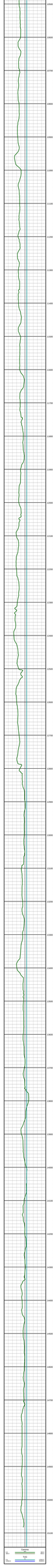

Fern 11V-304

MD
2":100'

Company: PDC Energy Inc
Well Name: Fern 11V-304
API: 0512344581
County/Parish: WELD
State: COLORADO
Country: USA
Job number: 152-129
Field: Wattenberg
Rig Id: Ensign 152
Survey Company: Ensign Directional
DD1 Dan Hansen
DD2 Daryl Bailey
DD3 Joe Edgerton
MWD1 Ryan Prue
MWD2 Terry Ash
MWD3

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

	Depth	Date
Start:	0 ft	3/6/2018
End:	15142 ft	3/11/2018

Casing	Depth	Size
Surface:	1647 ft	9 5/8"
Intermediate:		

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

Elevations
KB: 23 ft
GL: 4619 ft
DF: 4642 ft

Run	Bit Size	Offsets		Depths		Dates	
		Gamma	Survey	Start	End	Start	End
1	12.25"		59.32 ft	0 ft	1672 ft	3-6-2018	3-7-2018
2	8.5"	59.58 ft	54.58 ft	1672 ft	6989 ft	3-7-2018	3-9-2018
3	8.5"	59.06 ft	54.06 ft	6989 ft	15142 ft	3-9-2018	3-11-2018
4							
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.

ROP
0
0.0
800.0
800.0
1600.0
MD
Gamma
API
0.0
300.0
300.0
600.0
TVD
ft
0.0
12550.0
12550.0
25100.0
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
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4000
4100
4200
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9900
10000
10100
10200
10300
10400
#15 MD(1488.00) Inc(4.5) Azm(175.1) TVD(1487.60) DLS(1.5)
#16 MD(1583.00) Inc(4.9) Azm(177.2) TVD(1582.28) DLS(0.5)
#17 MD(1678.00) Inc(4.8) Azm(178.8) TVD(1676.94) DLS(0.2)
#18 MD(1774.00) Inc(6.1) Azm(180.2) TVD(1772.50) DLS(1.4)
#19 MD(1868.00) Inc(8.1) Azm(181.0) TVD(1865.77) DLS(2.1)
#20 MD(1964.00) Inc(9.5) Azm(185.6) TVD(1960.64) DLS(1.6)
#21 MD(2060.00) Inc(9.5) Azm(185.1) TVD(2055.33) DLS(0.1)
#22 MD(2155.00) Inc(9.4) Azm(183.0) TVD(2149.04) DLS(0.4)
#23 MD(2250.00) Inc(9.1) Azm(182.8) TVD(2242.80) DLS(0.3)
#24 MD(2346.00) Inc(9.1) Azm(179.5) TVD(2337.60) DLS(0.5)
#25 MD(2441.00) Inc(8.6) Azm(180.0) TVD(2431.46) DLS(0.5)
#26 MD(2536.00) Inc(9.7) Azm(175.2) TVD(2525.25) DLS(1.4)
#27 MD(2631.00) Inc(9.1) Azm(176.3) TVD(2618.98) DLS(0.7)
#28 MD(2727.00) Inc(9.1) Azm(174.4) TVD(2713.77) DLS(0.3)
#29 MD(2822.00) Inc(9.1) Azm(175.6) TVD(2807.58) DLS(0.2)
#30 MD(2918.00) Inc(8.7) Azm(172.3) TVD(2902.42) DLS(0.7)
#31 MD(3014.00) Inc(8.8) Azm(170.7) TVD(2997.30) DLS(0.3)
#32 MD(3109.00) Inc(8.3) Azm(167.7) TVD(3091.25) DLS(0.7)
#33 MD(3204.00) Inc(9.1) Azm(180.9) TVD(3185.16) DLS(2.3)
#34 MD(3300.00) Inc(9.0) Azm(180.9) TVD(3279.97) DLS(0.1)
#35 MD(3394.00) Inc(8.0) Azm(178.2) TVD(3372.93) DLS(1.1)
#36 MD(3490.00) Inc(7.7) Azm(172.3) TVD(3468.04) DLS(0.9)
#37 MD(3586.00) Inc(9.8) Azm(175.2) TVD(3562.91) DLS(2.2)
#38 MD(3681.00) Inc(9.8) Azm(175.2) TVD(3656.53) DLS(0.0)
#39 MD(3776.00) Inc(9.5) Azm(175.1) TVD(3750.18) DLS(0.3)
#40 MD(3872.00) Inc(9.5) Azm(175.1) TVD(3844.87) DLS(0.0)
#41 MD(3967.00) Inc(9.5) Azm(176.3) TVD(3938.56) DLS(0.2)
#42 MD(4063.00) Inc(8.9) Azm(173.5) TVD(4033.33) DLS(0.8)
#43 MD(4158.00) Inc(8.4) Azm(170.5) TVD(4127.25) DLS(0.7)
#44 MD(4253.00) Inc(8.2) Azm(168.6) TVD(4221.25) DLS(0.4)
#45 MD(4349.00) Inc(9.1) Azm(172.6) TVD(4316.16) DLS(1.1)
#46 MD(4445.00) Inc(9.4) Azm(178.9) TVD(4410.92) DLS(1.1)
#47 MD(4541.00) Inc(8.6) Azm(177.2) TVD(4505.73) DLS(0.9)
#48 MD(4636.00) Inc(8.0) Azm(177.0) TVD(4599.74) DLS(0.6)
#49 MD(4732.00) Inc(9.6) Azm(184.9) TVD(4694.61) DLS(2.1)
#50 MD(4828.00) Inc(9.6) Azm(179.8) TVD(4789.27) DLS(0.9)
#51 MD(4923.00) Inc(9.0) Azm(177.2) TVD(4883.02) DLS(0.8)
#52 MD(5019.00) Inc(8.4) Azm(173.5) TVD(4977.91) DLS(0.9)
#53 MD(5114.00) Inc(7.4) Azm(166.8) TVD(5072.01) DLS(1.4)
#54 MD(5210.00) Inc(8.6) Azm(170.1) TVD(5167.08) DLS(1.3)
#55 MD(5305.00) Inc(9.3) Azm(162.9) TVD(5260.92) DLS(1.4)
#56 MD(5401.00) Inc(7.9) Azm(158.0) TVD(5355.84) DLS(1.6)
#57 MD(5496.00) Inc(8.7) Azm(164.7) TVD(5449.85) DLS(1.3)
#58 MD(5592.00) Inc(8.3) Azm(160.3) TVD(5544.79) DLS(0.8)
#59 MD(5688.00) Inc(9.3) Azm(177.2) TVD(5639.68) DLS(2.9)
#60 MD(5783.00) Inc(8.7) Azm(176.5) TVD(5733.51) DLS(0.6)
#61 MD(5878.00) Inc(6.8) Azm(184.4) TVD(5827.64) DLS(2.3)
#62 MD(5973.00) Inc(9.3) Azm(203.2) TVD(5921.71) DLS(3.8)
#63 MD(6069.00) Inc(8.4) Azm(204.2) TVD(6016.57) DLS(1.0)
#64 MD(6164.00) Inc(11.3) Azm(211.5) TVD(6110.16) DLS(3.3)
#65 MD(6260.00) Inc(10.6) Azm(222.9) TVD(6204.42) DLS(2.4)
#66 MD(6355.00) Inc(12.1) Azm(237.6) TVD(6297.58) DLS(3.4)
#67 MD(6450.00) Inc(16.2) Azm(247.1) TVD(6389.69) DLS(4.9)
#68 MD(6545.00) Inc(21.8) Azm(255.9) TVD(6479.50) DLS(6.6)
#69 MD(6642.00) Inc(30.8) Azm(265.8) TVD(6566.41) DLS(10.3)
#70 MD(6737.00) Inc(38.3) Azm(267.2) TVD(6644.60) DLS(7.9)
#71 MD(6833.00) Inc(48.0) Azm(267.5) TVD(6714.56) DLS(10.1)
#72 MD(6929.00) Inc(57.5) Azm(265.9) TVD(6772.60) DLS(10.0)
#73 MD(6958.00) Inc(61.2) Azm(266.6) TVD(6787.38) DLS(12.9)
#74 MD(7054.00) Inc(75.3) Azm(264.0) TVD(6822.87) DLS(14.9)
#75 MD(7150.00) Inc(84.9) Azm(264.7) TVD(6839.36) DLS(10.0)
#76 MD(7245.00) Inc(89.7) Azm(264.5) TVD(6843.83) DLS(5.1)
#77 MD(7341.00) Inc(89.0) Azm(265.1) TVD(6844.92) DLS(1.0)
#78 MD(7436.00) Inc(88.3) Azm(265.2) TVD(6847.16) DLS(0.7)
#79 MD(7532.00) Inc(89.0) Azm(264.9) TVD(6849.42) DLS(0.8)
#80 MD(7627.00) Inc(89.4) Azm(264.7) TVD(6850.75) DLS(0.5)
#81 MD(7722.00) Inc(90.0) Azm(266.3) TVD(6851.24) DLS(1.8)
#82 MD(7818.00) Inc(90.4) Azm(267.4) TVD(6850.91) DLS(1.2)
#83 MD(7913.00) Inc(90.1) Azm(267.4) TVD(6850.49) DLS(0.3)
#84 MD(8009.00) Inc(89.7) Azm(266.5) TVD(6850.66) DLS(1.0)
#85 MD(8104.00) Inc(90.6) Azm(267.4) TVD(6850.41) DLS(1.3)
#86 MD(8200.00) Inc(90.5) Azm(267.2) TVD(6849.49) DLS(0.2)
#87 MD(8296.00) Inc(91.0) Azm(266.1) TVD(6848.24) DLS(1.3)
#88 MD(8390.00) Inc(91.7) Azm(267.7) TVD(6846.02) DLS(1.9)
#89 MD(8486.00) Inc(92.2) Azm(268.9) TVD(6842.75) DLS(1.4)
#90 MD(8582.00) Inc(90.4) Azm(268.8) TVD(6840.58) DLS(1.9)
#91 MD(8678.00) Inc(89.9) Azm(268.2) TVD(6840.32) DLS(0.8)
#92 MD(8773.00) Inc(89.8) Azm(268.8) TVD(6840.57) DLS(0.6)
#93 MD(8869.00) Inc(89.5) Azm(268.2) TVD(6841.16) DLS(0.7)
#94 MD(8965.00) Inc(89.3) Azm(267.9) TVD(6842.16) DLS(0.4)
#95 MD(9060.00) Inc(88.4) Azm(266.8) TVD(6844.07) DLS(1.5)
#96 MD(9156.00) Inc(90.3) Azm(267.0) TVD(6845.16) DLS(2.0)
#97 MD(9251.00) Inc(91.5) Azm(267.7) TVD(6843.67) DLS(1.5)
#98 MD(9347.00) Inc(91.0) Azm(267.9) TVD(6841.57) DLS(0.6)
#99 MD(9442.00) Inc(90.8) Azm(266.8) TVD(6840.08) DLS(1.2)
#100 MD(9537.00) Inc(91.5) Azm(267.5) TVD(6838.18) DLS(1.0)
#101 MD(9632.00) Inc(91.1) Azm(268.4) TVD(6836.02) DLS(1.0)
#102 MD(9728.00) Inc(91.5) Azm(267.4) TVD(6833.84) DLS(1.1)
#103 MD(9823.00) Inc(91.9) Azm(265.6) TVD(6831.02) DLS(1.9)
#104 MD(9919.00) Inc(92.4) Azm(269.6) TVD(6827.42) DLS(4.2)
#105 MD(10014.00) Inc(92.6) Azm(270.0) TVD(6823.28) DLS(0.5)
#106 MD(10110.00) Inc(90.0) Azm(271.6) TVD(6821.10) DLS(3.2)
#107 MD(10205.00) Inc(89.7) Azm(270.7) TVD(6821.35) DLS(1.0)
#108 MD(10300.00) Inc(90.8) Azm(270.0) TVD(6820.93) DLS(1.4)
#109 MD(10396.00) Inc(91.3) Azm(269.5) TVD(6819.17) DLS(0.7)

#110 MD(10491.00) Inc(88.7) Azm(269.8) TVD(6819.17)
DLS(2.8)

#111 MD(10586.00) Inc(87.8) Azm(267.9) TVD(6822.07)
DLS(2.2)

#112 MD(10681.00) Inc(88.1) Azm(267.0) TVD(6825.47)
DLS(1.0)

#113 MD(10777.00) Inc(88.8) Azm(269.5) TVD(6828.07)
DLS(2.7)

#114 MD(10872.00) Inc(88.9) Azm(269.5) TVD(6829.98)
DLS(0.1)

#115 MD(10968.00) Inc(89.3) Azm(268.9) TVD(6831.48)
DLS(0.8)

#116 MD(11063.00) Inc(89.3) Azm(269.3) TVD(6832.65)
DLS(0.4)

#117 MD(11159.00) Inc(89.4) Azm(269.5) TVD(6833.73)
DLS(0.2)

#118 MD(11255.00) Inc(89.4) Azm(268.9) TVD(6834.74)
DLS(0.6)

#119 MD(11350.00) Inc(89.0) Azm(269.1) TVD(6836.07)
DLS(0.5)

#120 MD(11445.00) Inc(90.6) Azm(268.8) TVD(6836.40)
DLS(1.7)

#121 MD(11541.00) Inc(91.3) Azm(268.2) TVD(6834.81)
DLS(1.0)

#122 MD(11636.00) Inc(91.6) Azm(267.0) TVD(6832.40)
DLS(1.3)

#123 MD(11731.00) Inc(91.9) Azm(266.6) TVD(6829.50)
DLS(0.5)

#124 MD(11827.00) Inc(91.5) Azm(269.8) TVD(6826.65)
DLS(3.4)

#125 MD(11921.00) Inc(92.1) Azm(268.4) TVD(6823.70)
DLS(1.6)

#126 MD(12017.00) Inc(92.3) Azm(267.5) TVD(6820.01)
DLS(1.0)

#127 MD(12112.00) Inc(90.7) Azm(269.3) TVD(6817.53)
DLS(2.5)

#128 MD(12207.00) Inc(91.3) Azm(268.6) TVD(6815.87)
DLS(1.0)

#129 MD(12303.00) Inc(92.4) Azm(268.4) TVD(6812.77)
DLS(1.2)

#130 MD(12398.00) Inc(91.2) Azm(269.8) TVD(6809.79)
DLS(1.9)

#131 MD(12494.00) Inc(92.2) Azm(269.5) TVD(6806.94)
DLS(1.1)

#132 MD(12589.00) Inc(90.3) Azm(270.9) TVD(6804.87)
DLS(2.5)

#133 MD(12684.00) Inc(91.0) Azm(270.5) TVD(6803.79)
DLS(0.8)

#134 MD(12780.00) Inc(92.3) Azm(270.0) TVD(6801.02)
DLS(1.5)

#135 MD(12875.00) Inc(89.2) Azm(270.5) TVD(6799.78)
DLS(3.3)

#136 MD(12971.00) Inc(89.3) Azm(270.0) TVD(6801.04)
DLS(0.5)

#137 MD(13067.00) Inc(90.4) Azm(269.3) TVD(6801.29)
DLS(1.4)

#138 MD(13163.00) Inc(89.9) Azm(270.2) TVD(6801.04)
DLS(1.1)

#139 MD(13258.00) Inc(89.4) Azm(269.3) TVD(6801.62)
DLS(1.1)

#140 MD(13354.00) Inc(90.0) Azm(268.1) TVD(6802.12)
DLS(1.4)

#141 MD(13449.00) Inc(90.9) Azm(268.1) TVD(6801.37)
DLS(0.9)

#142 MD(13544.00) Inc(89.3) Azm(268.4) TVD(6801.21)
DLS(1.7)

#143 MD(13641.00) Inc(88.8) Azm(266.6) TVD(6802.82)
DLS(1.9)

#144 MD(13736.00) Inc(89.1) Azm(266.3) TVD(6804.56)
DLS(0.4)

#145 MD(13832.00) Inc(88.2) Azm(268.6) TVD(6806.82)
DLS(2.6)

#146 MD(13927.00) Inc(88.7) Azm(268.2) TVD(6809.39)
DLS(0.7)

#147 MD(14023.00) Inc(89.3) Azm(268.8) TVD(6811.06)
DLS(0.9)

#148 MD(14118.00) Inc(90.0) Azm(268.2) TVD(6811.64)
DLS(1.0)

#149 MD(14214.00) Inc(91.0) Azm(267.7) TVD(6810.81)
DLS(1.2)

#150 MD(14310.00) Inc(92.0) Azm(267.5) TVD(6808.29)
DLS(1.1)

#151 MD(14405.00) Inc(90.1) Azm(268.9) TVD(6806.55)
DLS(2.5)

#152 MD(14501.00) Inc(89.8) Azm(269.1) TVD(6806.64)
DLS(0.4)

#153 MD(14596.00) Inc(90.7) Azm(268.8) TVD(6806.22)
DLS(1.0)

#154 MD(14692.00) Inc(91.5) Azm(268.6) TVD(6804.38)
DLS(0.9)

#155 MD(14788.00) Inc(89.7) Azm(268.2) TVD(6803.37)
DLS(1.9)

#156 MD(14883.00) Inc(90.0) Azm(268.2) TVD(6803.62)
DLS(0.3)

#157 MD(14978.00) Inc(90.8) Azm(267.5) TVD(6802.96)
DLS(1.1)

#158 MD(15074.00) Inc(91.5) Azm(267.2) TVD(6801.03)
DLS(0.8)
#159 MD(15086.00) Inc(91.6) Azm(267.0) TVD(6800.71)
DLS(1.9)