

TIMBRO STATE LD16-68-1HN

TVD
2":100'

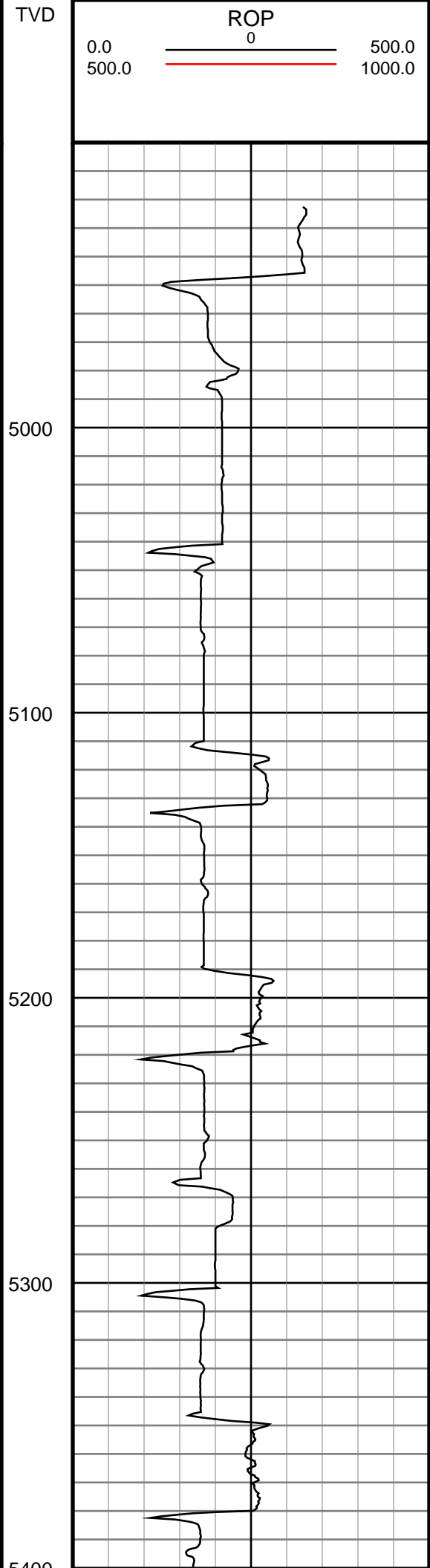
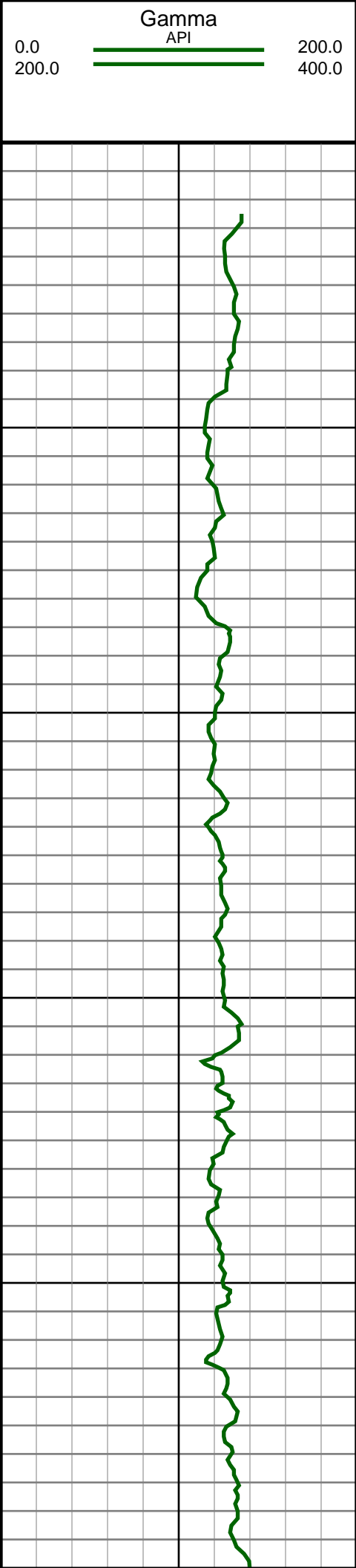
Company: Noble Energy Inc
Well Name: TIMBRO STATE LD16-67HN
UWI or LSD: 05-123-37490
Rig Id: H&P 273
State: Colorado
County/Parish: Weld
Country: USA
Survey Company: Ensign Directional
Job number: 139452
Dir. Driller Days Kody Wood
Dir. Driller Nights Mike David
MWD/LWD Days Tyler Teague
MWD/LWD Nights Jamey House

Log measurements:
Depth measured from:
Maximum temperature: 210.2

Depth **Date**
Start: 1223 ft 11/26/2013
End: 9917 ft 11/30/2013

| Casing | Depth | Size | Mud Type: | Elevations |
|---------------|-------|-------|------------|------------|
| Surface: | 1213 | 9.625 | Density: | KB: 4749 |
| Intermediate: | 6111 | 7 | Viscosity: | GL: 4725 |
| | | | Rm: | DF: 4749 |
| | | | Rmf: | |
| | | | Rmc: | |

| Run | Bit Size | Offsets | Gamma | Survey | Start | Depths | End | Start | Dates | End |
|-----|----------|---------|-------|--------|-------|--------|-----|------------|-------|------------|
| 1 | 8.75 | -1.00 | -1.00 | | 0 | 1223 | | 11/25/2013 | | 11/26/2013 |
| 2 | 8.75 | 61.95 | 56.95 | | 1223 | 4932 | | 11/26/2013 | | 11/27/2013 |
| 3 | 8.75 | 61.94 | 56.94 | | 4932 | 6119 | | 11/27/2013 | | 11/27/2013 |
| 4 | 6.125 | 71.50 | 66.50 | | 6119 | 9917 | | 11/28/2013 | | 11/30/2013 |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |



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|--|
| #43 MD(5060.00) Inc(4.8) Azm(252.6) TVD(4983.28) VS(-112.64) NS(-597.09) EW(208.18) |
| #44 MD(5154.00) Inc(15.7) Azm(263.8) TVD(5075.65) VS(-96.00) NS(-599.65) EW(191.73) |
| #45 MD(5249.00) Inc(23.2) Azm(271.2) TVD(5165.17) VS(-64.69) NS(-600.65) EW(160.19) |
| #46 MD(5344.00) Inc(29.3) Azm(267.7) TVD(5250.34) VS(-23.14) NS(-601.19) EW(118.22) |
| #47 MD(5439.00) Inc(34.2) Azm(269.8) TVD(5331.10) VS(26.37) NS(-602.21) EW(68.26) |



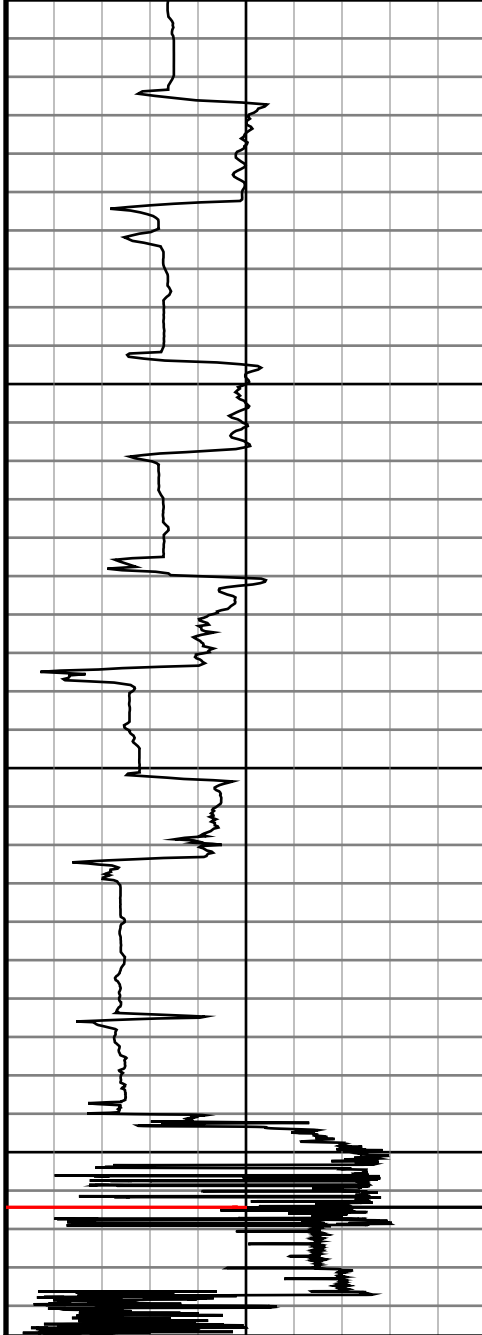
5500

5600

5700

Gamma
API

0.0 200.0 400.0



5500

5600

5700

ROP
0

0.0 500.0 1000.0

#48 MD(5534.00) Inc(39.3) Azm(270.3) TVD(55407.20)
VS(82.48) NS(-602.15) EW(11.44)

#49 MD(5629.00) Inc(46.3) Azm(267.7) TVD(5476.86)
VS(146.37) NS(-603.37) EW(-53.05)

#50 MD(5723.00) Inc(53.0) Azm(267.7) TVD(5537.69)
VS(217.48) NS(-606.25) EW(-124.59)

#51 MD(5818.00) Inc(57.1) Azm(267.0) TVD(5592.10)
VS(294.86) NS(-609.86) EW(-202.35)

#52 MD(5913.00) Inc(61.4) Azm(266.6) TVD(5640.66)
VS(376.08) NS(-614.42) EW(-283.85)

#53 MD(6007.00) Inc(74.4) Azm(267.4) TVD(5675.95)
VS(462.51) NS(-618.94) EW(-370.64)

#55 MD(6153.00) Inc(86.7) Azm(269.8) TVD(5695.33)
VS(605.63) NS(-622.01) EW(-515.04)

#61 MD(6718.00) Inc(89.5) Azm(270.9) TVD(5708.37)
VS(1161.48) NS(-610.37) EW(-1079.59)

#73 MD(7857.00) Inc(88.2) Azm(267.5) TVD(5719.07)
VS(2289.46) NS(-631.23) EW(-2218.22)

#77 MD(8236.00) Inc(88.5) Azm(269.1) TVD(5731.56)
9850.0:Bit Projection @9870' INC: 90.3 AZM: 266.1
TVD: 5736.09 VS: 4296.73

VS(4259.74) NS(-669.16) EW(-4206.86)