

CASTOR FEDERAL LD15-73-1HN TVD 2":100'

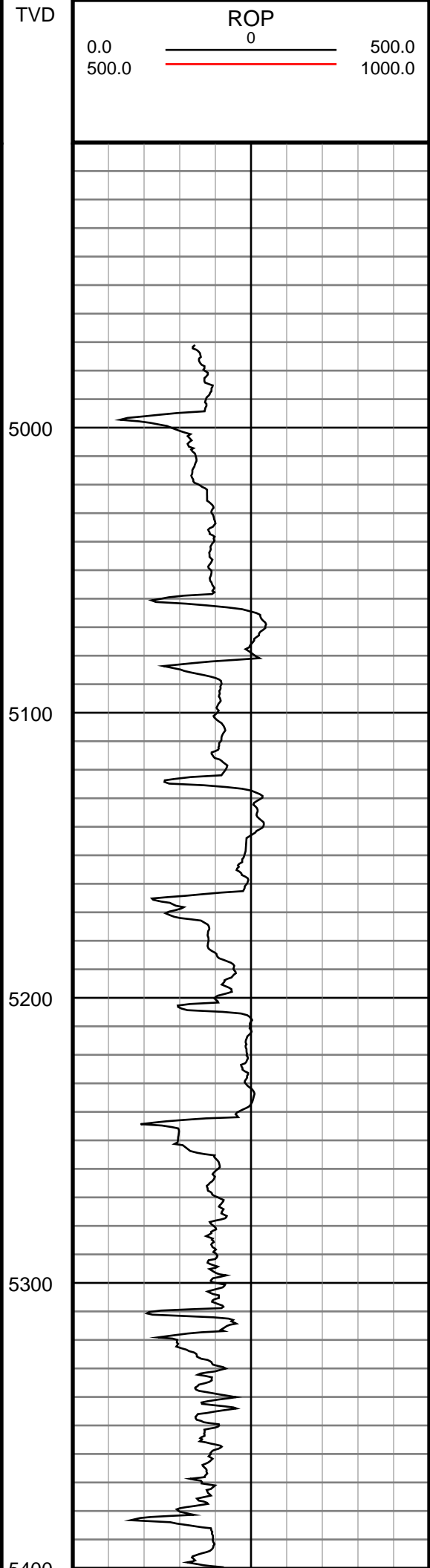
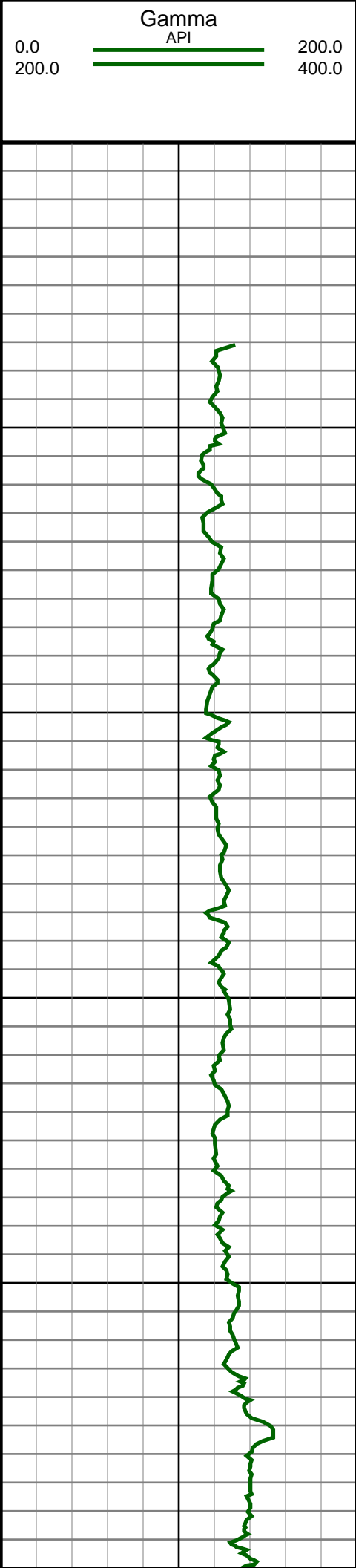
Company: Noble Energy Inc
Well Name: CASTOR FEDERAL LD15-73-1HN
UWI or LSD: 05-123-37432
Rig Id: H&P 273
State: Colorado
County/Parish: Weld
Country: USA
Survey Company: Ensign Directional
Job number: 139454
Dir. Driller Days Kody Wood
Dir. Driller Nights Mike David
MWD/LWD Days Tyler Teague
MWD/LWD Nights Jamey House

Log measurements:
Depth measured from:
Maximum temperature: 210.2

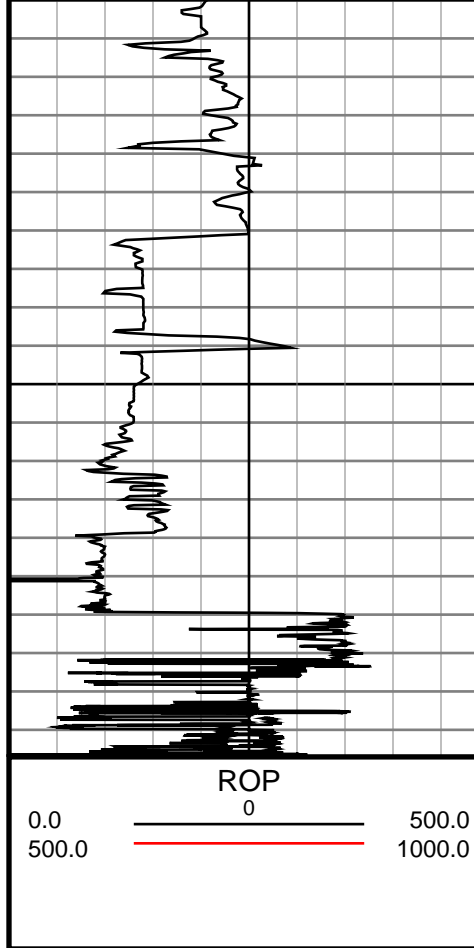
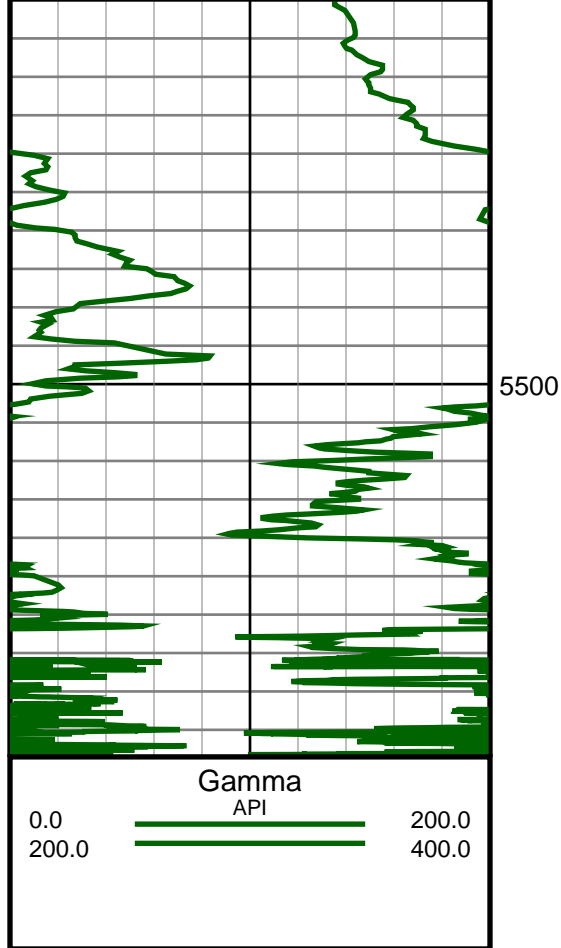
Depth **Date**
Start: 1225 ft 12/18/2013
End: 9807 ft 12/21/2013

Casing	Depth	Size	Mud Type:	Elevations
Surface:	1217	9.625	Density:	KB: 4728
Intermediate:	5928	7	Viscosity:	GL: 4704
			Rm:	DF: 4728
			Rmf:	
			Rmc:	

Run	Bit Size	Offsets	Gamma	Survey	Start	Depths	End	Start	Dates	End
1	8.75	-1.00	-1.00		0	1225		12/17/2013		12/17/2013
2	8.75	61.58	56.58		1225	4838		12/18/2013		12/18/2013
3	8.75	61.84	56.84		4838	5938		12/18/2013		12/19/2013
4	6.125	72.30	67.30		5938	9807		12/20/2013		12/21/2013
5										
6										
7										
8										
9										
10										



#43 MD(5061.00) Inc(24.0) Azm(172.6) TVD(5028.56) VS(-167.76) NS(177.19) EW(-309.63)
#44 MD(5156.00) Inc(31.1) Azm(174.1) TVD(5112.74) VS(-124.31) NS(133.57) EW(-304.62)
#45 MD(5251.00) Inc(33.1) Azm(176.4) TVD(5193.21) VS(-74.16) NS(83.27) EW(-300.47)
#46 MD(5346.00) Inc(36.4) Azm(177.3) TVD(5271.26) VS(-20.21) NS(29.21) EW(-297.51)
#47 MD(5441.00) Inc(46.2) Azm(179.8) TVD(5342.55) VS(42.31) NS(-33.39) EW(-296.06)



#48 MD(5535.00) Inc(55.1) Azm(176.3) TVD(5402.10) VS(114.75) NS(-105.94) EW(-293.45)
#49 MD(5630.00) Inc(55.7) Azm(175.4) TVD(5456.05) VS(192.53) NS(-183.93) EW(-287.78)
#50 MD(5725.00) Inc(65.4) Azm(175.6) TVD(5502.70) VS(274.67) NS(-266.30) EW(-281.31)
#51 MD(5820.00) Inc(72.3) Azm(176.1) TVD(5536.95) VS(362.75) NS(-354.62) EW(-274.91)
#52 MD(5878.00) Inc(79.5) Azm(177.0) TVD(5551.07) VS(418.74) NS(-410.73) EW(-271.53)
#54 MD(6064.00) Inc(87.4) Azm(178.7) TVD(5565.73) VS(603.65) NS(-595.88) EW(-266.30)
9850.0:Bit Projection @9861' INC: 88.9 AZM: 175.4 TVD: 5628.71 VS: 4325.92
#93 MD(9737.00) Inc(91.7) Azm(176.3) TVD(5589.84) VS(4265.80) NS(-4263.90) EW(-127.41)