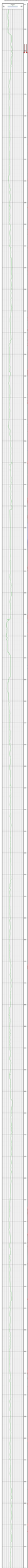

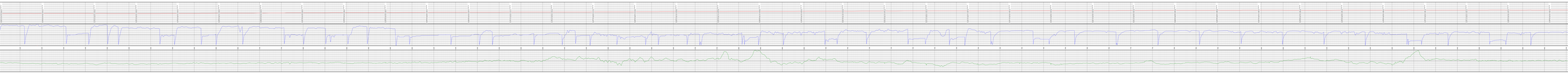

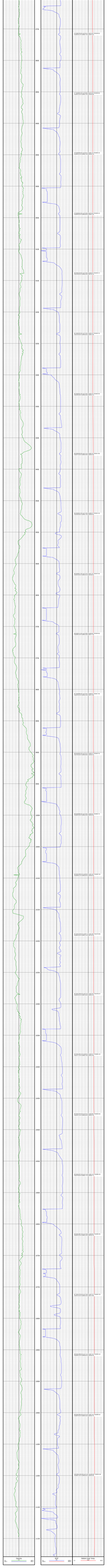

Polaris Guidance Systems LLC

Extraction_Patterson 901_Berthoud Farms 8E_10_3C

MD
5":100'

Company: Extraction Oil and Gas
Well Name: Berthoud Farms 8E-10-1N
API: 05-123-45898
County/Parish: Weld
State: CO
Country: US
Job number: 00017EX-CO
Field: DJ Basin
Rig Id: Patterson 901
Survey Company: Atlas Directional Services
Stephen Lebel Day Hand
Matt Fetterly Night Hand

Log measurements: Gamma
Depth measured from: RKB
Maximum temperature: 210

	Depth	Date
Start:	1550 ft	5/8/18
End:	11178 ft	5/9/18

Casing	Depth	Casing Size	Hole Size
Surface:	1605 ft	9.625"	12.5"
Intermediate:			"

Mud Type: OBM
Density: 9.0
Viscosity: 45
Rm: N/A **Rmf:** N/A **Rmc:** N/A

Elevations
KB: 29 ft
DF: 5091 ft
GL: 5062 ft

Run	Tool S/N	Gamma Cal	Bit Size	Offsets Survey	Offsets Gamma	Offsets Resis	Mud Data Type	Mud Data Weight	Depths Start	Depths End	Dates Start	Dates End
1	XGM0664	7.249	7.875"	56.00 ft	30.75 ft	N/A ft	OBM	9.0	1550 ft	11210 ft	5/8/18	5/9/18
2												
3												
4												
5												
6												
7												
8												
9												
10												

Atlas 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.

Gamma
API
0.0 300.0
300.0 600.0
MD
ROP
ft/hr
0.0 1000.0
1000.0 2000.0
Bottom Hole Temp
degF
0.0
300.0
#0 MD(1504.00) Inc(27.60) Azm(12.08) TVD(1450.19) VS(237.92) N/-S(325.44) E/-W(72.29)
1550
#1 MD(1576.00) Inc(28.28) Azm(12.15) TVD(1513.80) VS(261.82) N/-S(358.42) E/-W(79.37)
1600
1650
#2 MD(1672.00) Inc(35.62) Azm(15.46) TVD(1595.20) VS(298.93) N/-S(407.67) E/-W(91.63)
1700
1750
#3 MD(1767.00) Inc(36.90) Azm(15.77) TVD(1671.81) VS(341.09) N/-S(461.78) E/-W(106.75)
1800
1850
#4 MD(1863.00) Inc(36.19) Azm(18.37) TVD(1748.94) VS(384.92) N/-S(516.42) E/-W(123.52)
1900
1950
#5 MD(1958.00) Inc(40.79) Azm(14.84) TVD(1823.28) VS(429.87) N/-S(573.07) E/-W(140.32)
2000
2050
#6 MD(2054.00) Inc(41.01) Azm(14.27) TVD(1895.84) VS(476.26) N/-S(633.91) E/-W(156.11)
2100
2150
#7 MD(2149.00) Inc(40.52) Azm(13.17) TVD(1967.80) VS(521.42) N/-S(694.17) E/-W(170.83)
2200
2250
#8 MD(2245.00) Inc(39.42) Azm(11.53) TVD(2041.37) VS(565.31) N/-S(754.40) E/-W(184.03)
2300
2350
#9 MD(2340.00) Inc(42.29) Azm(12.77) TVD(2113.22) VS(609.38) N/-S(815.14) E/-W(197.12)
2400
2450
#10 MD(2436.00) Inc(41.80) Azm(11.76) TVD(2184.51) VS(655.06) N/-S(877.96) E/-W(210.78)
2500
#11 MD(2531.00) Inc(44.72) Azm(15.15) TVD(2253.70) VS(702.27) N/-S(941.24) E/-W(225.97)
2550
2600
#12 MD(2626.00) Inc(47.28) Azm(14.36) TVD(2319.69) VS(752.86) N/-S(1007.32) E/-W(243.37)
2650
2700
#13 MD(2722.00) Inc(46.40) Azm(13.43) TVD(2385.35) VS(803.99) N/-S(1075.30) E/-W(260.19)
2750
2800
#14 MD(2817.00) Inc(45.52) Azm(12.55) TVD(2451.39) VS(853.12) N/-S(1141.84) E/-W(275.54)
2850
2900
#15 MD(2912.00) Inc(44.90) Azm(10.83) TVD(2518.32) VS(900.54) N/-S(1207.85) E/-W(289.21)
2950
3000
#16 MD(3008.00) Inc(45.12) Azm(13.96) TVD(2586.20) VS(948.88) N/-S(1274.15) E/-W(303.78)
3050
3100
#17 MD(3103.00) Inc(45.21) Azm(13.96) TVD(2653.18) VS(998.13) N/-S(1339.53) E/-W(320.03)
3150
3200
#18 MD(3198.00) Inc(45.21) Azm(13.25) TVD(2720.11) VS(1047.12) N/-S(1405.06) E/-W(335.89)
3250
3300
#19 MD(3294.00) Inc(43.88) Azm(11.67) TVD(2788.53) VS(1095.13) N/-S(1470.80) E/-W(350.43)
3350
3400
#20 MD(3389.00) Inc(41.80) Azm(9.33) TVD(2858.19) VS(1139.62) N/-S(1534.30) E/-W(362.22)
3450
3500
#21 MD(3485.00) Inc(42.51) Azm(12.77) TVD(2929.37) VS(1184.42) N/-S(1597.51) E/-W(374.58)
3550
3600
#22 MD(3580.00) Inc(43.48) Azm(18.63) TVD(2998.88) VS(1233.07) N/-S(1659.81) E/-W(392.13)
3650
3700
#23 MD(3676.00) Inc(46.18) Azm(19.55) TVD(3066.96) VS(1286.48) N/-S(1723.76) E/-W(414.27)
3750
3800
#24 MD(3771.00) Inc(44.32) Azm(17.35) TVD(3133.84) VS(1339.25) N/-S(1787.74) E/-W(435.64)
3850
3900
#25 MD(3866.00) Inc(46.49) Azm(18.37) TVD(3200.54) VS(1391.73) N/-S(1852.12) E/-W(456.40)
3950
4000
#26 MD(3962.00) Inc(47.28) Azm(19.95) TVD(3266.15) VS(1447.08) N/-S(1918.31) E/-W(479.40)
4050
#27 MD(4057.00) Inc(45.29) Azm(17.66) TVD(3331.80) VS(1501.06) N/-S(1983.29) E/-W(501.55)
4100
4150
#28 MD(4152.00) Inc(46.40) Azm(16.56) TVD(3397.98) VS(1553.35) N/-S(2048.43) E/-W(521.60)
4200
4250
#29 MD(4248.00) Inc(47.19) Azm(16.65) TVD(3463.70) VS(1606.65) N/-S(2115.49) E/-W(541.59)
4300
4350
#30 MD(4343.00) Inc(45.29) Azm(15.94) TVD(3529.41) VS(1658.68) N/-S(2181.34) E/-W(560.85)
4400
4450
#31 MD(4438.00) Inc(46.80) Azm(15.54) TVD(3595.34) VS(1710.09) N/-S(2247.16) E/-W(579.40)
4500
4550
#32 MD(4534.00) Inc(45.21) Azm(14.84) TVD(3662.02) VS(1761.58) N/-S(2313.81) E/-W(597.50)
4600
4650
#33 MD(4629.00) Inc(48.70) Azm(13.56) TVD(3726.86) VS(1812.50) N/-S(2381.11) E/-W(614.51)
4700
4750
#34 MD(4725.00) Inc(46.89) Azm(13.43) TVD(3791.35) VS(1864.09) N/-S(2450.25) E/-W(631.10)
4800
4850
#35 MD(4820.00) Inc(44.59) Azm(12.24) TVD(3857.65) VS(1912.91) N/-S(2516.58) E/-W(646.23)
4900
4950
#36 MD(4916.00) Inc(46.40) Azm(13.34) TVD(3924.94) VS(1961.99) N/-S(2583.34) E/-W(661.39)
5000
5050
#37 MD(5011.00) Inc(43.88) Azm(12.06) TVD(3991.95) VS(2010.20) N/-S(2649.02) E/-W(676.21)
5100

#38 MD(5107.00) Inc(45.60) Azm(14.75) TVD(4060.14)
VS(2059.15) N/-S(2714.73) E/-W(691.90)
5150
#39 MD(5202.00) Inc(43.31) Azm(13.17) TVD(4127.95)
VS(2107.80) N/-S(2779.29) E/-W(707.96)
5200
5250
#40 MD(5321.00) Inc(46.00) Azm(18.23) TVD(4212.62)
VS(2170.65) N/-S(2859.72) E/-W(730.66)
5300
5350
#41 MD(5417.00) Inc(43.22) Azm(15.46) TVD(4280.96)
VS(2222.20) N/-S(2924.22) E/-W(750.23)
5400
5450
#42 MD(5512.00) Inc(43.61) Azm(15.46) TVD(4349.97)
VS(2271.08) N/-S(2987.14) E/-W(767.64)
5500
5550
#43 MD(5607.00) Inc(45.21) Azm(15.94) TVD(4417.83)
VS(2321.03) N/-S(3051.14) E/-W(785.63)
5600
5650
#44 MD(5703.00) Inc(42.51) Azm(12.46) TVD(4487.05)
VS(2369.86) N/-S(3115.59) E/-W(801.99)
5700
5750
#45 MD(5798.00) Inc(44.98) Azm(16.03) TVD(4555.69)
VS(2418.11) N/-S(3179.22) E/-W(818.19)
5800
5850
#46 MD(5894.00) Inc(44.72) Azm(18.14) TVD(4623.75)
VS(2470.04) N/-S(3243.93) E/-W(838.08)
5900
5950
#47 MD(5989.00) Inc(43.08) Azm(15.15) TVD(4692.21)
VS(2520.25) N/-S(3307.02) E/-W(856.97)
6000
6050
#48 MD(6084.00) Inc(46.09) Azm(24.67) TVD(4759.94)
VS(2573.41) N/-S(3369.52) E/-W(879.76)
6100
6150
#49 MD(6180.00) Inc(54.40) Azm(36.83) TVD(4821.41)
VS(2639.53) N/-S(3432.43) E/-W(917.74)
6200
6250
#50 MD(6276.00) Inc(55.02) Azm(47.23) TVD(4876.97)
VS(2715.07) N/-S(3490.48) E/-W(970.10)
6300
6350
#51 MD(6371.00) Inc(60.32) Azm(64.37) TVD(4928.03)
VS(2794.83) N/-S(3535.03) E/-W(1036.28)
6400
6450
#52 MD(6466.00) Inc(65.49) Azm(71.64) TVD(4971.33)
VS(2877.71) N/-S(3566.55) E/-W(1114.64)
6500
6550
#53 MD(6562.00) Inc(68.01) Azm(74.55) TVD(5009.23)
VS(2962.43) N/-S(3592.17) E/-W(1199.02)
6600
6650
#54 MD(6657.00) Inc(71.01) Azm(85.66) TVD(5042.57)
VS(3044.07) N/-S(3607.35) E/-W(1286.52)
6700
6750
#55 MD(6753.00) Inc(73.71) Azm(88.83) TVD(5071.67)
VS(3123.07) N/-S(3611.73) E/-W(1377.88)
6800
6850
#56 MD(6848.00) Inc(77.20) Azm(90.06) TVD(5095.53)
VS(3200.65) N/-S(3612.61) E/-W(1469.81)
6900
6950
#57 MD(6944.00) Inc(75.78) Azm(89.53) TVD(5117.95)
VS(3279.10) N/-S(3612.94) E/-W(1563.15)
7000
7050
#58 MD(7039.00) Inc(77.60) Azm(91.03) TVD(5139.82)
VS(3356.37) N/-S(3612.48) E/-W(1655.59)
7100
7150
#59 MD(7135.00) Inc(76.40) Azm(90.77) TVD(5161.42)
VS(3434.00) N/-S(3611.01) E/-W(1749.12)
7200
7250
#60 MD(7231.00) Inc(80.12) Azm(91.87) TVD(5180.95)
VS(3511.60) N/-S(3608.84) E/-W(1843.07)
7300
7350
#61 MD(7326.00) Inc(84.49) Azm(88.96) TVD(5193.67)
VS(3590.15) N/-S(3608.17) E/-W(1937.18)
7400
7450
#62 MD(7422.00) Inc(81.49) Azm(85.44) TVD(5205.39)
VS(3672.47) N/-S(3612.82) E/-W(2032.32)
7500
7550
#63 MD(7517.00) Inc(85.02) Azm(87.86) TVD(5216.54)
VS(3754.42) N/-S(3618.32) E/-W(2126.48)
7600
7650
#64 MD(7613.00) Inc(84.89) Azm(87.95) TVD(5224.99)
VS(3836.47) N/-S(3621.82) E/-W(2222.04)
7700
7750
#65 MD(7707.00) Inc(84.80) Azm(87.55) TVD(5233.43)
VS(3916.92) N/-S(3625.49) E/-W(2315.59)
7800
7850
#66 MD(7802.00) Inc(84.89) Azm(86.45) TVD(5241.97)
VS(3998.85) N/-S(3630.45) E/-W(2410.08)
7900
7950
#67 MD(7898.00) Inc(85.20) Azm(86.93) TVD(5250.26)
VS(4081.92) N/-S(3635.97) E/-W(2505.56)
8000
8050
#68 MD(7994.00) Inc(85.42) Azm(86.36) TVD(5258.11)
VS(4165.07) N/-S(3641.57) E/-W(2601.07)
8100
8150
#69 MD(8089.00) Inc(85.59) Azm(86.14) TVD(5265.56)
VS(4247.69) N/-S(3647.76) E/-W(2695.58)
8200
8250
#70 MD(8185.00) Inc(85.68) Azm(85.74) TVD(5272.86)
VS(4331.45) N/-S(3654.54) E/-W(2791.06)
8300
8350
#71 MD(8280.00) Inc(86.39) Azm(85.44) TVD(5279.43)
VS(4414.66) N/-S(3661.83) E/-W(2885.55)
8400
8450
#72 MD(8376.00) Inc(84.18) Azm(88.74) TVD(5287.32)
VS(4497.42) N/-S(3666.69) E/-W(2981.08)
8500
8550
#73 MD(8471.00) Inc(84.40) Azm(87.95) TVD(5296.78)
VS(4578.14) N/-S(3669.42) E/-W(3075.57)
8600
8650
#74 MD(8567.00) Inc(79.01) Azm(87.86) TVD(5310.62)
VS(4659.61) N/-S(3672.89) E/-W(3170.47)
8700
#75 MD(8662.00) Inc(78.61) Azm(87.55) TVD(5329.06)
VS(4739.73) N/-S(3676.62) E/-W(3263.59)

#76 MD(8758.00) Inc(78.61) Azm(87.46) TVD(5348.02)
VS(4820.81) N/-S(3680.72) E/-W(3357.61)

#77 MD(8853.00) Inc(78.88) Azm(87.64) TVD(5366.56)
VS(4901.04) N/-S(3684.70) E/-W(3450.69)

#78 MD(8948.00) Inc(78.61) Azm(86.14) TVD(5385.10)
VS(4981.81) N/-S(3689.75) E/-W(3543.73)

#79 MD(9044.00) Inc(76.09) Azm(87.64) TVD(5406.12)
VS(5063.00) N/-S(3694.84) E/-W(3637.25)

#80 MD(9139.00) Inc(74.59) Azm(90.55) TVD(5430.17)
VS(5140.85) N/-S(3696.30) E/-W(3729.13)

#81 MD(9235.00) Inc(74.50) Azm(90.24) TVD(5455.75)
VS(5218.09) N/-S(3695.66) E/-W(3821.66)

#82 MD(9331.00) Inc(72.60) Azm(90.24) TVD(5482.94)
VS(5295.08) N/-S(3695.28) E/-W(3913.72)

#83 MD(9426.00) Inc(72.21) Azm(89.75) TVD(5511.65)
VS(5371.03) N/-S(3695.28) E/-W(4004.28)

#84 MD(9521.00) Inc(71.50) Azm(89.67) TVD(5541.24)
VS(5446.98) N/-S(3695.74) E/-W(4094.55)

#85 MD(9617.00) Inc(73.22) Azm(91.74) TVD(5570.33)
VS(5523.06) N/-S(3694.61) E/-W(4186.02)

#86 MD(9712.00) Inc(76.89) Azm(90.06) TVD(5594.83)
VS(5599.23) N/-S(3693.18) E/-W(4277.78)

#87 MD(9808.00) Inc(75.92) Azm(88.65) TVD(5617.40)
VS(5678.04) N/-S(3694.23) E/-W(4371.08)

#88 MD(9903.00) Inc(75.61) Azm(89.67) TVD(5640.76)
VS(5755.98) N/-S(3695.58) E/-W(4463.15)

#89 MD(9999.00) Inc(73.00) Azm(90.55) TVD(5666.72)
VS(5833.38) N/-S(3695.40) E/-W(4555.56)

#90 MD(10095.00) Inc(69.82) Azm(91.43) TVD(5697.32)
VS(5908.81) N/-S(3693.84) E/-W(4646.53)

#91 MD(10190.00) Inc(68.71) Azm(91.96) TVD(5730.96)
VS(5981.85) N/-S(3691.21) E/-W(4735.33)

#92 MD(10285.00) Inc(67.52) Azm(92.35) TVD(5766.37)
VS(6053.92) N/-S(3687.90) E/-W(4823.42)

#93 MD(10381.00) Inc(69.91) Azm(90.37) TVD(5801.22)
VS(6127.75) N/-S(3685.79) E/-W(4912.84)

#94 MD(10476.00) Inc(70.31) Azm(90.86) TVD(5833.54)
VS(6202.13) N/-S(3684.83) E/-W(5002.16)

#95 MD(10572.00) Inc(71.19) Azm(91.74) TVD(5865.19)
VS(6276.99) N/-S(3682.77) E/-W(5092.77)

#96 MD(10667.00) Inc(73.00) Azm(89.05) TVD(5894.40)
VS(6352.45) N/-S(3682.16) E/-W(5183.15)

#97 MD(10763.00) Inc(72.60) Azm(87.07) TVD(5922.79)
VS(6431.00) N/-S(3685.26) E/-W(5274.80)

#98 MD(10858.00) Inc(71.41) Azm(87.15) TVD(5952.14)
VS(6509.15) N/-S(3689.82) E/-W(5365.04)

#99 MD(10954.00) Inc(70.70) Azm(87.15) TVD(5983.31)
VS(6587.65) N/-S(3694.33) E/-W(5455.72)

#100 MD(11049.00) Inc(71.01) Azm(85.83) TVD(6014.46)
VS(6665.76) N/-S(3699.83) E/-W(5545.30)