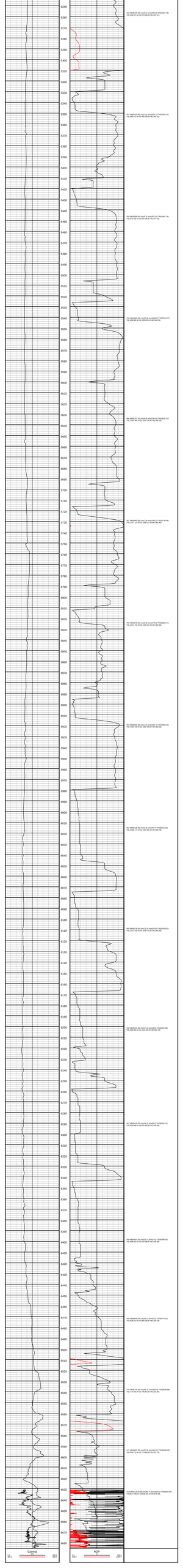

Popham 8N

ENSIGN

PDC ENERGY

TVD
5":100'

Company: Petroleum Development Corp.
Well Name: Popham 8N
API:
County/Parish: Weld
State: Colorado
Country: United States
Job number: 161-176
Field: Wattenburg
Rig Id: Ensign 161
Survey Company: Ensign
Operator: Petroleum Development Corp.
Company Man: Brady Sharp / John Falton

Daylight DD: Zach Gentry
Swing Shift DD: Tony Callow
Night DD: Eric Mays
Daylight MWD: Chad Anderson
Night MWD: Terry Ash

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

	Depth	Date
Start:	0 ft	4-20-2019
End:	12139 ft	4-25-2019

Casing	Depth	Size
Surface:	1631 ft	9 5/8"
Intermediate:		

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

Elevations
KB: 23 ft
GL: 4662 ft
DF: 4685 ft

Run	Bit Size	Offsets		Depths		Dates	
		Gamma	Survey	Start	End	Start	End
1	12.25"		60.00 ft	0 ft	1651 ft	4-20-2019	4-21-2019
2	8.5"	62.80 ft	57.97 ft	1651 ft	12139 ft	4-22-2019	4-25-2019
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Ensign 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.

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TVD
ROP
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#17 MD(1669.00) Inc(12.9) Azm(203.8) TVD(1649.94) VS(-179.80) N/-S(-184.83) E/-W(-80.11)
#18 MD(1764.00) Inc(14.0) Azm(205.8) TVD(1742.34) VS(-199.24) N/-S(-204.85) E/-W(-89.38)
#19 MD(1859.00) Inc(13.9) Azm(206.8) TVD(1834.53) VS(-219.16) N/-S(-225.40) E/-W(-99.52)
#20 MD(1953.00) Inc(16.0) Azm(202.2) TVD(1925.33) VS(-240.65) N/-S(-247.52) E/-W(-109.53)
#21 MD(2048.00) Inc(16.2) Azm(194.5) TVD(2016.60) VS(-265.14) N/-S(-272.53) E/-W(-117.83)
#22 MD(2143.00) Inc(15.2) Azm(192.3) TVD(2108.04) VS(-289.78) N/-S(-297.57) E/-W(-123.81)
#23 MD(2238.00) Inc(13.7) Azm(190.8) TVD(2200.03) VS(-312.69) N/-S(-320.80) E/-W(-128.57)
#24 MD(2333.00) Inc(12.5) Azm(187.6) TVD(2292.56) VS(-333.67) N/-S(-342.03) E/-W(-132.04)
#25 MD(2428.00) Inc(13.9) Azm(192.7) TVD(2385.06) VS(-354.70) N/-S(-363.32) E/-W(-135.90)
#26 MD(2523.00) Inc(12.7) Azm(193.4) TVD(2477.51) VS(-375.67) N/-S(-384.62) E/-W(-140.84)
#27 MD(2618.00) Inc(14.0) Azm(198.7) TVD(2569.94) VS(-396.36) N/-S(-405.70) E/-W(-146.95)
#28 MD(2712.00) Inc(13.7) Azm(196.2) TVD(2661.21) VS(-417.38) N/-S(-427.15) E/-W(-153.68)
#29 MD(2807.00) Inc(13.6) Azm(195.8) TVD(2753.53) VS(-438.52) N/-S(-448.70) E/-W(-159.85)
#30 MD(2901.00) Inc(12.8) Azm(192.6) TVD(2845.03) VS(-459.01) N/-S(-469.52) E/-W(-165.13)
#31 MD(2995.00) Inc(12.0) Azm(192.8) TVD(2936.83) VS(-478.43) N/-S(-489.25) E/-W(-169.58)
#32 MD(3089.00) Inc(12.4) Azm(197.1) TVD(3028.70) VS(-497.32) N/-S(-508.47) E/-W(-174.73)
#33 MD(3184.00) Inc(14.3) Azm(202.3) TVD(3121.12) VS(-517.49) N/-S(-529.12) E/-W(-182.21)
#34 MD(3279.00) Inc(12.7) Azm(201.5) TVD(3213.49) VS(-537.55) N/-S(-549.70) E/-W(-190.49)
#35 MD(3373.00) Inc(14.3) Azm(206.3) TVD(3304.90) VS(-556.99) N/-S(-569.69) E/-W(-199.40)
#36 MD(3469.00) Inc(12.6) Azm(205.9) TVD(3398.26) VS(-576.44) N/-S(-589.76) E/-W(-209.25)
#37 MD(3563.00) Inc(15.4) Azm(207.2) TVD(3489.45) VS(-596.16) N/-S(-610.11) E/-W(-219.46)
#38 MD(3659.00) Inc(16.0) Azm(202.7) TVD(3581.87) VS(-619.04) N/-S(-633.68) E/-W(-230.41)
#39 MD(3754.00) Inc(16.3) Azm(202.4) TVD(3673.11) VS(-642.84) N/-S(-658.12) E/-W(-240.55)
#40 MD(3848.00) Inc(16.2) Azm(201.8) TVD(3763.34) VS(-666.63) N/-S(-682.54) E/-W(-250.45)
#41 MD(3944.00) Inc(15.7) Azm(200.4) TVD(3855.62) VS(-690.70) N/-S(-707.21) E/-W(-259.97)
#42 MD(4039.00) Inc(15.3) Azm(199.7) TVD(3947.16) VS(-714.01) N/-S(-731.07) E/-W(-268.68)
#43 MD(4134.00) Inc(15.0) Azm(196.2) TVD(4038.87) VS(-737.12) N/-S(-754.67) E/-W(-276.35)
#44 MD(4229.00) Inc(14.2) Azm(196.8) TVD(4130.80) VS(-759.64) N/-S(-777.63) E/-W(-283.14)
#45 MD(4325.00) Inc(13.7) Azm(196.2) TVD(4223.96) VS(-781.41) N/-S(-799.83) E/-W(-289.71)
#46 MD(4420.00) Inc(12.8) Azm(196.8) TVD(4316.44) VS(-801.88) N/-S(-820.70) E/-W(-295.90)
#47 MD(4515.00) Inc(12.0) Azm(197.1) TVD(4409.22) VS(-821.00) N/-S(-840.19) E/-W(-301.84)
#48 MD(4611.00) Inc(11.6) Azm(196.9) TVD(4503.20) VS(-839.37) N/-S(-858.94) E/-W(-307.56)
#49 MD(4706.00) Inc(11.1) Azm(196.9) TVD(4596.36) VS(-856.85) N/-S(-876.76) E/-W(-312.98)
#50 MD(4802.00) Inc(10.0) Azm(194.5) TVD(4690.74) VS(-873.41) N/-S(-893.64) E/-W(-317.75)
#51 MD(4897.00) Inc(9.4) Azm(194.4) TVD(4784.38) VS(-888.66) N/-S(-909.14) E/-W(-321.75)
#52 MD(4992.00) Inc(9.1) Azm(195.8) TVD(4878.14) VS(-903.15) N/-S(-923.89) E/-W(-325.73)
#53 MD(5088.00) Inc(8.6) Azm(186.1) TVD(4973.01) VS(-917.36) N/-S(-938.30) E/-W(-328.56)
#54 MD(5183.00) Inc(7.5) Azm(196.2) TVD(5067.08) VS(-930.21) N/-S(-951.32) E/-W(-331.04)
#55 MD(5279.00) Inc(6.8) Azm(196.1) TVD(5162.33) VS(-941.46) N/-S(-962.78) E/-W(-334.37)

#56 MD(5375.00) Inc(5.5) Azm(200.8) TVD(5257.78)
VS(-950.97) N/-S(-972.50) E/-W(-337.57)

#57 MD(5470.00) Inc(7.0) Azm(204.7) TVD(5352.22)
VS(-960.22) N/-S(-982.00) E/-W(-341.61)

#58 MD(5566.00) Inc(9.3) Azm(207.4) TVD(5447.24)
VS(-972.03) N/-S(-994.19) E/-W(-347.61)

#59 MD(5662.00) Inc(10.9) Azm(200.0) TVD(5541.77)
VS(-986.98) N/-S(-1009.55) E/-W(-354.25)

#60 MD(5757.00) Inc(9.9) Azm(195.9) TVD(5635.22)
VS(-1002.88) N/-S(-1025.79) E/-W(-359.54)

#61 MD(5853.00) Inc(7.8) Azm(185.2) TVD(5730.08)
VS(-1017.12) N/-S(-1040.22) E/-W(-362.40)

#62 MD(5949.00) Inc(5.0) Azm(179.2) TVD(5825.47)
VS(-1027.76) N/-S(-1050.91) E/-W(-362.93)

#63 MD(6044.00) Inc(1.6) Azm(166.7) TVD(5920.30)
VS(-1033.19) N/-S(-1056.33) E/-W(-362.56)

#64 MD(6140.00) Inc(4.9) Azm(20.7) TVD(6016.20)
VS(-1030.77) N/-S(-1053.80) E/-W(-360.79)

#65 MD(6235.00) Inc(13.3) Azm(20.6) TVD(6109.92)
VS(-1017.03) N/-S(-1039.73) E/-W(-355.50)

#66 MD(6331.00) Inc(17.4) Azm(9.9) TVD(6202.49)
VS(-992.95) N/-S(-1015.23) E/-W(-349.13)

#67 MD(6426.00) Inc(24.3) Azm(9.2) TVD(6291.21)
VS(-959.99) N/-S(-981.88) E/-W(-343.56)

#68 MD(6551.00) Inc(35.7) Azm(7.5) TVD(6399.26)
VS(-898.82) N/-S(-920.08) E/-W(-334.66)

#69 MD(6646.00) Inc(42.7) Azm(2.2) TVD(6472.81)
VS(-839.41) N/-S(-860.28) E/-W(-329.76)

#70 MD(6742.00) Inc(50.1) Azm(356.0) TVD(6538.99)
VS(-770.04) N/-S(-790.87) E/-W(-331.05)

#71 MD(6837.00) Inc(57.0) Azm(354.0) TVD(6595.40)
VS(-693.71) N/-S(-714.80) E/-W(-337.74)

#126 MD(12079.00) Inc(90.7) Azm(359.5) TVD(6634.04)
VS(4517.49) N/-S(4508.92) E/-W(-278.30)