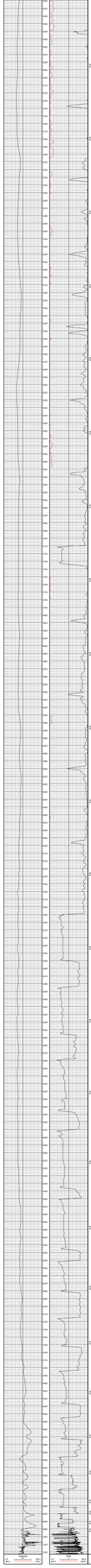

ENSIGN Directional

Spaur 10L-201

TVD
5":100'

Company: Petroleum Development Corp.
Well Name: Spaur 10L-201
API: 05123423300
County/Parish: Weld
State: Colorado
Country: USA
Job number: 207-121-261
Field: DJ Basin
Rig Id: Ensign 121
Survey Company: Ensign Directional Services
Company Man 1 Dean Haight

Lead Directional Driller Breven Williams
Rotating Directional Driller Pete Moriarty
Night Directional Driller Dave Van Dorin/Tyler Batchelder

MWD Ensign Directional Services

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

	Depth	Date
Start:	0 ft	3-18-2016
End:	11402 ft	3-22-2016

Casing	Depth	Size
Surface:	1370	9 5/8
Intermediate:		7

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

Elevations
KB: 4854.5
GL: 4841
DF: 4854.5

Run	Bit Size	Offsets Gamma	Offsets Survey	Depths Start	Depths End	Dates Start	Dates End
1	12.25		56.61	0	1400	3-18-2016	3-19-2016
2	8.5	56.40	51.40	1400	11402	3-19-2016	3-22-2016
3							
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.

Gamma
API
0.0 300.0
300.0 600.0
TVD
ROP
0
0.0 500.0
500.0 1000.0
1400 … 4990
#15 MD(1417.00) Inc(0.6) Azm(244.9) TVD(1416.39) VS(12.22) NS(11.47) EW(-22.36) TEMP(0.0)
#16 MD(1513.00) Inc(0.6) Azm(222.0) TVD(1512.39) VS(11.66) NS(10.88) EW(-23.15) TEMP(0.0)
#17 MD(1609.00) Inc(0.4) Azm(238.0) TVD(1608.38) VS(11.13) NS(10.33) EW(-23.77) TEMP(0.0)
#18 MD(1705.00) Inc(0.3) Azm(247.9) TVD(1704.38) VS(10.88) NS(10.06) EW(-24.29) TEMP(0.0)
#19 MD(1801.00) Inc(1.2) Azm(216.8) TVD(1800.37) VS(10.01) NS(9.16) EW(-25.12) TEMP(0.0)
#20 MD(1896.00) Inc(1.3) Azm(218.5) TVD(1895.35) VS(8.41) NS(7.52) EW(-26.39) TEMP(0.0)
#21 MD(1992.00) Inc(1.8) Azm(190.0) TVD(1991.32) VS(6.11) NS(5.18) EW(-27.33) TEMP(0.0)
#22 MD(2088.00) Inc(3.5) Azm(190.9) TVD(2087.21) VS(1.77) NS(0.82) EW(-28.14) TEMP(0.0)
#23 MD(2184.00) Inc(4.1) Azm(184.1) TVD(2183.00) VS(-4.50) NS(-5.48) EW(-28.94) TEMP(0.0)
#24 MD(2280.00) Inc(5.5) Azm(196.5) TVD(2278.66) VS(-12.27) NS(-13.31) EW(-30.50) TEMP(0.0)
#25 MD(2375.00) Inc(6.5) Azm(197.6) TVD(2373.14) VS(-21.66) NS(-22.80) EW(-33.41) TEMP(0.0)
#26 MD(2470.00) Inc(8.1) Azm(199.7) TVD(2467.37) VS(-32.95) NS(-34.23) EW(-37.30) TEMP(0.0)
#27 MD(2565.00) Inc(8.3) Azm(199.5) TVD(2561.40) VS(-45.55) NS(-47.00) EW(-41.84) TEMP(0.0)
#28 MD(2661.00) Inc(8.3) Azm(197.2) TVD(2656.39) VS(-58.55) NS(-60.15) EW(-46.20) TEMP(0.0)
#29 MD(2757.00) Inc(7.7) Azm(195.7) TVD(2751.46) VS(-71.22) NS(-72.96) EW(-49.99) TEMP(0.0)
#30 MD(2853.00) Inc(7.4) Azm(197.6) TVD(2846.62) VS(-83.18) NS(-85.04) EW(-53.60) TEMP(0.0)
#31 MD(2949.00) Inc(6.9) Azm(192.3) TVD(2941.88) VS(-94.59) NS(-96.57) EW(-56.70) TEMP(0.0)
#32 MD(3044.00) Inc(6.6) Azm(192.3) TVD(3036.22) VS(-105.42) NS(-107.48) EW(-59.08) TEMP(0.0)
#33 MD(3140.00) Inc(6.5) Azm(201.5) TVD(3131.60) VS(-115.75) NS(-117.93) EW(-62.25) TEMP(0.0)
#34 MD(3235.00) Inc(7.1) Azm(202.5) TVD(3225.93) VS(-126.03) NS(-128.35) EW(-66.46) TEMP(0.0)
#35 MD(3331.00) Inc(7.8) Azm(211.8) TVD(3321.12) VS(-136.85) NS(-139.37) EW(-72.17) TEMP(0.0)
#36 MD(3473.00) Inc(6.6) Azm(204.8) TVD(3462.00) VS(-152.15) NS(-154.97) EW(-80.67) TEMP(0.0)
#37 MD(3569.00) Inc(5.5) Azm(198.8) TVD(3557.46) VS(-161.38) NS(-164.33) EW(-84.46) TEMP(0.0)
#38 MD(3665.00) Inc(7.2) Azm(215.7) TVD(3652.88) VS(-170.45) NS(-173.57) EW(-89.46) TEMP(0.0)
#39 MD(3761.00) Inc(7.4) Azm(213.8) TVD(3748.10) VS(-180.23) NS(-183.60) EW(-96.41) TEMP(0.0)
#40 MD(3857.00) Inc(7.7) Azm(212.7) TVD(3843.27) VS(-190.54) NS(-194.15) EW(-103.32) TEMP(0.0)
#41 MD(3953.00) Inc(6.8) Azm(208.8) TVD(3938.50) VS(-200.71) NS(-204.54) EW(-109.53) TEMP(0.0)
#42 MD(4049.00) Inc(5.9) Azm(211.7) TVD(4033.91) VS(-209.71) NS(-213.72) EW(-114.87) TEMP(0.0)
#43 MD(4144.00) Inc(6.0) Azm(212.4) TVD(4128.40) VS(-217.87) NS(-222.06) EW(-120.09) TEMP(0.0)
#44 MD(4240.00) Inc(6.8) Azm(209.9) TVD(4223.80) VS(-226.84) NS(-231.23) EW(-125.61) TEMP(0.0)
#45 MD(4336.00) Inc(5.5) Azm(206.6) TVD(4319.25) VS(-235.71) NS(-240.27) EW(-130.51) TEMP(0.0)
#46 MD(4432.00) Inc(5.2) Azm(209.2) TVD(4414.83) VS(-243.48) NS(-248.18) EW(-134.69) TEMP(0.0)
#47 MD(4528.00) Inc(4.7) Azm(206.0) TVD(4510.47) VS(-250.68) NS(-255.51) EW(-138.54) TEMP(0.0)
#48 MD(4624.00) Inc(3.8) Azm(216.6) TVD(4606.21) VS(-256.64) NS(-261.60) EW(-142.16) TEMP(0.0)
#49 MD(4720.00) Inc(1.7) Azm(237.0) TVD(4702.09) VS(-259.86) NS(-264.93) EW(-145.25) TEMP(0.0)
#50 MD(4815.00) Inc(1.6) Azm(223.3) TVD(4797.05) VS(-261.52) NS(-266.66) EW(-147.34) TEMP(0.0)
#51 MD(4911.00) Inc(1.3) Azm(220.1) TVD(4893.02) VS(-263.28) NS(-268.47) EW(-148.96) TEMP(0.0)
#52 MD(5006.00) Inc(1.4) Azm(229.8) TVD(4988.00) VS(-264.80) NS(-270.05) EW(-150.54) TEMP(0.0)

5000
5010
5020
5030
5040
5050
5060
5070
5080
5090
5100
5110
5120
5130
5140
5150
5160
5170
5180
5190
5200
5210
5220
5230
5240
5250
5260
5270
5280
5290
5300
5310
5320
5330
5340
5350
5360
5370
5380
5390
5400
5410
5420
5430
5440
5450
5460
5470
5480
5490
5500
5510
5520
5530
5540
5550
5560
5570
5580
5590
5600
5610
5620
5630
5640
5650
5660
5670
5680
5690
5700
5710
5720
5730
5740
5750
5760
5770
5780
5790
5800
5810
5820
5830
5840
5850
5860
5870
5880
5890
5900
5910
5920
5930
5940
5950
5960
5970
5980
5990
6000
6010
6020
6030
6040
6050
6060
6070
6080
6090
6100
6110
6120
6130
6140
6150
6160
6170
6180
6190
6200
6210
6220
6230
6240
6250
6260
6270
6280
6290
6300
6310
6320
6330
6340
6350
6360
6370
6380
6390
6400
6410
6420
6430
6440
6450
6460
6470
6480
6490
6500
6510
6520
6530
6540
6550
6560
6570
6580
6590
6600
6610
6620
6630
6640
6650
6660
6670
6680
6690
6700
6710
6720
6730
6740
6750
6760
6770
6780
6790
6800
6810
6820
6830
6840
6850
6860
6870
6880
6890
6900
6910
6920
6930
6940
6950
6960
6970
6980
6990
7000
7010
7020
#53 MD(5103.00) Inc(1.5) Azm(233.3) TVD(5084.97) VS(-266.25) NS(-271.57) EW(-152.46) TEMP(0.0)
#54 MD(5198.00) Inc(1.4) Azm(227.3) TVD(5179.94) VS(-267.72) NS(-273.10) EW(-154.31) TEMP(0.0)
#55 MD(5294.00) Inc(1.1) Azm(213.1) TVD(5275.91) VS(-269.24) NS(-274.67) EW(-155.68) TEMP(0.0)
#56 MD(5390.00) Inc(1.3) Azm(223.1) TVD(5371.89) VS(-270.76) NS(-276.23) EW(-156.93) TEMP(0.0)
#57 MD(5485.00) Inc(1.6) Azm(229.2) TVD(5466.86) VS(-272.36) NS(-277.89) EW(-158.67) TEMP(0.0)
#58 MD(5581.00) Inc(2.0) Azm(235.7) TVD(5562.81) VS(-274.09) NS(-279.71) EW(-161.06) TEMP(0.0)
#59 MD(5677.00) Inc(1.8) Azm(246.5) TVD(5658.76) VS(-275.55) NS(-281.25) EW(-163.83) TEMP(0.0)
#60 MD(5773.00) Inc(1.2) Azm(63.1) TVD(5754.75) VS(-275.68) NS(-281.40) EW(-164.32) TEMP(0.0)
#61 MD(5869.00) Inc(1.1) Azm(61.0) TVD(5850.73) VS(-274.83) NS(-280.50) EW(-162.61) TEMP(0.0)
#62 MD(5965.00) Inc(1.1) Azm(46.6) TVD(5946.71) VS(-273.80) NS(-279.42) EW(-161.14) TEMP(134.5)
#63 MD(6061.00) Inc(0.7) Azm(41.9) TVD(6042.70) VS(-272.77) NS(-278.35) EW(-160.08) TEMP(134.5)
#64 MD(6156.00) Inc(0.7) Azm(60.0) TVD(6137.69) VS(-272.08) NS(-277.63) EW(-159.19) TEMP(134.5)
#65 MD(6252.00) Inc(5.2) Azm(4.8) TVD(6233.55) VS(-267.48) NS(-272.99) EW(-158.32) TEMP(134.5)
#66 MD(6348.00) Inc(10.8) Azm(358.1) TVD(6328.58) VS(-254.15) NS(-259.66) EW(-158.25) TEMP(134.5)
#67 MD(6444.00) Inc(15.9) Azm(4.4) TVD(6421.96) VS(-232.07) NS(-237.54) EW(-157.54) TEMP(149.3)
#68 MD(6540.00) Inc(21.7) Azm(4.1) TVD(6512.80) VS(-201.33) NS(-206.70) EW(-155.26) TEMP(149.3)
#69 MD(6635.00) Inc(31.0) Azm(359.3) TVD(6597.84) VS(-159.31) NS(-164.63) EW(-154.30) TEMP(149.3)
#70 MD(6731.00) Inc(39.7) Azm(0.2) TVD(6676.07) VS(-103.85) NS(-109.14) EW(-154.50) TEMP(149.3)
#71 MD(6827.00) Inc(43.8) Azm(359.5) TVD(6747.68) VS(-39.97) NS(-45.23) EW(-154.68) TEMP(149.3)
#72 MD(6922.00) Inc(49.8) Azm(0.0) TVD(6812.68) VS(29.22) NS(23.99) EW(-154.97) TEMP(149.3)
#73 MD(7018.00) Inc(57.4) Azm(1.6) TVD(6869.61) VS(106.34) NS(101.19) EW(-153.83) TEMP(149.3)
#74 MD(7114.00) Inc(63.7) Azm(0.2) TVD(6916.79) VS(189.79) NS(184.73) EW(-152.55) TEMP(149.3)
#75 MD(7210.00) Inc(70.3) Azm(358.8) TVD(6954.28) VS(278.08) NS(273.05) EW(-153.35) TEMP(149.3)
#76 MD(7257.00) Inc(73.1) Azm(358.8) TVD(6969.03) VS(322.70) NS(317.65) EW(-154.29) TEMP(149.3)
#77 MD(7305.00) Inc(75.5) Azm(358.1) TVD(6982.02) VS(368.90) NS(363.84) EW(-155.54) TEMP(149.3)
#121 MD(11352.00) Inc(92.4) Azm(359.7) TVD(6991.91) VS(4407.97) NS(4405.48) EW(-148.08) TEMP(193.7)
Gamma
API
0.0
300.0
300.0
600.0
ROP
0
0.0
500.0
500.0
1000.0