Ferguson 23F-302

MD
2":100'

Company: PDC Energy Inc.
Well Name: Ferguson 23F-302
API: 05-123-45965-00-00
County/Parish: WELD
State: CO
Country: USA
Job number: 162-131
Field: WATTENBERG
Rig Id: Ensign 162
Survey Company: Ensign
Customer: Petroleum Development Corp.
Company Man: Jeremy Stolz / Shane Paris
Daylight DD: Richard Stahl
Night DD: Dean Blevins
Daylight MWD: Collin Randall
Night MWD: Chad Anderson

Log measurements: Gamma, ROP
Depth measured from: 1671 ft
Maximum temperature: 137.4

	Depth	Date
Start:	1671 ft	03/10/2020
End:	15519 ft	03/14/2020

Casing	Depth	Size
Surface:	1671 ft	9 5/8"
Intermediate:		

Mud Type: OBM
Density:
Viscosity:
Rm: Rmf: Rmc:

Elevations
KB: 23 ft
GL: 4575 ft
DF: 4598 ft

Run	Bit Size	Offsets Gamma	Offsets Survey	Depths Start	Depths End	Dates Start	Dates End
1	8.75"	60.18 ft	57.68 ft	1671 ft	7467 ft	03/10/2020	03/12/2020
2	8.5"	26.02 ft	21.44 ft	7467 ft		03/12/2020	03/13/2020
3	8.5"	26.28 ft	21.70 ft	7741 ft		03/13/2020	03/14/2020
4							
5							
6							
7							
8							
9							
10							

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.

#17 MD(1634.00) Inc(12.8) Azm(300.2) TVD(1626.12) DLS(0.2)
#18 MD(1754.00) Inc(12.3) Azm(302.2) TVD(1743.24) DLS(0.5)
#19 MD(1843.00) Inc(13.3) Azm(303.4) TVD(1830.02) DLS(1.1)
#20 MD(1932.00) Inc(14.9) Azm(305.8) TVD(1916.33) DLS(1.9)
#21 MD(2022.00) Inc(17.1) Azm(306.4) TVD(2002.84) DLS(2.4)
#22 MD(2111.00) Inc(18.9) Azm(307.7) TVD(2087.48) DLS(2.1)
#23 MD(2201.00) Inc(19.3) Azm(307.1) TVD(2172.52) DLS(0.5)
#24 MD(2291.00) Inc(17.7) Azm(306.5) TVD(2257.86) DLS(1.8)
#25 MD(2381.00) Inc(18.6) Azm(306.5) TVD(2343.39) DLS(1.0)
#26 MD(2471.00) Inc(19.8) Azm(305.8) TVD(2428.39) DLS(1.4)
#27 MD(2561.00) Inc(18.1) Azm(304.1) TVD(2513.52) DLS(2.0)
#28 MD(2651.00) Inc(19.9) Azm(306.3) TVD(2598.63) DLS(2.2)
#29 MD(2741.00) Inc(19.9) Azm(305.1) TVD(2683.25) DLS(0.4)
#30 MD(2831.00) Inc(18.9) Azm(303.3) TVD(2768.12) DLS(1.3)
#31 MD(2920.00) Inc(20.2) Azm(305.2) TVD(2851.97) DLS(1.6)
#32 MD(3010.00) Inc(19.2) Azm(304.4) TVD(2936.69) DLS(1.1)
#33 MD(3099.00) Inc(17.6) Azm(301.6) TVD(3021.12) DLS(2.0)
#34 MD(3189.00) Inc(17.8) Azm(304.6) TVD(3106.85) DLS(1.0)
#35 MD(3279.00) Inc(18.1) Azm(306.3) TVD(3192.47) DLS(0.7)
#36 MD(3369.00) Inc(19.4) Azm(305.2) TVD(3277.69) DLS(1.5)
#37 MD(3459.00) Inc(19.2) Azm(306.9) TVD(3362.64) DLS(0.7)
#38 MD(3549.00) Inc(18.0) Azm(305.7) TVD(3447.94) DLS(1.4)
#39 MD(3639.00) Inc(20.9) Azm(306.8) TVD(3532.80) DLS(3.2)
#40 MD(3728.00) Inc(21.2) Azm(306.3) TVD(3615.87) DLS(0.4)
#41 MD(3818.00) Inc(21.2) Azm(305.2) TVD(3699.79) DLS(0.4)
#42 MD(3908.00) Inc(20.1) Azm(304.0) TVD(3784.02) DLS(1.3)
#43 MD(3998.00) Inc(17.7) Azm(304.4) TVD(3869.15) DLS(2.6)
#44 MD(4088.00) Inc(16.0) Azm(303.7) TVD(3955.29) DLS(2.0)
#45 MD(4177.00) Inc(15.5) Azm(308.4) TVD(4040.95) DLS(1.5)
#46 MD(4267.00) Inc(16.8) Azm(305.9) TVD(4127.39) DLS(1.6)
#47 MD(4357.00) Inc(16.7) Azm(305.1) TVD(4213.58) DLS(0.2)
#48 MD(4447.00) Inc(17.5) Azm(305.8) TVD(4299.60) DLS(0.8)
#49 MD(4537.00) Inc(18.6) Azm(307.3) TVD(4385.18) DLS(1.3)
#50 MD(4626.00) Inc(18.5) Azm(305.8) TVD(4469.58) DLS(0.6)
#51 MD(4716.00) Inc(17.7) Azm(305.1) TVD(4555.13) DLS(0.9)
#52 MD(4806.00) Inc(17.8) Azm(307.6) TVD(4640.85) DLS(0.9)
#53 MD(4896.00) Inc(16.7) Azm(306.8) TVD(4726.82) DLS(1.2)
#54 MD(4985.00) Inc(18.1) Azm(306.4) TVD(4811.75) DLS(1.5)
#55 MD(5075.00) Inc(17.8) Azm(305.6) TVD(4897.37) DLS(0.3)
#56 MD(5165.00) Inc(17.7) Azm(304.7) TVD(4983.08) DLS(0.3)
#57 MD(5254.00) Inc(17.2) Azm(308.0) TVD(5068.00) DLS(1.2)
#58 MD(5344.00) Inc(17.3) Azm(309.6) TVD(5153.97) DLS(0.6)
#59 MD(5433.00) Inc(16.6) Azm(310.0) TVD(5239.11) DLS(0.8)
#60 MD(5523.00) Inc(17.7) Azm(308.3) TVD(5325.11) DLS(1.4)
#61 MD(5613.00) Inc(17.7) Azm(305.5) TVD(5410.84) DLS(1.0)
#62 MD(5702.00) Inc(17.2) Azm(304.9) TVD(5495.74) DLS(0.7)
#63 MD(5792.00) Inc(15.7) Azm(304.7) TVD(5582.07) DLS(1.7)
#64 MD(5881.00) Inc(15.2) Azm(305.2) TVD(5667.86) DLS(0.5)
#65 MD(5970.00) Inc(14.0) Azm(321.5) TVD(5754.02) DLS(4.8)
#66 MD(6060.00) Inc(13.1) Azm(342.9) TVD(5841.57) DLS(5.6)
#67 MD(6149.00) Inc(13.6) Azm(4.7) TVD(5928.21) DLS(5.7)
#68 MD(6239.00) Inc(17.4) Azm(25.4) TVD(6014.97) DLS(7.4)
#69 MD(6329.00) Inc(20.1) Azm(38.1) TVD(6100.20) DLS(5.4)
#70 MD(6419.00) Inc(23.1) Azm(56.4) TVD(6183.93) DLS(8.2)
#71 MD(6508.00) Inc(27.9) Azm(67.8) TVD(6264.27) DLS(7.6)
#72 MD(6598.00) Inc(34.3) Azm(74.9) TVD(6341.33) DLS(8.2)
#73 MD(6688.00) Inc(42.0) Azm(77.0) TVD(6412.09) DLS(8.6)
#74 MD(6778.00) Inc(50.3) Azm(78.3) TVD(6474.42) DLS(9.3)
#75 MD(6868.00) Inc(60.3) Azm(79.1) TVD(6525.58) DLS(11.2)
#76 MD(6957.00) Inc(70.7) Azm(81.7) TVD(6562.41) DLS(12.0)
#77 MD(7047.00) Inc(78.0) Azm(87.5) TVD(6586.64) DLS(10.3)
#78 MD(7137.00) Inc(82.2) Azm(87.8) TVD(6602.11) DLS(4.6)
#79 MD(7227.00) Inc(88.1) Azm(89.0) TVD(6609.73) DLS(6.8)
#80 MD(7317.00) Inc(89.2) Azm(92.0) TVD(6611.85) DLS(3.5)
#81 MD(7407.00) Inc(88.4) Azm(92.4) TVD(6613.78) DLS(1.0)
#82 MD(7534.00) Inc(89.0) Azm(92.8) TVD(6616.71) DLS(0.6)
#83 MD(7623.00) Inc(91.1) Azm(89.3) TVD(6616.66) DLS(4.6)
#84 MD(7713.00) Inc(92.9) Azm(85.0) TVD(6613.56) DLS(5.2)
#85 MD(7802.00) Inc(89.4) Azm(87.5) TVD(6611.78) DLS(4.8)
#86 MD(7893.00) Inc(90.4) Azm(94.3) TVD(6611.92) DLS(7.6)
#87 MD(7982.00) Inc(90.7) Azm(94.7) TVD(6611.07) DLS(0.6)
#88 MD(8073.00) Inc(90.6) Azm(92.3) TVD(6610.03) DLS(2.6)
#89 MD(8162.00) Inc(90.6) Azm(90.6) TVD(6609.05) DLS(1.9)
#90 MD(8253.00) Inc(90.6) Azm(90.6) TVD(6608.07) DLS(0.0)
#91 MD(8342.00) Inc(90.6) Azm(90.6) TVD(6607.16) DLS(0.1)
#92 MD(8432.00) Inc(90.5) Azm(90.8) TVD(6606.29) DLS(0.1)
#93 MD(8522.00) Inc(90.6) Azm(90.7) TVD(6605.36) DLS(0.1)
#94 MD(8611.00) Inc(90.5) Azm(90.6) TVD(6604.45) DLS(0.1)
#95 MD(8701.00) Inc(90.8) Azm(90.9) TVD(6603.43) DLS(0.4)
#96 MD(8790.00) Inc(90.6) Azm(90.7) TVD(6602.38) DLS(0.3)
#97 MD(8880.00) Inc(90.6) Azm(90.6) TVD(6601.46) DLS(0.1)
#98 MD(8968.00) Inc(90.6) Azm(90.5) TVD(6600.55) DLS(0.1)
#99 MD(9057.00) Inc(90.6) Azm(90.6) TVD(6599.64) DLS(0.1)
#100 MD(9148.00) Inc(90.6) Azm(91.0) TVD(6598.74) DLS(0.4)
#101 MD(9238.00) Inc(90.5) Azm(90.7) TVD(6597.88) DLS(0.3)
#102 MD(9327.00) Inc(90.7) Azm(90.7) TVD(6596.96) DLS(0.1)
#103 MD(9416.00) Inc(90.6) Azm(90.8) TVD(6595.95) DLS(0.1)
#104 MD(9506.00) Inc(90.5) Azm(90.8) TVD(6595.02) DLS(0.1)
#105 MD(9596.00) Inc(90.6) Azm(90.6) TVD(6594.12) DLS(0.2)
#106 MD(9685.00) Inc(90.5) Azm(90.6) TVD(6593.27) DLS(0.2)
#107 MD(9774.00) Inc(90.3) Azm(91.1) TVD(6592.67) DLS(0.6)
#108 MD(9863.00) Inc(90.2) Azm(91.0) TVD(6592.30) DLS(0.2)
#109 MD(9953.00) Inc(90.0) Azm(90.7) TVD(6592.14) DLS(0.3)
#110 MD(10043.00) Inc(90.1) Azm(91.0) TVD(6592.02) DLS(0.3)
#111 MD(10133.00) Inc(90.1) Azm(90.9) TVD(6591.86) DLS(0.1)
#112 MD(10223.00) Inc(90.2) Azm(90.9) TVD(6591.65) DLS(0.1)
#113 MD(10313.00) Inc(90.1) Azm(90.9) TVD(6591.44) DLS(0.1)
#114 MD(10403.00) Inc(90.1) Azm(91.1) TVD(6591.31) DLS(0.3)
#115 MD(10493.00) Inc(90.1) Azm(91.0) TVD(6591.18) DLS(0.1)
#116 MD(10582.00) Inc(90.0) Azm(91.0) TVD(6591.12) DLS(0.1)

#117 MD(10672.00) Inc(90.1) Azm(90.8) TVD(6591.05)
DLS(0.3)

#118 MD(10761.00) Inc(90.1) Azm(91.0) TVD(6590.93)
DLS(0.2)

#119 MD(10851.00) Inc(90.1) Azm(90.6) TVD(6590.79)
DLS(0.4)

#120 MD(10940.00) Inc(90.1) Azm(91.0) TVD(6590.68)
DLS(0.5)

#121 MD(11030.00) Inc(90.2) Azm(91.2) TVD(6590.51)
DLS(0.3)

#122 MD(11120.00) Inc(90.1) Azm(91.1) TVD(6590.31)
DLS(0.2)

#123 MD(11209.00) Inc(90.1) Azm(90.7) TVD(6590.18)
DLS(0.4)

#124 MD(11299.00) Inc(90.1) Azm(90.3) TVD(6590.04)
DLS(0.5)

#125 MD(11389.00) Inc(90.1) Azm(88.9) TVD(6589.86)
DLS(1.5)

#126 MD(11479.00) Inc(90.1) Azm(88.5) TVD(6589.71)
DLS(0.4)

#127 MD(11568.00) Inc(90.1) Azm(88.9) TVD(6589.60)
DLS(0.4)

#128 MD(11658.00) Inc(90.2) Azm(88.4) TVD(6589.43)
DLS(0.6)

#129 MD(11747.00) Inc(90.1) Azm(88.8) TVD(6589.24)
DLS(0.5)

#130 MD(11837.00) Inc(90.0) Azm(88.8) TVD(6589.15)
DLS(0.1)

#131 MD(11927.00) Inc(90.1) Azm(88.6) TVD(6589.03)
DLS(0.3)

#132 MD(12017.00) Inc(90.0) Azm(88.4) TVD(6588.88)
DLS(0.3)

#133 MD(12107.00) Inc(90.1) Azm(88.9) TVD(6588.78)
DLS(0.6)

#134 MD(12197.00) Inc(90.2) Azm(88.7) TVD(6588.54)
DLS(0.2)

#135 MD(12287.00) Inc(90.3) Azm(89.5) TVD(6588.15)
DLS(0.9)

#136 MD(12376.00) Inc(90.3) Azm(90.8) TVD(6587.73)
DLS(1.4)

#137 MD(12466.00) Inc(90.6) Azm(90.8) TVD(6587.01)
DLS(0.4)

#138 MD(12555.00) Inc(90.6) Azm(90.8) TVD(6586.05)
DLS(0.1)

#139 MD(12645.00) Inc(90.8) Azm(91.0) TVD(6584.97)
DLS(0.2)

#140 MD(12735.00) Inc(90.7) Azm(91.3) TVD(6583.87)
DLS(0.4)

#141 MD(12825.00) Inc(90.5) Azm(90.8) TVD(6582.98)
DLS(0.6)

#142 MD(12915.00) Inc(90.7) Azm(91.2) TVD(6582.05)
DLS(0.5)

#143 MD(13004.00) Inc(90.7) Azm(91.0) TVD(6580.97)
DLS(0.2)

#144 MD(13094.00) Inc(90.6) Azm(91.4) TVD(6579.93)
DLS(0.4)

#145 MD(13184.00) Inc(90.6) Azm(91.0) TVD(6578.98)
DLS(0.4)

#146 MD(13274.00) Inc(90.6) Azm(91.5) TVD(6578.06)
DLS(0.5)

#147 MD(13364.00) Inc(90.7) Azm(91.0) TVD(6577.07)
DLS(0.5)

#148 MD(13454.00) Inc(90.6) Azm(90.7) TVD(6576.10)
DLS(0.5)

#149 MD(13544.00) Inc(90.6) Azm(91.0) TVD(6575.16)
DLS(0.5)

#150 MD(13634.00) Inc(90.5) Azm(91.1) TVD(6574.24)
DLS(0.1)

#151 MD(13724.00) Inc(90.4) Azm(90.7) TVD(6573.48)
DLS(0.4)

#152 MD(13814.00) Inc(90.0) Azm(91.4) TVD(6573.11)
DLS(0.8)

#153 MD(13903.00) Inc(90.1) Azm(91.2) TVD(6573.03)
DLS(0.2)

#154 MD(13933.00) Inc(90.2) Azm(91.2) TVD(6572.96)
DLS(0.5)

#155 MD(14083.00) Inc(90.1) Azm(91.2) TVD(6572.58)
DLS(0.1)

#156 MD(14173.00) Inc(90.2) Azm(91.2) TVD(6572.39)
DLS(0.1)

#157 MD(14262.00) Inc(90.1) Azm(89.1) TVD(6572.19)
DLS(2.3)

#158 MD(14352.00) Inc(90.3) Azm(89.7) TVD(6571.88)
DLS(0.6)

#159 MD(14441.00) Inc(90.1) Azm(88.7) TVD(6571.56)
DLS(1.1)

#160 MD(14531.00) Inc(90.1) Azm(88.9) TVD(6571.36)
DLS(0.3)

#161 MD(14621.00) Inc(90.2) Azm(88.6) TVD(6571.15)
DLS(0.3)

#162 MD(14711.00) Inc(90.1) Azm(88.7) TVD(6570.93)
DLS(0.1)

#163 MD(14800.00) Inc(90.0) Azm(89.4) TVD(6570.82)
DLS(0.8)

#164 MD(14890.00) Inc(90.1) Azm(88.8) TVD(6570.71)
DLS(0.6)

#165 MD(14979.00) Inc(90.1) Azm(88.8) TVD(6570.51)
DLS(0.1)

#166 MD(15069.00) Inc(89.8) Azm(89.6) TVD(6570.55)
DLS(1.0)

#167 MD(15158.00) Inc(90.1) Azm(88.9) TVD(6570.60)
DLS(0.9)

#168 MD(15247.00) Inc(90.2) Azm(89.0) TVD(6570.38)
DLS(0.1)

#169 MD(15337.00) Inc(90.0) Azm(89.0) TVD(6570.26)
DLS(0.2)

#170 MD(15427.00) Inc(90.2) Azm(89.2) TVD(6570.07)
DLS(0.3)

#171 MD(15497.00) Inc(90.2) Azm(88.3) TVD(6569.84)
DLS(1.2)