ENSIGN

Red Cloud 0N

PDC ENERGY

MD 2":100'

Company: PDC Energy Inc
Well Name: Red Cloud 0N
API: 05-123-49445-00
County/Parish: WELD
State: COLORADO
Country: USA
Job number: 152-205
Field: Wattenberg
Rig Id: Ensign 152
Survey Company: Ensign Directional
DD1 Jesus Gallego
DD2 Dan Hanson
DD3 Eric Cherry
MWD1 Bobby Blevins
MWD2 Collin Randall

Log measurements: Gamma, ROP
Depth measured from: 1678 ft
Maximum temperature:

	Depth	Date
Start:	0 ft	5-24-2019
End:	17167 ft	06-02-2019

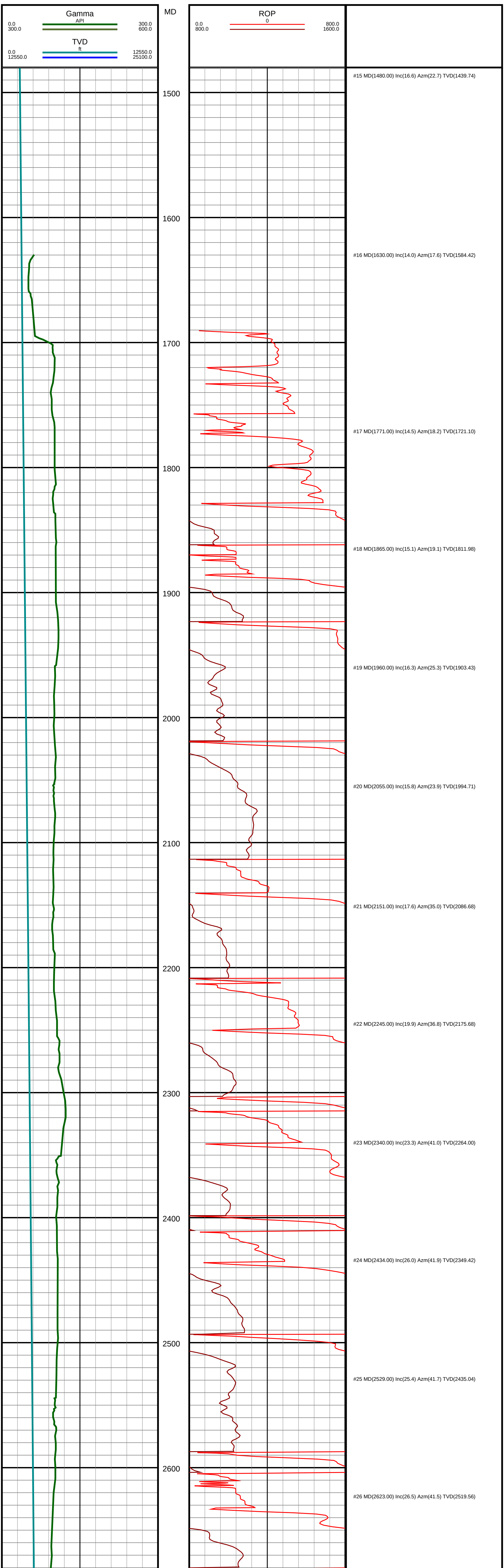
Casing	Depth	Size
Surface:	1678 ft	9 5/8"
Intermediate:		

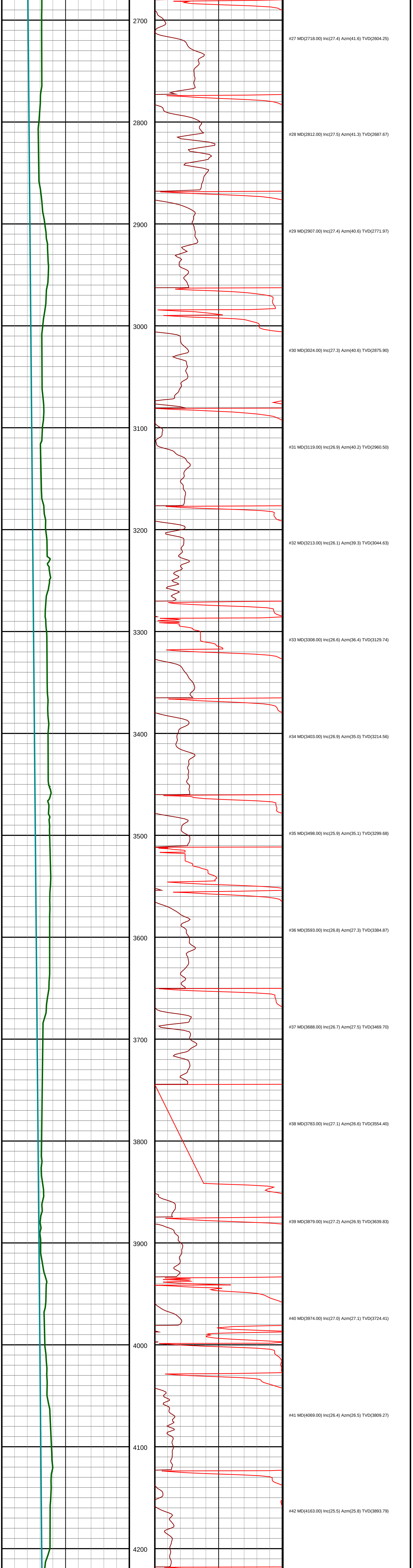
Mud Type: Water
Density:
Viscosity:
Rm: **Rmf:** **Rmc:**

Elevations
KB: 23 ft
GL: 4602 ft
DF: 4625 ft

		Offsets		Depths		Dates	
Run	Bit Size	Gamma	Survey	Start	End	Start	End
1	12 1/4"		60.00 ft	0 ft	1678 ft	5-24-2019	5-25-2019
2	8.5"	60.46 ft	57.96 ft	1678 ft	13538 ft	5-27-2019	5-30-2019
3	8.5"	60.44 ft	57.94 ft	13538 ft	15473 ft	5-30-2019	6-01-2019
4	8.5"	60.44 ft	57.94 ft	15473 ft	17167 ft	6-01-2019	06-02-2019
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.





#27 MD(2718.00) Inc(27.4) Azm(41.6) TVD(2604.25)

#28 MD(2812.00) Inc(27.5) Azm(41.3) TVD(2687.67)

#29 MD(2907.00) Inc(27.4) Azm(40.6) TVD(2771.97)

#30 MD(3024.00) Inc(27.3) Azm(40.6) TVD(2875.90)

#31 MD(3119.00) Inc(26.9) Azm(40.2) TVD(2960.50)

#32 MD(3213.00) Inc(26.1) Azm(39.3) TVD(3044.63)

#33 MD(3308.00) Inc(26.6) Azm(36.4) TVD(3129.74)

#34 MD(3403.00) Inc(26.9) Azm(35.0) TVD(3214.56)

#35 MD(3498.00) Inc(25.9) Azm(35.1) TVD(3299.68)

#36 MD(3593.00) Inc(26.8) Azm(27.3) TVD(3384.87)

#37 MD(3688.00) Inc(26.7) Azm(27.5) TVD(3469.70)

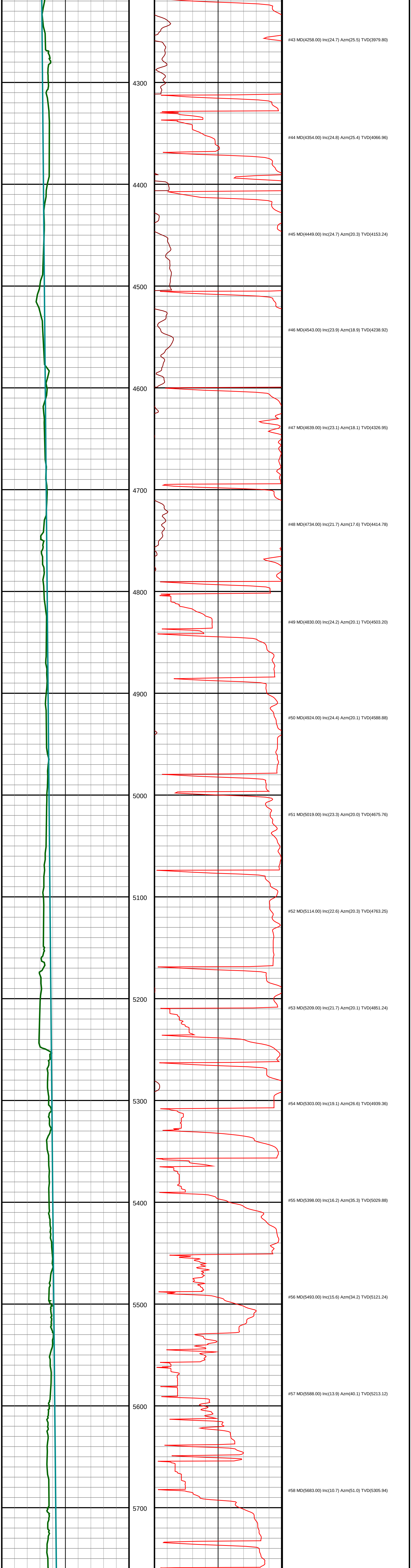
#38 MD(3783.00) Inc(27.1) Azm(26.6) TVD(3554.40)

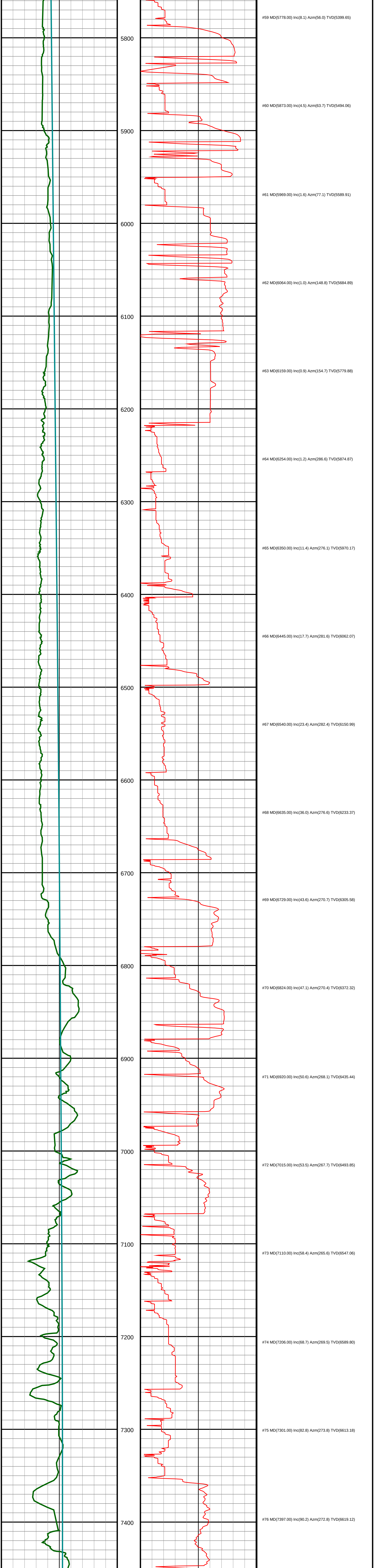
#39 MD(3879.00) Inc(27.2) Azm(26.9) TVD(3639.83)

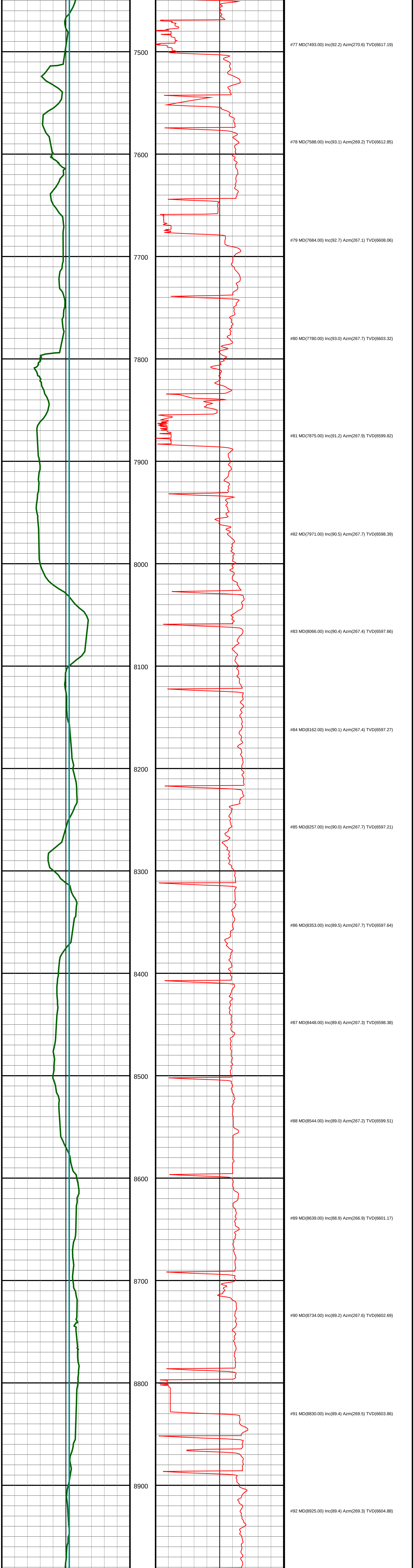
#40 MD(3974.00) Inc(27.0) Azm(27.1) TVD(3724.41)

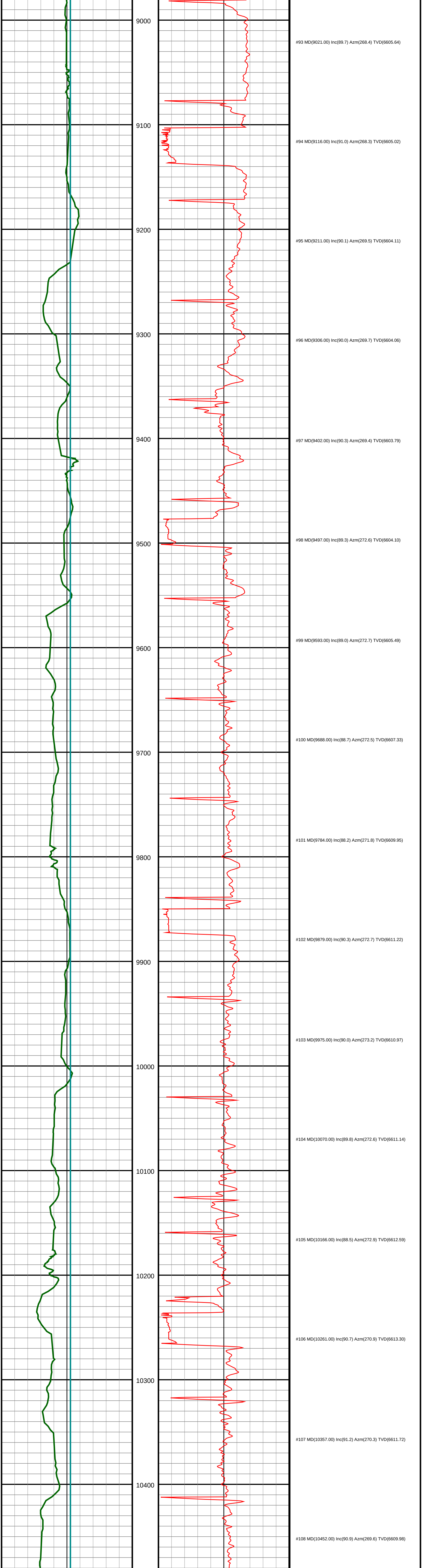
#41 MD(4069.00) Inc(26.4) Azm(26.5) TVD(3809.27)

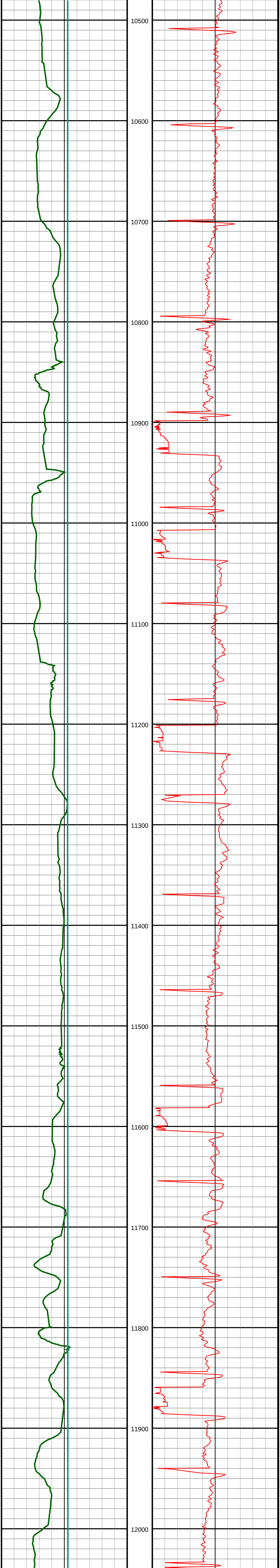
#42 MD(4163.00) Inc(25.5) Azm(25.8) TVD(3893.79)











#109 MD(10644.00) Inc(91.3) Azm(268.8) TVD(6606.21)

#110 MD(10739.00) Inc(92.1) Azm(268.0) TVD(6603.40)

#111 MD(10834.00) Inc(93.0) Azm(268.2) TVD(6599.18)

#112 MD(10930.00) Inc(91.3) Azm(269.0) TVD(6595.54)

#113 MD(11026.00) Inc(89.8) Azm(268.8) TVD(6594.60)

#114 MD(11121.00) Inc(89.8) Azm(268.5) TVD(6594.93)

#115 MD(11217.00) Inc(88.2) Azm(268.8) TVD(6596.63)

#116 MD(11313.00) Inc(86.9) Azm(268.8) TVD(6600.76)

#117 MD(11408.00) Inc(86.8) Azm(269.0) TVD(6605.99)

#118 MD(11503.00) Inc(86.5) Azm(268.2) TVD(6611.56)

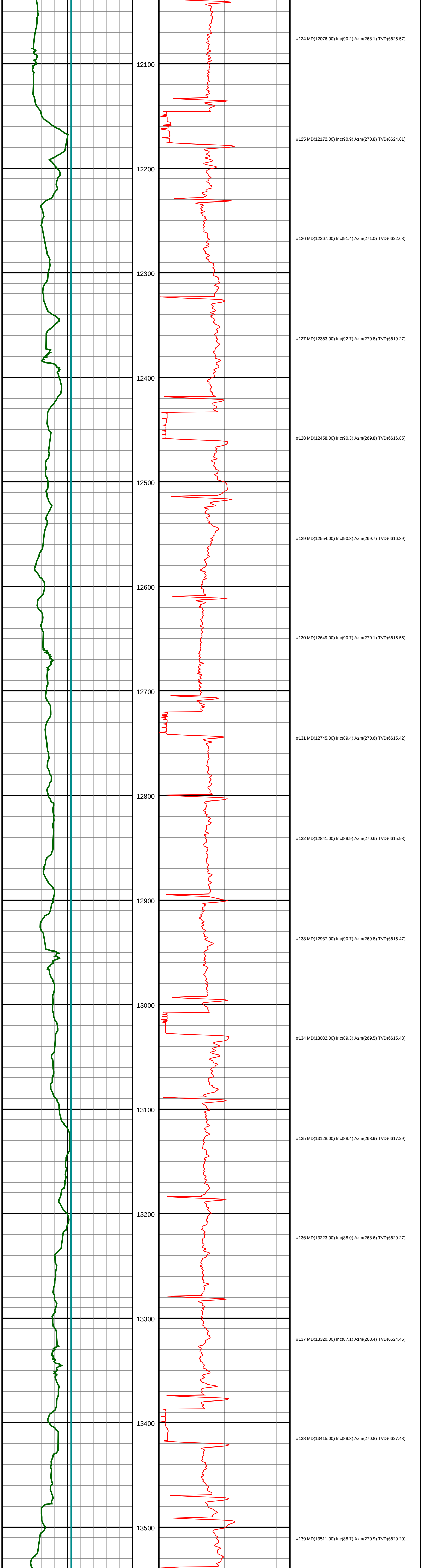
#119 MD(11599.00) Inc(87.8) Azm(268.5) TVD(6616.38)

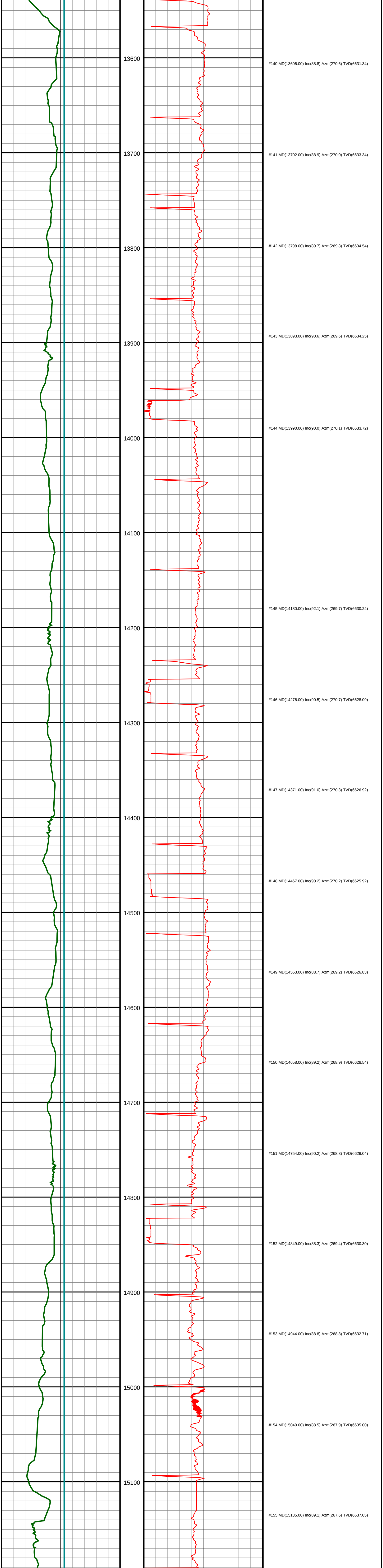
#120 MD(11695.00) Inc(88.5) Azm(267.8) TVD(6619.54)

#121 MD(11790.00) Inc(88.9) Azm(267.4) TVD(6621.74)

#122 MD(11885.00) Inc(89.0) Azm(269.6) TVD(6623.51)

#123 MD(11981.00) Inc(89.2) Azm(268.6) TVD(6625.07)





#140 MD(13606.00) Inc(88.8) Azm(270.6) TVD(6631.34)

#141 MD(13702.00) Inc(88.9) Azm(270.0) TVD(6633.34)

#142 MD(13798.00) Inc(89.7) Azm(269.8) TVD(6634.54)

#143 MD(13893.00) Inc(90.6) Azm(269.6) TVD(6634.25)

#144 MD(13990.00) Inc(90.0) Azm(270.1) TVD(6633.72)

#145 MD(14180.00) Inc(92.1) Azm(269.7) TVD(6630.24)

#146 MD(14276.00) Inc(90.5) Azm(270.7) TVD(6628.09)

#147 MD(14371.00) Inc(91.0) Azm(270.3) TVD(6626.92)

#148 MD(14467.00) Inc(90.2) Azm(270.2) TVD(6625.92)

#149 MD(14563.00) Inc(88.7) Azm(269.2) TVD(6626.83)

#150 MD(14658.00) Inc(89.2) Azm(268.9) TVD(6628.54)

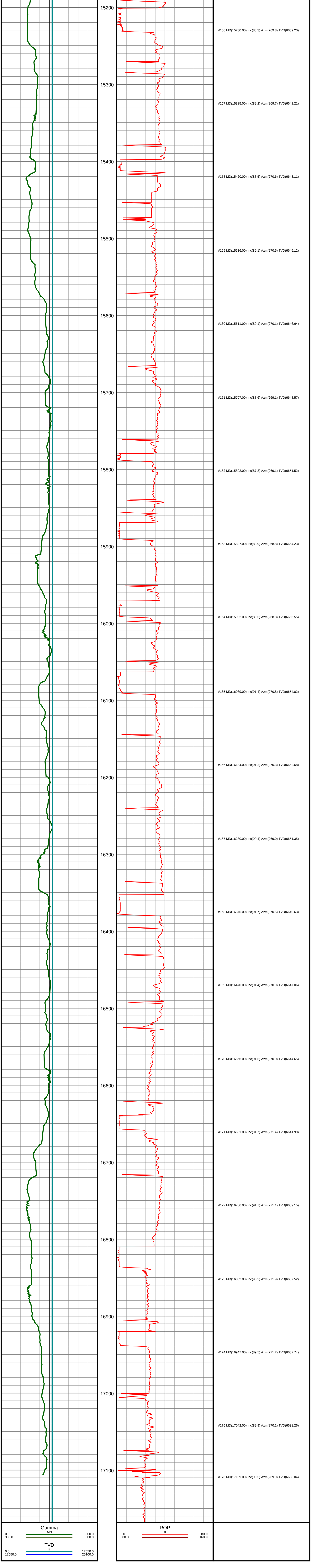
#151 MD(14754.00) Inc(90.2) Azm(268.8) TVD(6629.04)

#152 MD(14849.00) Inc(88.3) Azm(269.4) TVD(6630.30)

#153 MD(14944.00) Inc(88.8) Azm(268.8) TVD(6632.71)

#154 MD(15040.00) Inc(88.5) Azm(267.9) TVD(6635.00)

#155 MD(15135.00) Inc(89.1) Azm(267.6) TVD(6637.05)



#156 MD(15230.00) Inc(88.3) Azm(269.8) TVD(6639.20)

#157 MD(15325.00) Inc(89.2) Azm(269.7) TVD(6641.21)

#158 MD(15420.00) Inc(88.5) Azm(270.6) TVD(6643.11)

#159 MD(15516.00) Inc(89.1) Azm(270.5) TVD(6645.12)

#160 MD(15611.00) Inc(89.1) Azm(270.1) TVD(6646.64)

#161 MD(15707.00) Inc(88.6) Azm(269.1) TVD(6648.57)

#162 MD(15802.00) Inc(87.8) Azm(269.1) TVD(6651.52)

#163 MD(15897.00) Inc(88.9) Azm(268.8) TVD(6654.23)

#164 MD(15992.00) Inc(89.5) Azm(268.8) TVD(6655.55)

#165 MD(16089.00) Inc(91.4) Azm(270.8) TVD(6654.82)

#166 MD(16184.00) Inc(91.2) Azm(270.3) TVD(6652.68)

#167 MD(16280.00) Inc(90.4) Azm(269.0) TVD(6651.35)

#168 MD(16375.00) Inc(91.7) Azm(270.5) TVD(6649.63)

#169 MD(16470.00) Inc(91.4) Azm(270.9) TVD(6647.06)

#170 MD(16566.00) Inc(91.5) Azm(270.0) TVD(6644.65)

#171 MD(16661.00) Inc(91.7) Azm(271.4) TVD(6641.99)

#172 MD(16756.00) Inc(91.7) Azm(271.1) TVD(6639.15)

#173 MD(16852.00) Inc(90.2) Azm(271.9) TVD(6637.52)

#174 MD(16947.00) Inc(89.5) Azm(271.2) TVD(6637.74)

#175 MD(17042.00) Inc(89.9) Azm(270.1) TVD(6638.26)

#176 MD(17109.00) Inc(90.5) Azm(269.9) TVD(6638.04)