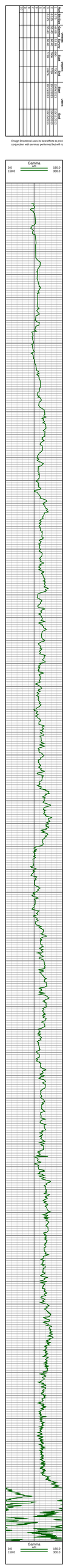

Crow Creek State AC36-78-HN

TVD
1":100'

Company: Noble Energy Inc
Well Name: Crow Creek State AC36-78HN
UWI or LSD: 05-123-37275
Rig Id: Precision 828
State: Colorado
County/Parish: Weld
Country: USA
Survey Company: Ensign Directional
Job number: 828-19
Company Man 1 Gary Stapleton
Directional Driller 1 Tyler Batchelder
Directional Driller 2 Matt Mason
MWD 1 Joel Alcala
MWD 2 Andrew Keohan

Log measurements:
Depth measured from: KB
Maximum temperature:

	Depth	Date
Start:	610 ft	10/08/2013
End:	10974 ft	10/14/2013

Casing	Depth	Size
Surface:	600	9.625
Intermediate:	6992	7

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

Elevations
KB: 4790
GL: 4774
DF: 4790

Run	Bit Size	Offsets Gamma	Offsets Survey	Depths Start	Depths End	Dates Start	Dates End
1	8.75	48.68	53.89	600	7006	10/09/2013	10/11/2013
2	6.125	55.40	60.40	7006	7769	10/12/2013	10/13/2013
3	6.125	55.40	60.40	7769	10974	10/13/2013	10/15/2013
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.

Gamma
API
0.0
150.0
150.0
300.0
TVD
ROP
0
0.0
500.0
500.0
1000.0
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000
4100
4200
4300
4400
4500
4600
4700
4800
4900
5000
5100
5200
5300
5400
5500
5600
5700
5800
5900
6000
6100
6200
6300
6400
6500
6600
#4 MD(703.00) Inc(0.6) Azm(172.2) TVD(702.98) VS(2.44) NS(2.21) EW(2.57)
#5 MD(793.00) Inc(0.6) Azm(147.9) TVD(792.97) VS(1.60) NS(1.35) EW(2.88)
#6 MD(883.00) Inc(0.6) Azm(174.7) TVD(882.97) VS(0.77) NS(0.48) EW(3.18)
#7 MD(972.00) Inc(0.9) Azm(165.5) TVD(971.96) VS(-0.35) NS(-0.66) EW(3.39)
#8 MD(1062.00) Inc(0.7) Azm(150.4) TVD(1061.95) VS(-1.47) NS(-1.82) EW(3.84)
#9 MD(1157.00) Inc(0.4) Azm(128.9) TVD(1156.95) VS(-2.13) NS(-2.54) EW(4.39)
#10 MD(1252.00) Inc(0.5) Azm(131.6) TVD(1251.95) VS(-2.56) NS(-3.02) EW(4.96)
#11 MD(1347.00) Inc(0.6) Azm(163.4) TVD(1346.94) VS(-3.26) NS(-3.77) EW(5.41)
#12 MD(1442.00) Inc(1.8) Azm(142.1) TVD(1441.92) VS(-4.81) NS(-5.43) EW(6.47)
#13 MD(1537.00) Inc(3.3) Azm(115.2) TVD(1536.83) VS(-6.84) NS(-7.77) EW(9.86)
#14 MD(1632.00) Inc(5.2) Azm(107.7) TVD(1631.56) VS(-8.70) NS(-10.24) EW(16.43)
#15 MD(1727.00) Inc(6.2) Azm(102.2) TVD(1726.09) VS(-10.26) NS(-12.63) EW(25.55)
#16 MD(1822.00) Inc(6.7) Azm(105.4) TVD(1820.49) VS(-11.86) NS(-15.19) EW(35.91)
#17 MD(1916.00) Inc(5.9) Azm(122.3) TVD(1913.93) VS(-15.03) NS(-19.23) EW(45.28)
#18 MD(2014.00) Inc(7.5) Azm(118.4) TVD(2011.26) VS(-19.84) NS(-24.96) EW(55.16)
#19 MD(2104.00) Inc(7.9) Azm(108.7) TVD(2100.45) VS(-23.59) NS(-29.74) EW(66.19)
#20 MD(2194.00) Inc(8.0) Azm(114.5) TVD(2189.59) VS(-27.10) NS(-34.32) EW(77.75)
#21 MD(2284.00) Inc(7.1) Azm(124.6) TVD(2278.81) VS(-31.90) NS(-40.07) EW(88.02)
#22 MD(2374.00) Inc(7.6) Azm(127.0) TVD(2368.07) VS(-37.76) NS(-46.81) EW(97.35)
#23 MD(2464.00) Inc(7.8) Azm(117.7) TVD(2457.26) VS(-43.23) NS(-53.24) EW(107.52)
#24 MD(2553.00) Inc(7.5) Azm(118.1) TVD(2545.47) VS(-47.80) NS(-58.78) EW(117.99)
#25 MD(2643.00) Inc(7.5) Azm(117.9) TVD(2634.70) VS(-52.35) NS(-64.29) EW(128.36)
#26 MD(2733.00) Inc(6.9) Azm(114.9) TVD(2723.99) VS(-56.43) NS(-69.32) EW(138.45)
#27 MD(2823.00) Inc(6.6) Azm(112.6) TVD(2813.36) VS(-59.80) NS(-73.58) EW(148.13)
#28 MD(2913.00) Inc(7.7) Azm(119.6) TVD(2902.66) VS(-63.83) NS(-78.55) EW(158.15)
#29 MD(3003.00) Inc(7.7) Azm(119.3) TVD(2991.85) VS(-68.78) NS(-84.48) EW(168.65)
#30 MD(3093.00) Inc(7.4) Azm(118.9) TVD(3081.07) VS(-73.57) NS(-90.23) EW(178.98)
#31 MD(3183.00) Inc(6.9) Azm(118.9) TVD(3170.37) VS(-78.07) NS(-95.64) EW(188.79)
#32 MD(3273.00) Inc(6.3) Azm(116.8) TVD(3259.78) VS(-82.06) NS(-100.48) EW(197.93)
#33 MD(3363.00) Inc(5.4) Azm(114.9) TVD(3349.31) VS(-85.30) NS(-104.49) EW(206.18)
#34 MD(3453.00) Inc(5.7) Azm(117.7) TVD(3438.88) VS(-88.43) NS(-108.35) EW(213.98)
#35 MD(3543.00) Inc(5.7) Azm(106.3) TVD(3528.44) VS(-91.00) NS(-111.68) EW(222.23)
#36 MD(3632.00) Inc(5.9) Azm(101.2) TVD(3616.99) VS(-92.33) NS(-113.81) EW(230.95)
#37 MD(3722.00) Inc(5.9) Azm(108.2) TVD(3706.51) VS(-93.85) NS(-116.16) EW(239.89)
#38 MD(3812.00) Inc(6.3) Azm(118.4) TVD(3796.00) VS(-96.83) NS(-119.95) EW(248.62)
#39 MD(3902.00) Inc(6.5) Azm(117.0) TVD(3885.44) VS(-100.67) NS(-124.61) EW(257.51)
#40 MD(3992.00) Inc(6.7) Azm(117.7) TVD(3974.85) VS(-104.56) NS(-129.36) EW(266.69)
#41 MD(4081.00) Inc(6.4) Azm(116.6) TVD(4063.27) VS(-108.36) NS(-134.00) EW(275.73)
#42 MD(4171.00) Inc(6.9) Azm(110.1) TVD(4152.66) VS(-111.57) NS(-138.10) EW(285.29)
#43 MD(4261.00) Inc(6.1) Azm(102.2) TVD(4242.08) VS(-113.54) NS(-140.97) EW(295.04)
#44 MD(4351.00) Inc(6.8) Azm(110.7) TVD(4331.52) VS(-115.55) NS(-143.87) EW(304.70)
#45 MD(4441.00) Inc(7.6) Azm(113.3) TVD(4420.81) VS(-118.82) NS(-148.10) EW(315.15)
#46 MD(4531.00) Inc(8.0) Azm(118.8) TVD(4509.97) VS(-123.17) NS(-153.47) EW(326.10)
#47 MD(4621.00) Inc(6.7) Azm(125.4) TVD(4599.23) VS(-128.31) NS(-159.53) EW(335.87)
#48 MD(4710.00) Inc(7.3) Azm(118.9) TVD(4687.57) VS(-133.19) NS(-165.27) EW(345.05)
#49 MD(4800.00) Inc(7.0) Azm(118.2) TVD(4776.87) VS(-137.63) NS(-170.63) EW(354.89)
#50 MD(4890.00) Inc(5.9) Azm(111.2) TVD(4866.30) VS(-141.05) NS(-174.89) EW(364.04)
#51 MD(4980.00) Inc(6.4) Azm(111.5) TVD(4955.78) VS(-143.73) NS(-178.40) EW(373.02)
#52 MD(5070.00) Inc(6.2) Azm(123.0) TVD(5045.24) VS(-147.40) NS(-182.89) EW(381.76)
#53 MD(5160.00) Inc(3.8) Azm(121.4) TVD(5134.90) VS(-150.98) NS(-187.09) EW(388.39)
#54 MD(5250.00) Inc(2.9) Azm(122.1) TVD(5224.74) VS(-153.32) NS(-189.85) EW(392.86)
#55 MD(5340.00) Inc(2.0) Azm(143.7) TVD(5314.66) VS(-155.53) NS(-192.33) EW(395.72)
#56 MD(5430.00) Inc(0.5) Azm(270.6) TVD(5404.64) VS(-156.74) NS(-193.59) EW(396.26)
#57 MD(5520.00) Inc(0.9) Azm(278.5) TVD(5494.64) VS(-156.73) NS(-193.48) EW(395.16)
#58 MD(5609.00) Inc(0.7) Azm(271.0) TVD(5583.63) VS(-156.73) NS(-193.37) EW(393.93)
#59 MD(5699.00) Inc(0.9) Azm(277.8) TVD(5673.62) VS(-156.74) NS(-193.26) EW(392.68)
#60 MD(5744.00) Inc(0.7) Azm(282.1) TVD(5718.61) VS(-156.69) NS(-193.16) EW(392.06)
#61 MD(5789.00) Inc(1.1) Azm(302.4) TVD(5763.61) VS(-156.46) NS(-192.87) EW(391.43)
#62 MD(5834.00) Inc(3.4) Azm(348.0) TVD(5808.57) VS(-154.99) NS(-191.33) EW(390.78)
#63 MD(5879.00) Inc(6.5) Azm(352.5) TVD(5853.40) VS(-151.23) NS(-187.50) EW(390.17)
#64 MD(5924.00) Inc(9.3) Azm(356.4) TVD(5897.97) VS(-145.15) NS(-181.35) EW(389.61)
#65 MD(5968.00) Inc(11.9) Azm(356.1) TVD(5941.21) VS(-137.15) NS(-173.27) EW(389.08)
#66 MD(6013.00) Inc(13.9) Azm(357.1) TVD(5985.08) VS(-127.22) NS(-163.24) EW(388.49)
#67 MD(6058.00) Inc(15.7) Azm(359.0) TVD(6028.58) VS(-115.82) NS(-151.76) EW(388.11)
#68 MD(6103.00) Inc(17.6) Azm(2.7) TVD(6071.69) VS(-102.96) NS(-138.87) EW(388.33)
#69 MD(6148.00) Inc(20.5) Azm(4.3) TVD(6114.23) VS(-88.29) NS(-124.21) EW(389.24)
#70 MD(6193.00) Inc(23.3) Azm(1.5) TVD(6155.98) VS(-71.52) NS(-107.46) EW(390.06)
#71 MD(6238.00) Inc(26.6) Azm(358.0) TVD(6196.77) VS(-52.64) NS(-88.48) EW(389.94)
#72 MD(6283.00) Inc(30.1) Azm(359.2) TVD(6236.37) VS(-31.42) NS(-67.13) EW(389.43)
#73 MD(6328.00) Inc(33.5) Azm(0.1) TVD(6274.61) VS(-7.82) NS(-43.42) EW(389.30)
#74 MD(6373.00) Inc(37.6) Azm(359.4) TVD(6311.21) VS(18.22) NS(-17.26) EW(389.18)
#75 MD(6417.00) Inc(41.6) Azm(359.0) TVD(6345.11) VS(46.10) NS(10.78) EW(388.78)
#76 MD(6462.00) Inc(46.0) Azm(359.7) TVD(6377.58) VS(77.08) NS(41.91) EW(388.43)
#77 MD(6507.00) Inc(51.0) Azm(0.6) TVD(6407.39) VS(110.64) NS(75.61) EW(388.53)
#78 MD(6552.00) Inc(55.2) Azm(1.2) TVD(6434.40) VS(146.52) NS(111.58) EW(389.10)
#79 MD(6597.00) Inc(58.3) Azm(1.2) TVD(6459.07) VS(184.05) NS(149.20) EW(389.89)
#80 MD(6642.00) Inc(61.0) Azm(0.5) TVD(6481.81) VS(222.77) NS(188.02) EW(390.46)
#81 MD(6687.00) Inc(63.3) Azm(0.3) TVD(6502.83) VS(262.41) NS(227.81) EW(390.74)
#83 MD(6777.00) Inc(68.1) Azm(0.1) TVD(6539.71) VS(344.18) NS(309.87) EW(391.24)
#85 MD(6867.00) Inc(76.9) Azm(359.0) TVD(6567.12) VS(429.43) NS(395.50) EW(390.97)
6992.0:Casing Set
VS(587.98) NS(554.94) EW(388.45)
#132 MD(10917.00) Inc(89.6) Azm(358.7) TVD(6610.23) VS(4456.73) NS(4438.99) EW(397.30)
Gamma
API
0.0
150.0
150.0
300.0
ROP
0
0.0
500.0
500.0
1000.0