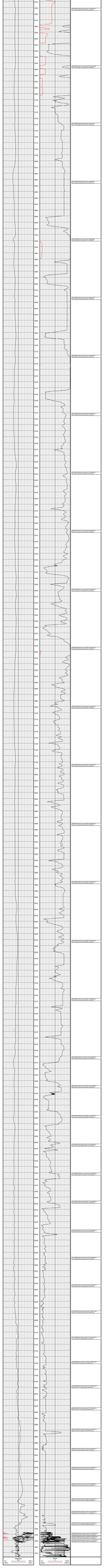

ENSIGN Directional

Hunt Federal 28X-234

TVD
5":100'

Company: Petroleum Development Corp.
Well Name: Hunt Federal 28X-234
API: 05123419470
County/Parish: Weld
State: Colorado
Country: USA
Job number: 207-121-250
Field: DJ Basin
Rig Id: Ensign 121
Survey Company: Ensign Directional Services
Company Man 1 Dean Haight

Lead Directional Driller Brevin Williams
Rotating Directional Driller Dave Van Doran
Night Directional Driller Pete Moriarty/Ramon Hernandez

MWD Ensign Directional Services

Log measurements: gamma, ROP
Depth measured from: Rig Floor
Maximum temperature: -------

Depth	Date
Start: 0 ft	12-14-2015
End: 14795 ft	12-22-2015

Casing	Depth	Size
Surface:	912	9 5/8
Intermediate:	7510	7

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

Elevations
KB: 4775.5
GL: 4762
DF: 4775.5

Run	Bit Size	Offsets		Depths		Dates	
		Gamma	Survey	Start	End	Start	End
1	12.25		61.70	0	925	12-14-2015	12-14-2015
2	8.75	60.90	55.90	925	7530	12-15-2015	12-18-2015
3	6.25	61.24	56.24	7530	14795	12-19-2015	12-22-2015
4							
5							
6							
7							
8							
9							
10							

Ensign 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.

#11 MD(1007.00) Inc(6.1) Azm(12.5) TVD(1005.53)
VS(-6.82) NS(37.38) EW(10.52) TEMP(0.0)

#12 MD(1100.00) Inc(7.3) Azm(18.8) TVD(1097.89)
VS(-8.76) NS(47.80) EW(13.49) TEMP(0.0)

#13 MD(1194.00) Inc(7.7) Azm(7.4) TVD(1191.09)
VS(-10.32) NS(59.70) EW(16.23) TEMP(0.0)

#14 MD(1288.00) Inc(9.7) Azm(14.6) TVD(1284.01)
VS(-11.75) NS(73.61) EW(19.04) TEMP(0.0)

#15 MD(1381.00) Inc(9.8) Azm(19.9) TVD(1375.67)
VS(-14.93) NS(88.63) EW(23.71) TEMP(0.0)

#16 MD(1475.00) Inc(11.0) Azm(16.9) TVD(1468.12)
VS(-18.66) NS(104.73) EW(29.04) TEMP(0.0)

#17 MD(1568.00) Inc(10.0) Azm(14.1) TVD(1559.56)
VS(-21.59) NS(121.06) EW(33.58) TEMP(0.0)

#18 MD(1661.00) Inc(10.6) Azm(20.6) TVD(1651.07)
VS(-24.99) NS(136.90) EW(38.56) TEMP(0.0)

#19 MD(1753.00) Inc(11.3) Azm(20.6) TVD(1741.39)
VS(-29.51) NS(153.25) EW(44.71) TEMP(0.0)

#20 MD(1846.00) Inc(11.1) Azm(16.9) TVD(1832.62)
VS(-33.62) NS(170.35) EW(50.52) TEMP(0.0)

#21 MD(1941.00) Inc(10.6) Azm(13.4) TVD(1925.92)
VS(-36.60) NS(187.60) EW(55.20) TEMP(0.0)

#22 MD(2039.00) Inc(10.6) Azm(17.9) TVD(2022.25)
VS(-39.74) NS(204.94) EW(60.06) TEMP(0.0)

#23 MD(2134.00) Inc(10.0) Azm(16.3) TVD(2115.72)
VS(-43.13) NS(221.18) EW(65.06) TEMP(0.0)

#24 MD(2230.00) Inc(10.3) Azm(14.2) TVD(2210.22)
VS(-45.96) NS(237.50) EW(69.51) TEMP(0.0)

#25 MD(2325.00) Inc(11.3) Azm(20.2) TVD(2303.54)
VS(-49.57) NS(254.47) EW(74.80) TEMP(0.0)

#26 MD(2420.00) Inc(10.1) Azm(16.3) TVD(2396.89)
VS(-53.46) NS(271.20) EW(80.36) TEMP(0.0)

#27 MD(2516.00) Inc(10.6) Azm(19.5) TVD(2491.32)
VS(-57.14) NS(287.60) EW(85.67) TEMP(0.0)

#28 MD(2611.00) Inc(10.9) Azm(18.1) TVD(2584.66)
VS(-61.18) NS(304.37) EW(91.37) TEMP(0.0)

#29 MD(2707.00) Inc(10.8) Azm(17.2) TVD(2678.94)
VS(-64.95) NS(321.59) EW(96.85) TEMP(0.0)

#30 MD(2802.00) Inc(10.8) Azm(16.2) TVD(2772.26)
VS(-68.37) NS(338.64) EW(101.97) TEMP(0.0)

#31 MD(2897.00) Inc(10.1) Azm(15.3) TVD(2865.68)
VS(-71.41) NS(355.22) EW(106.65) TEMP(0.0)

#32 MD(2993.00) Inc(11.3) Azm(16.2) TVD(2960.01)
VS(-74.56) NS(372.38) EW(111.49) TEMP(0.0)

#33 MD(3088.00) Inc(10.6) Azm(13.4) TVD(3053.28)
VS(-77.45) NS(389.81) EW(116.12) TEMP(0.0)

#34 MD(3184.00) Inc(10.6) Azm(20.4) TVD(3147.65)
VS(-80.90) NS(406.68) EW(121.24) TEMP(0.0)

#35 MD(3279.00) Inc(8.7) Azm(17.6) TVD(3241.30)
VS(-84.63) NS(421.72) EW(126.46) TEMP(0.0)

#36 MD(3374.00) Inc(8.8) Azm(16.9) TVD(3335.19)
VS(-87.54) NS(435.52) EW(130.74) TEMP(0.0)

#37 MD(3470.00) Inc(9.0) Azm(15.3) TVD(3430.04)
VS(-90.24) NS(449.79) EW(134.86) TEMP(0.0)

#38 MD(3565.00) Inc(9.4) Azm(17.6) TVD(3523.82)
VS(-93.11) NS(464.35) EW(139.17) TEMP(0.0)

#39 MD(3661.00) Inc(10.6) Azm(16.2) TVD(3618.36)
VS(-96.36) NS(480.31) EW(144.00) TEMP(0.0)

#40 MD(3756.00) Inc(10.8) Azm(23.7) TVD(3711.71)
VS(-100.73) NS(496.85) EW(150.02) TEMP(0.0)

#41 MD(3851.00) Inc(12.4) Azm(29.5) TVD(3804.77)
VS(-107.62) NS(513.88) EW(158.62) TEMP(0.0)

#42 MD(3947.00) Inc(12.0) Azm(26.7) TVD(3898.60)
VS(-115.39) NS(531.76) EW(168.18) TEMP(0.0)

#43 MD(4042.00) Inc(12.2) Azm(20.2) TVD(3991.50)
VS(-121.47) NS(550.01) EW(176.08) TEMP(0.0)

#44 MD(4138.00) Inc(10.8) Azm(11.4) TVD(4085.57)
VS(-124.93) NS(568.35) EW(181.36) TEMP(0.0)

#45 MD(4233.00) Inc(9.8) Azm(13.4) TVD(4179.04)
VS(-126.93) NS(584.94) EW(185.00) TEMP(0.0)

#46 MD(4328.00) Inc(11.1) Azm(15.1) TVD(4272.46)
VS(-129.53) NS(601.63) EW(189.25) TEMP(0.0)

#47 MD(4424.00) Inc(10.9) Azm(16.2) TVD(4366.70)
VS(-132.72) NS(619.27) EW(194.19) TEMP(0.0)

#48 MD(4519.00) Inc(11.6) Azm(15.6) TVD(4459.87)
VS(-136.03) NS(637.09) EW(199.27) TEMP(0.0)

#49 MD(4614.00) Inc(12.0) Azm(19.7) TVD(4552.87)
VS(-140.09) NS(655.59) EW(205.16) TEMP(0.0)

#50 MD(4710.00) Inc(11.3) Azm(10.5) TVD(4646.90)
VS(-143.32) NS(674.24) EW(210.24) TEMP(0.0)

#51 MD(4805.00) Inc(9.6) Azm(8.6) TVD(4740.32)
VS(-144.53) NS(691.22) EW(213.12) TEMP(0.0)

#52 MD(4901.00) Inc(9.3) Azm(7.9) TVD(4835.02)
VS(-145.26) NS(706.82) EW(215.39) TEMP(0.0)

#53 MD(4996.00) Inc(7.6) Azm(6.5) TVD(4928.98)
VS(-145.66) NS(720.67) EW(217.15) TEMP(0.0)

#54 MD(5092.00) Inc(6.1) Azm(7.9) TVD(5024.29)
VS(-145.96) NS(732.03) EW(218.57) TEMP(0.0)

#55 MD(5187.00) Inc(5.4) Azm(14.4) TVD(5118.82)
VS(-146.85) NS(741.36) EW(220.38) TEMP(0.0)

#56 MD(5282.00) Inc(3.3) Azm(20.9) TVD(5213.54)
VS(-148.25) NS(748.24) EW(222.46) TEMP(0.0)

#57 MD(5378.00) Inc(3.2) Azm(22.1) TVD(5309.38)
VS(-149.74) NS(753.31) EW(224.46) TEMP(0.0)

#58 MD(5473.00) Inc(2.7) Azm(23.9) TVD(5404.26)
VS(-151.20) NS(757.81) EW(226.36) TEMP(0.0)

#59 MD(5569.00) Inc(1.8) Azm(25.8) TVD(5500.18)
VS(-152.43) NS(761.23) EW(227.94) TEMP(0.0)

#60 MD(5664.00) Inc(0.4) Azm(209.7) TVD(5595.17)
VS(-152.81) NS(762.29) EW(228.42) TEMP(0.0)

#61 MD(5760.00) Inc(0.4) Azm(323.3) TVD(5691.17)
VS(-152.45) NS(762.27) EW(228.05) TEMP(0.0)

#62 MD(5855.00) Inc(0.8) Azm(300.2) TVD(5786.16)
VS(-151.62) NS(762.87) EW(227.28) TEMP(0.0)

#63 MD(5951.00) Inc(1.5) Azm(284.9) TVD(5882.14)
VS(-149.77) NS(763.53) EW(225.49) TEMP(0.0)

#64 MD(6046.00) Inc(2.1) Azm(281.1) TVD(5977.10)
VS(-146.81) NS(764.18) EW(222.58) TEMP(0.0)

#65 MD(6142.00) Inc(1.2) Azm(260.5) TVD(6073.06)
VS(-144.09) NS(764.35) EW(219.86) TEMP(0.0)

#66 MD(6237.00) Inc(1.0) Azm(263.7) TVD(6168.04)
VS(-142.32) NS(764.10) EW(218.06) TEMP(0.0)

#67 MD(6332.00) Inc(1.3) Azm(271.8) TVD(6263.02)
VS(-140.43) NS(764.04) EW(216.16) TEMP(149.3)

#68 MD(6379.00) Inc(4.3) Azm(269.3) TVD(6309.96)
VS(-138.15) NS(764.04) EW(213.86) TEMP(149.3)

#69 MD(6428.00) Inc(6.4) Azm(268.1) TVD(6358.74)
VS(-133.61) NS(763.92) EW(209.29) TEMP(149.3)

#70 MD(6475.00) Inc(8.6) Azm(274.0) TVD(6405.34)
VS(-127.50) NS(764.08) EW(203.17) TEMP(149.3)

#71 MD(6523.00) Inc(11.7) Azm(272.8) TVD(6452.58)
VS(-119.05) NS(764.57) EW(194.73) TEMP(149.3)

#72 MD(6570.00) Inc(14.6) Azm(267.7) TVD(6498.34)
VS(-108.42) NS(764.56) EW(184.04) TEMP(149.3)

#73 MD(6619.00) Inc(17.6) Azm(271.6) TVD(6545.42)
VS(-94.91) NS(764.52) EW(170.47) TEMP(149.3)

#74 MD(6666.00) Inc(19.8) Azm(275.8) TVD(6589.94)
VS(-79.86) NS(765.53) EW(155.44) TEMP(149.3)

#75 MD(6714.00) Inc(22.4) Azm(275.6) TVD(6634.71)
VS(-62.58) NS(767.24) EW(138.25) TEMP(149.3)

#76 MD(6761.00) Inc(26.0) Azm(276.9) TVD(6677.58)
VS(-43.32) NS(769.35) EW(119.10) TEMP(149.3)

#77 MD(6809.00) Inc(29.4) Azm(277.2) TVD(6720.07)
VS(-21.02) NS(772.09) EW(96.96) TEMP(164.1)

#78 MD(6856.00) Inc(34.1) Azm(276.9) TVD(6760.03)
VS(3.70) NS(775.12) EW(72.42) TEMP(164.1)

#79 MD(6905.00) Inc(38.3) Azm(272.8) TVD(6799.56)
VS(32.61) NS(777.52) EW(43.60) TEMP(164.1)

#80 MD(6952.00) Inc(41.9) Azm(267.5) TVD(6835.52)
VS(62.72) NS(777.54) EW(13.36) TEMP(164.1)

#81 MD(7000.00) Inc(45.9) Azm(268.8) TVD(6870.10)
VS(95.71) NS(776.48) EW(-19.90) TEMP(164.1)

#82 MD(7047.00) Inc(49.3) Azm(270.5) TVD(6901.79)
VS(130.23) NS(776.29) EW(-54.60) TEMP(164.1)

#83 MD(7096.00) Inc(53.1) Azm(270.3) TVD(6932.49)
VS(168.25) NS(776.55) EW(-92.78) TEMP(164.1)

#84 MD(7143.00) Inc(57.2) Azm(270.0) TVD(6959.34)
VS(206.64) NS(776.65) EW(-131.34) TEMP(164.1)

#85 MD(7191.00) Inc(61.6) Azm(269.5) TVD(6983.77)
VS(247.72) NS(776.47) EW(-172.65) TEMP(164.1)

#86 MD(7238.00) Inc(65.8) Azm(269.1) TVD(7004.59)
VS(289.59) NS(775.95) EW(-214.77) TEMP(164.1)

#87 MD(7287.00) Inc(69.6) Azm(268.9) TVD(7023.18)
VS(334.62) NS(775.16) EW(-260.09) TEMP(164.1)

#158 MD(13795.00) Inc(90.0) Azm(270.7) TVD(7039.85)
VS(6803.66) NS(789.78) EW(-6758.83) TEMP(238.1)

#160 MD(13986.00) Inc(87.8) Azm(268.8) TVD(7045.02)
VS(6993.77) NS(791.02) EW(-6949.72) TEMP(238.1)

#165 MD(14463.00) Inc(91.0) Azm(267.4) TVD(7050.82)
VS(7466.20) NS(773.03) EW(-7426.20) TEMP(252.9)