



Crow Creek State AC36-78-1HN ^{TVD} 2":100'

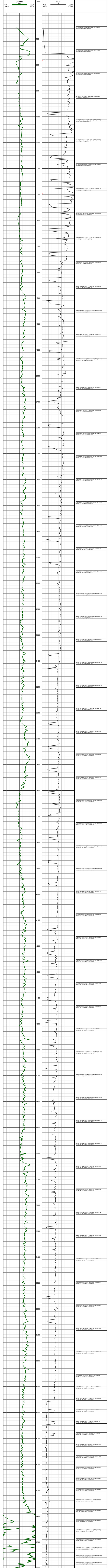
Company: Noble Energy Inc
Well Name: Crow Creek State AC36-78-1HN
UWI or LSD:
Rig Id: Precision 828
State: Colorado
County/Parish: Weld
Country: USA
Survey Company: Ensign Directional
Job number: 828-18
Company Man 1 Gary Stapleton
Directional Driller 1 Tyler Batchelder
Directional Driller 2 Matt Mason
MWD 1 Joel Alcalá
MWD 2 Andrew Keohan

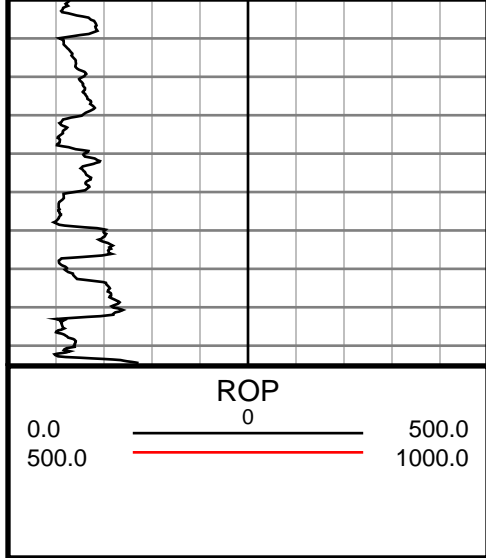
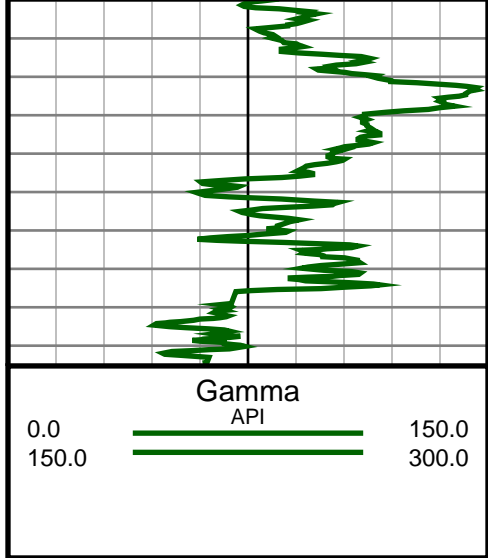
Log measurements:	Depth	Date
Depth measured from: KB	Start: 603 ft	09/23/2013
Maximum temperature:	End: 11182 ft	10/4/2013

Casing	Depth	Size	Mud Type:	Elevations
Surface: 593		9.625	Density:	KB: 4791
Intermediate: 7098	7		Viscosity:	GL: 4775
			Rm:	DF: 4791
			Rmf:	
			Rmc:	

Run	Bit Size	Offsets	Gamma Survey	Depths		Dates	
				Start	End	Start	End
1	8.75	53.54	48.54	603	7105	09/24/2013	09/28/2013
2	6.125	61.52	56.52	7105	11182	09/29/2013	10/04/2013
3							
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.





#80 MD(6774.00) Inc(60.1) Azm(355.0) TVD(6606.46) VS(229.71) NS(124.23) EW(694.48)
7070.0:Gamma logged through 7" casing from 7051 to 7098 VS(208.08) NS(105.60) EW(691.03)
#133 MD(11124.00) Inc(94.3) Azm(359.0) TVD(6650.25) 11180.0:Projection @ Bit (11182) Inc:94.3 Azm:359.0 TVD:6645.90 VS:4558.58