265
Field: WATTENBURG
Rig Id: Ensign 121
Survey Company: Ensign Directional Services
Operator: Petroleum Development Corp.
Company Man: Dean Haight/Carl Gerrard/Brady Sharp

Daylight DD: Breven Williams/Pete Moriarty
Night DD: Dave Van Dorin/Tyler Batchelder

Daylight MWD: Drew Gross/Louie Ascione
Night MWD: Lucas Henkenius/Kim Surprise

Log measurements:
Depth measured from:
Maximum temperature:

	Depth	Date
Start:	0 ft	04-19-2016
End:	ft	

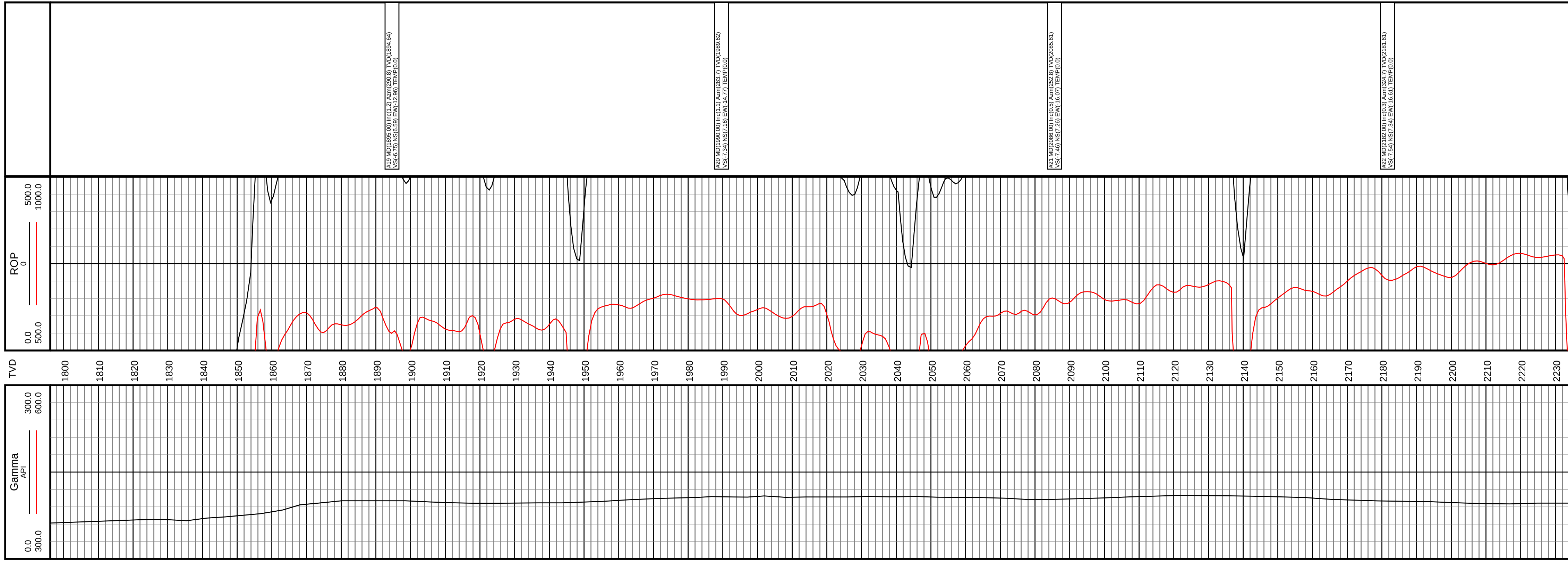
Casing	**Depth**	**Size**
Surface:	1833	9 5/8
Intermediate:		

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

Elevations
KB: 5061.5
GL: 5048
DF: 5061.5

Run	Bit Size	Offsets		Depths		Dates	
		Gamma	Survey	Start	End	Start	End
1	12.25		52.98	0	1850	04-19-2016	04-20-2016
2	8.5	53.75	48.75	1850	7445	04-21-2016	04-22-2016
3	8.5	52.50	47.50	7445	8267	04-23-2016	04-24-2016
4	8.5	58.05	53.05	8267	13772	04-24-2016	04-28-2016
5	8.5	51.83	46.83	13772		04-29-2016	
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.

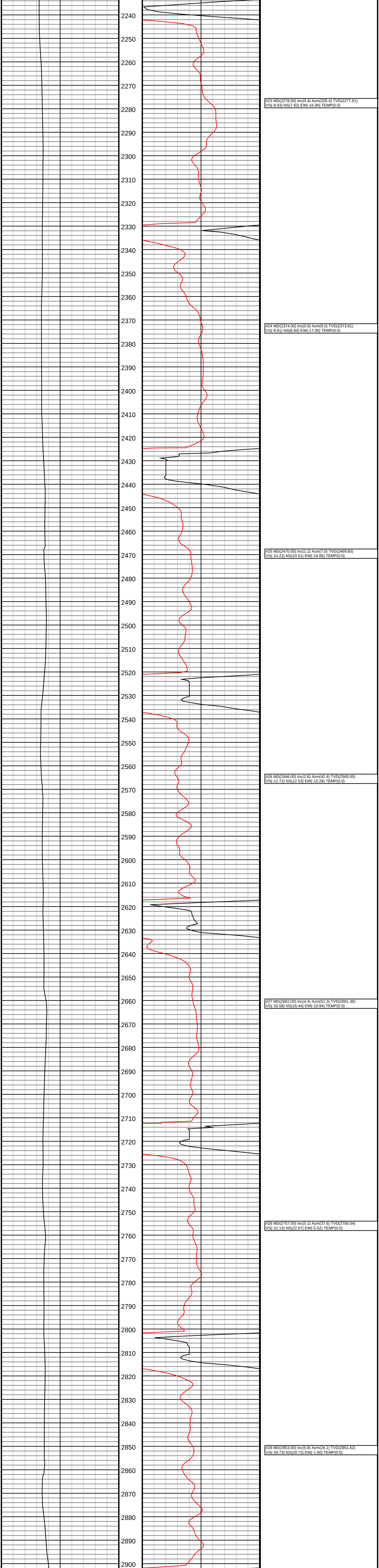


#19 MD(1895.00) Inc(1.2) Azm(290.8) TVD(1894.64)
VS(-6.75) NS(6.59) EW(-12.96) TEMP(0.0)

#20 MD(1990.00) Inc(1.1) Azm(283.7) TVD(1989.62)
VS(-7.34) NS(7.16) EW(-14.77) TEMP(0.0)

#21 MD(2086.00) Inc(0.5) Azm(252.8) TVD(2085.61)
VS(-7.46) NS(7.26) EW(-16.07) TEMP(0.0)

#22 MD(2182.00) Inc(0.3) Azm(324.7) TVD(2181.61)
VS(-7.54) NS(7.34) EW(-16.61) TEMP(0.0)



#23 MD(2278.00) Inc(0.4) Azm(326.4) TVD(2277.61)
VS(-8.03) NS(7.82) EW(-16.94) TEMP(0.0)

#24 MD(2374.00) Inc(0.6) Azm(9.0) TVD(2373.61)
VS(-8.81) NS(8.60) EW(-17.05) TEMP(0.0)

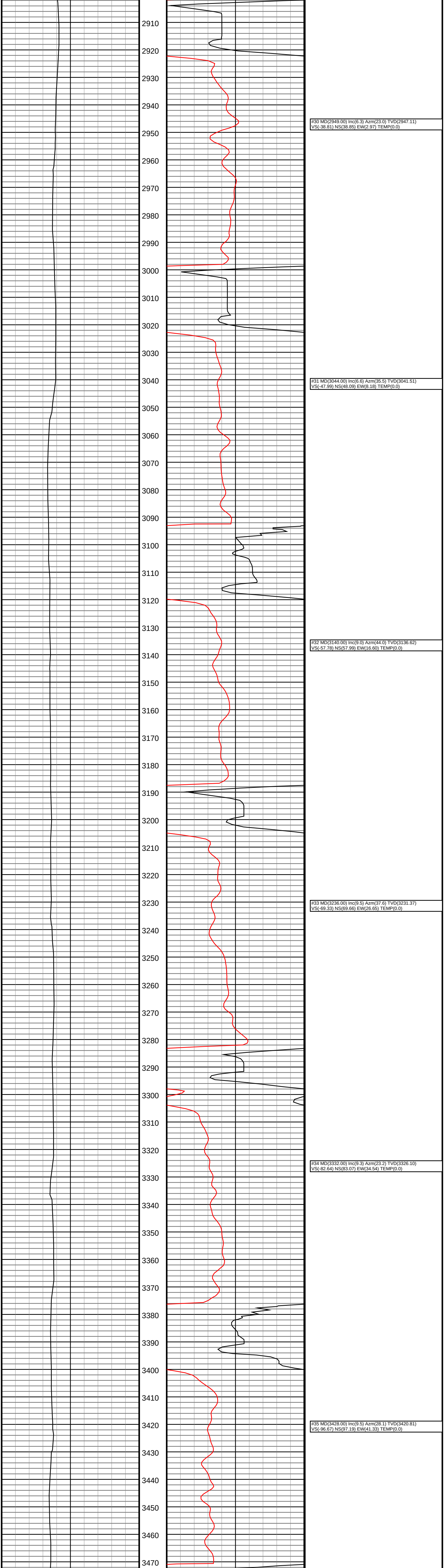
#25 MD(2470.00) Inc(1.1) Azm(7.0) TVD(2469.60)
VS(-10.22) NS(10.01) EW(-16.86) TEMP(0.0)

#26 MD(2566.00) Inc(2.6) Azm(42.4) TVD(2565.55)
VS(-12.72) NS(12.53) EW(-15.28) TEMP(0.0)

#27 MD(2662.00) Inc(4.4) Azm(51.3) TVD(2661.36)
VS(-16.58) NS(16.44) EW(-10.94) TEMP(0.0)

#28 MD(2757.00) Inc(5.1) Azm(37.6) TVD(2756.04)
VS(-22.13) NS(22.07) EW(-5.52) TEMP(0.0)

#29 MD(2853.00) Inc(5.6) Azm(24.1) TVD(2851.62)
VS(-29.73) NS(29.72) EW(-1.00) TEMP(0.0)



#30 MD(2949.00) Inc(6.3) Azm(23.0) TVD(2947.11)
VS(-38.81) NS(38.85) EW(2.97) TEMP(0.0)

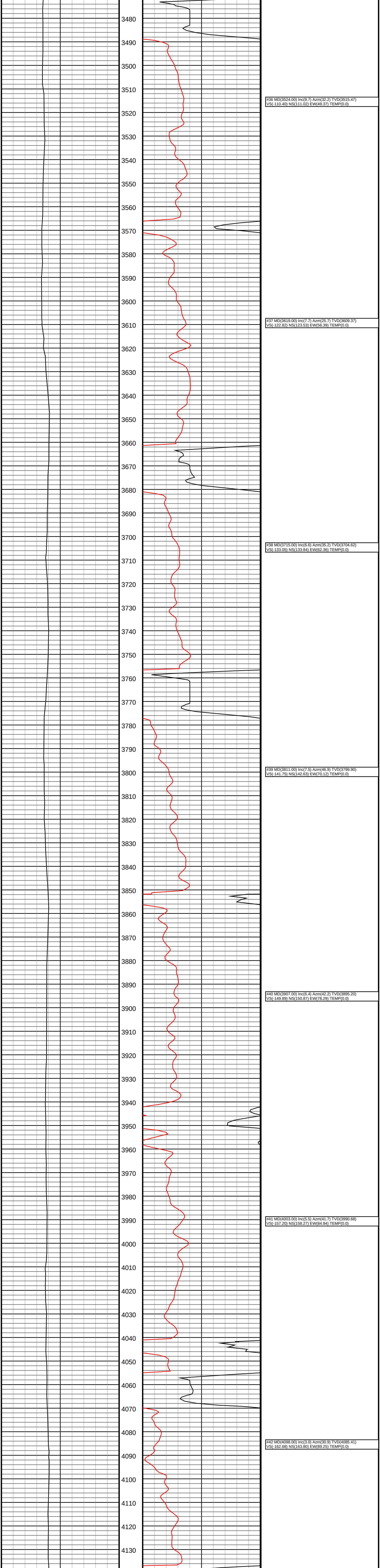
#31 MD(3044.00) Inc(6.6) Azm(35.5) TVD(3041.51)
VS(-47.99) NS(48.09) EW(8.18) TEMP(0.0)

#32 MD(3140.00) Inc(9.0) Azm(44.0) TVD(3136.62)
VS(-57.78) NS(57.99) EW(16.60) TEMP(0.0)

#33 MD(3236.00) Inc(9.5) Azm(37.6) TVD(3231.37)
VS(-69.33) NS(69.66) EW(26.65) TEMP(0.0)

#34 MD(3332.00) Inc(9.3) Azm(23.2) TVD(3326.10)
VS(-82.64) NS(83.07) EW(34.54) TEMP(0.0)

#35 MD(3428.00) Inc(9.5) Azm(28.1) TVD(3420.81)
VS(-96.67) NS(97.19) EW(41.33) TEMP(0.0)



#36 MD(3524.00) Inc(9.7) Azm(32.2) TVD(3515.47)
VS(-110.40) NS(111.02) EW(49.37) TEMP(0.0)

#37 MD(3619.00) Inc(7.7) Azm(25.7) TVD(3609.37)
VS(-122.82) NS(123.53) EW(56.39) TEMP(0.0)

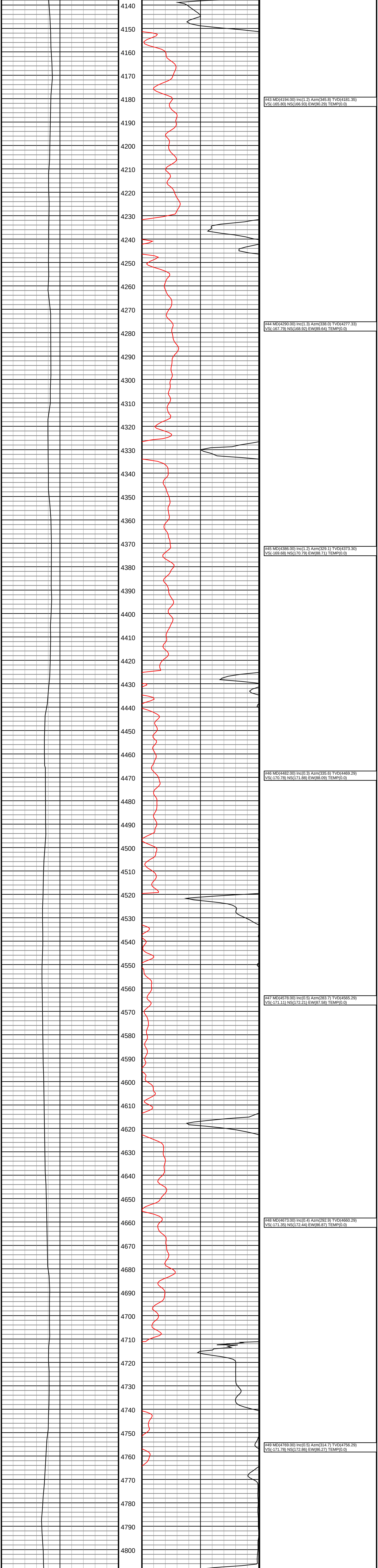
#38 MD(3715.00) Inc(6.6) Azm(35.2) TVD(3704.62)
VS(-133.05) NS(133.84) EW(62.36) TEMP(0.0)

#39 MD(3811.00) Inc(7.5) Azm(46.9) TVD(3799.90)
VS(-141.75) NS(142.63) EW(70.12) TEMP(0.0)

#40 MD(3907.00) Inc(6.4) Azm(42.2) TVD(3895.20)
VS(-149.89) NS(150.87) EW(78.29) TEMP(0.0)

#41 MD(4003.00) Inc(5.5) Azm(41.7) TVD(3990.68)
VS(-157.20) NS(158.27) EW(84.94) TEMP(0.0)

#42 MD(4098.00) Inc(3.0) Azm(30.9) TVD(4085.41)
VS(-162.68) NS(163.80) EW(89.25) TEMP(0.0)



#43 MD(4194.00) Inc(1.2) Azm(345.8) TVD(4181.35)
VS(-165.80) NS(166.93) EW(90.29) TEMP(0.0)

#44 MD(4290.00) Inc(1.3) Azm(338.0) TVD(4277.33)
VS(-167.79) NS(168.92) EW(89.64) TEMP(0.0)

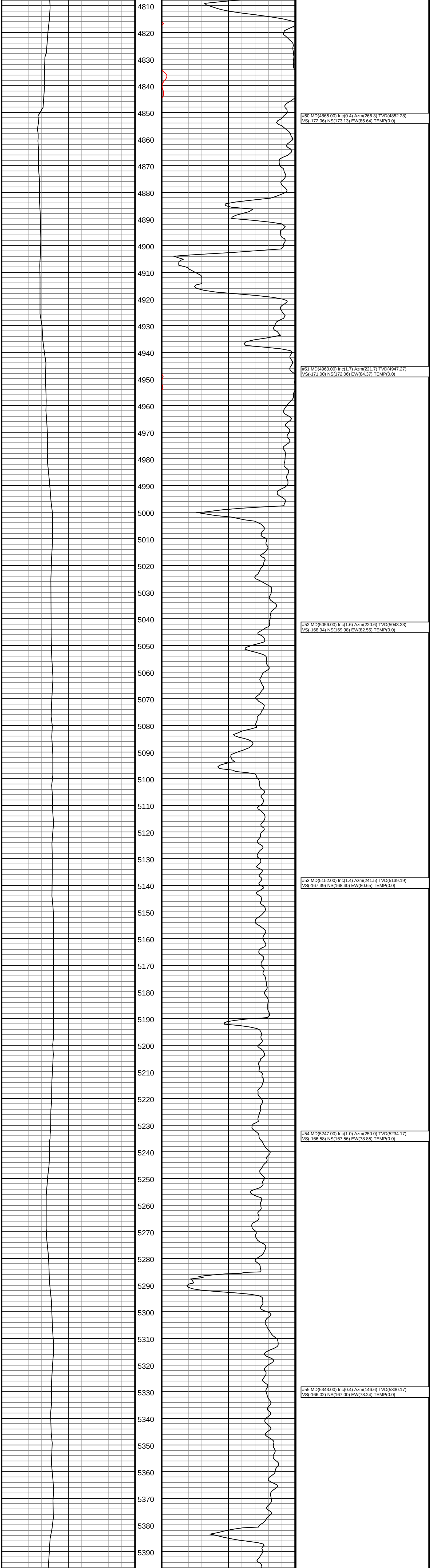
#45 MD(4386.00) Inc(1.2) Azm(329.1) TVD(4373.30)
VS(-169.68) NS(170.79) EW(88.71) TEMP(0.0)

#46 MD(4482.00) Inc(0.3) Azm(335.6) TVD(4469.29)
VS(-170.78) NS(171.88) EW(88.09) TEMP(0.0)

#47 MD(4578.00) Inc(0.5) Azm(283.7) TVD(4565.29)
VS(-171.11) NS(172.21) EW(87.58) TEMP(0.0)

#48 MD(4673.00) Inc(0.4) Azm(292.9) TVD(4660.29)
VS(-171.35) NS(172.44) EW(86.87) TEMP(0.0)

#49 MD(4769.00) Inc(0.5) Azm(314.7) TVD(4756.29)
VS(-171.78) NS(172.86) EW(86.27) TEMP(0.0)



#50 MD(4865.00) Inc(0.4) Azm(266.3) TVD(4852.28)
VS(-172.06) NS(173.13) EW(85.64) TEMP(0.0)

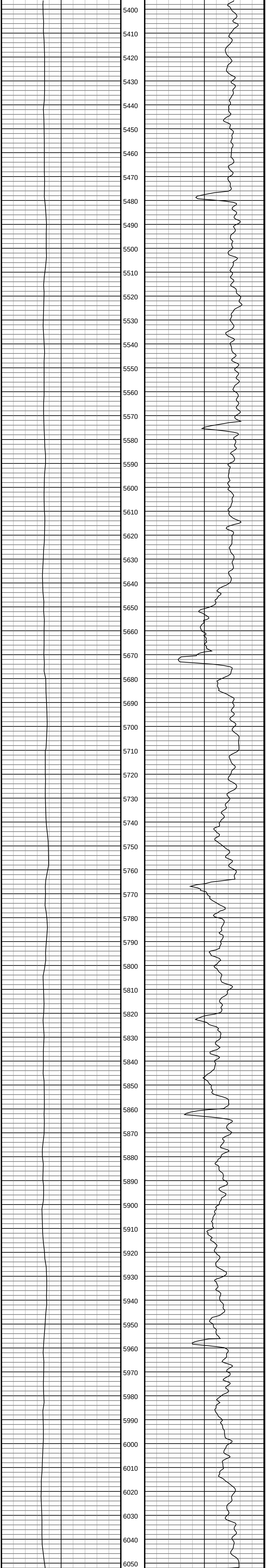
#51 MD(4960.00) Inc(1.7) Azm(221.7) TVD(4947.27)
VS(-171.00) NS(172.06) EW(84.37) TEMP(0.0)

#52 MD(5056.00) Inc(1.6) Azm(220.6) TVD(5043.23)
VS(-168.94) NS(169.98) EW(82.55) TEMP(0.0)

#53 MD(5152.00) Inc(1.4) Azm(241.5) TVD(5139.19)
VS(-167.39) NS(168.40) EW(80.65) TEMP(0.0)

#54 MD(5247.00) Inc(1.0) Azm(250.0) TVD(5234.17)
VS(-166.58) NS(167.56) EW(78.85) TEMP(0.0)

#55 MD(5343.00) Inc(0.4) Azm(146.6) TVD(5330.17)
VS(-166.02) NS(167.00) EW(78.24) TEMP(0.0)



#56 MD(5439.00) Inc(0.6) Azm(164.4) TVD(5426.16)
VS(-165.25) NS(166.23) EW(78.56) TEMP(0.0)

#57 MD(5535.00) Inc(0.8) Azm(179.3) TVD(5522.16)
VS(-164.09) NS(165.08) EW(78.71) TEMP(0.0)

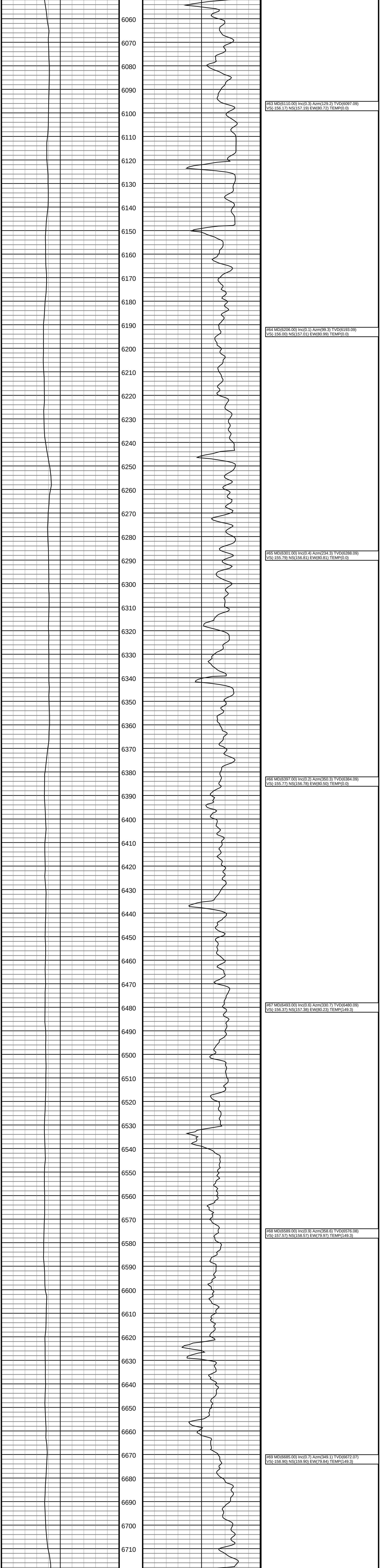
#58 MD(5631.00) Inc(0.8) Azm(165.2) TVD(5618.15)
VS(-162.77) NS(163.76) EW(78.89) TEMP(0.0)

#59 MD(5726.00) Inc(1.0) Azm(170.0) TVD(5713.14)
VS(-161.31) NS(162.30) EW(79.20) TEMP(0.0)

#60 MD(5822.00) Inc(0.8) Azm(174.6) TVD(5809.12)
VS(-159.82) NS(160.81) EW(79.41) TEMP(0.0)

#61 MD(5918.00) Inc(1.1) Azm(165.4) TVD(5905.11)
VS(-158.25) NS(159.25) EW(79.70) TEMP(0.0)

#62 MD(6014.00) Inc(0.7) Azm(150.1) TVD(6001.10)
VS(-156.85) NS(157.85) EW(80.23) TEMP(0.0)



#63 MD(6110.00) Inc(0.3) Azm(129.2) TVD(6097.09)
VS(-156.17) NS(157.19) EW(80.72) TEMP(0.0)

#64 MD(6206.00) Inc(0.1) Azm(99.3) TVD(6193.09)
VS(-156.00) NS(157.01) EW(80.99) TEMP(0.0)

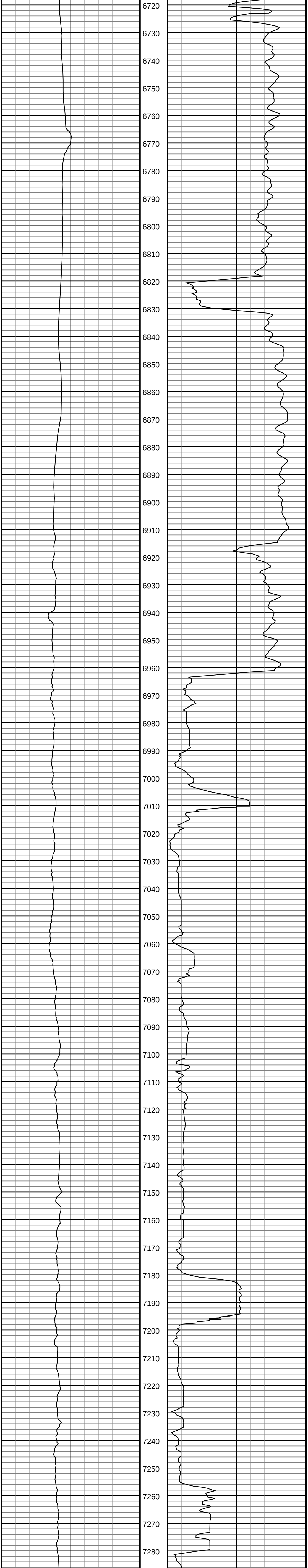
#65 MD(6301.00) Inc(0.4) Azm(234.3) TVD(6288.09)
VS(-155.79) NS(156.81) EW(80.81) TEMP(0.0)

#66 MD(6397.00) Inc(0.2) Azm(350.3) TVD(6384.09)
VS(-155.77) NS(156.78) EW(80.50) TEMP(0.0)

#67 MD(6493.00) Inc(0.6) Azm(330.7) TVD(6480.09)
VS(-156.37) NS(157.38) EW(80.23) TEMP(149.3)

#68 MD(6589.00) Inc(0.9) Azm(358.6) TVD(6576.08)
VS(-157.57) NS(158.57) EW(79.97) TEMP(149.3)

#69 MD(6685.00) Inc(0.7) Azm(349.1) TVD(6672.07)
VS(-158.90) NS(159.90) EW(79.84) TEMP(149.3)



#70 MD(6781.00) Inc(1.1) Azm(9.1) TVD(6768.06)
VS(-160.39) NS(161.39) EW(79.87) TEMP(149.3)

#71 MD(6877.00) Inc(1.1) Azm(83.2) TVD(6864.05)
VS(-161.39) NS(162.41) EW(80.93) TEMP(149.3)

#72 MD(6924.00) Inc(1.1) Azm(69.8) TVD(6911.04)
VS(-161.59) NS(162.62) EW(81.80) TEMP(164.1)

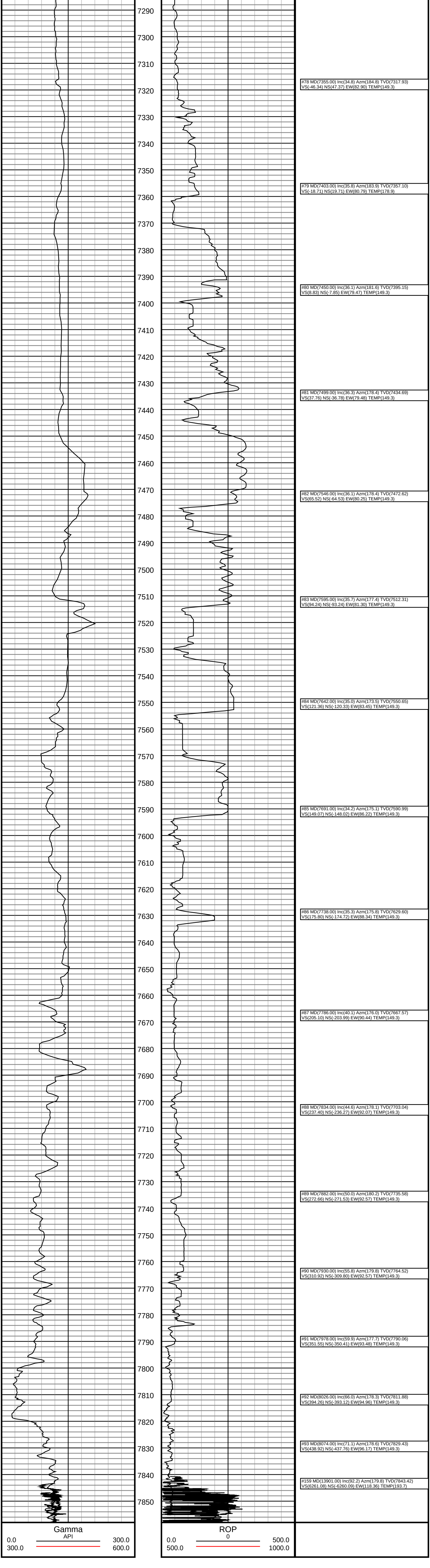
#73 MD(6972.00) Inc(1.2) Azm(115.0) TVD(6959.03)
VS(-161.53) NS(162.56) EW(82.69) TEMP(149.3)

#74 MD(7068.00) Inc(8.0) Azm(175.3) TVD(7054.69)
VS(-154.41) NS(155.47) EW(84.15) TEMP(149.3)

#75 MD(7163.00) Inc(19.4) Azm(179.3) TVD(7146.84)
VS(-131.97) NS(133.03) EW(84.89) TEMP(149.3)

#76 MD(7210.00) Inc(22.2) Azm(177.2) TVD(7190.77)
VS(-115.29) NS(116.35) EW(85.42) TEMP(149.3)

#77 MD(7259.00) Inc(26.5) Azm(181.2) TVD(7235.40)
VS(-95.10) NS(96.17) EW(85.64) TEMP(149.3)



#78 MD(7355.00) Inc(34.8) Azm(184.8) TVD(7317.93)
VS(-46.34) NS(47.37) EW(82.90) TEMP(149.3)

#79 MD(7403.00) Inc(35.8) Azm(183.9) TVD(7357.10)
VS(-18.71) NS(19.71) EW(80.79) TEMP(178.9)

#80 MD(7450.00) Inc(36.1) Azm(181.6) TVD(7395.15)
VS(8.83) NS(-7.85) EW(79.47) TEMP(149.3)

#81 MD(7499.00) Inc(36.3) Azm(178.4) TVD(7434.69)
VS(37.76) NS(-36.78) EW(79.48) TEMP(149.3)

#82 MD(7546.00) Inc(36.1) Azm(178.4) TVD(7472.62)
VS(65.52) NS(-64.53) EW(80.25) TEMP(149.3)

#83 MD(7595.00) Inc(35.7) Azm(177.4) TVD(7512.31)
VS(94.24) NS(-93.24) EW(81.30) TEMP(149.3)

#84 MD(7642.00) Inc(35.0) Azm(173.5) TVD(7550.65)
VS(121.36) NS(-120.33) EW(83.45) TEMP(149.3)

#85 MD(7691.00) Inc(34.2) Azm(175.1) TVD(7590.99)
VS(149.07) NS(-148.02) EW(86.22) TEMP(149.3)

#86 MD(7738.00) Inc(35.3) Azm(175.8) TVD(7629.60)
VS(175.80) NS(-174.72) EW(88.34) TEMP(149.3)

#87 MD(7786.00) Inc(40.1) Azm(176.0) TVD(7667.57)
VS(205.10) NS(-203.99) EW(90.44) TEMP(149.3)

#88 MD(7834.00) Inc(44.6) Azm(178.1) TVD(7703.04)
VS(237.40) NS(-236.27) EW(92.07) TEMP(149.3)

#89 MD(7882.00) Inc(50.0) Azm(180.2) TVD(7735.58)
VS(272.66) NS(-271.53) EW(92.57) TEMP(149.3)

#90 MD(7930.00) Inc(55.8) Azm(179.8) TVD(7764.52)
VS(310.92) NS(-309.80) EW(92.57) TEMP(149.3)

#91 MD(7978.00) Inc(59.9) Azm(177.7) TVD(7790.06)
VS(351.55) NS(-350.41) EW(93.48) TEMP(149.3)

#92 MD(8026.00) Inc(66.0) Azm(178.3) TVD(7811.88)
VS(394.26) NS(-393.12) EW(94.96) TEMP(149.3)

#93 MD(8074.00) Inc(71.1) Azm(178.6) TVD(7829.43)
VS(438.92) NS(-437.76) EW(96.17) TEMP(149.3)

#159 MD(13901.00) Inc(92.2) Azm(179.8) TVD(7843.42)
VS(6261.08) NS(-6260.09) EW(118.36) TEMP(193.7)