**NABORS**
COMPLETION
& PRODUCTION
SERVICES CO.

# CEMENT BOND LOG
# GAMMA RAY C C L
# V D L

| | |
|---|---|
| Company | NOBLE ENERGY INC. |
| Well | WELLS RANCH AE18-69-1HN |
| Field | WATTENBERG |
| County | WELD |
| State | COLORADO |

**Company** NOBLE ENERGY INC.
**Well** WELLS RANCH AE18-69-1HN
**Field** WATTENBERG
**County** WELD **State** COLORADO

**Location:** API #: 05123356730000
NW NW
BHL: 330' FNL & 535' FEL
SEC 18 TWP 6N RGE 62W

Other Services

| | | | | |
|---|---|---|---|---|
| Permanent Datum | GL | Elevation | 4850 | Elevation<br>K.B. 4874<br>D.F. 4873<br>G.L. 4850 |
| Log Measured From | KB 24' | | | |
| Drilling Measured From | KB | | | |

| | | |
|---|---|---|
| Date | December 27, 2012 | |
| Run Number | One | |
| Depth Driller | 11,133 | |
| Depth Logger | 6887 | |
| Bottom Logged Interval | 6886 | |
| Top Log Interval | Surface | |
| Casing Size | 7.0" | |
| Type Fluid | Water | |
| Max. Recorded Temp. | 219 deg F | |
| Estimated Cement Top | 630 est. | |
| Time Well Ready | Crane | |
| Time Logger On Bottom | AM | |
| Unit Number | 4367 | 4515 |
| Tool Size / ID Number | 2.75 Probe 110785 | 2.75 Probe 110802 |
| Location | 45 | Platteville, CO |
| Recorded By | K. Monaghan | |
| Witnessed By | M. Pratt | |

| Borehole Record | | | Tubing Record | | | |
|---|---|---|---|---|---|---|
| Run Number | Bit | From | To | Size | Weight | From | To |

| Casing Record | Size | Wgt/Ft | Top | Bottom |
|---|---|---|---|---|
| Surface String | 9.625" | 36 lb/ft J-55 | Surface | 659.2 |
| Prot. String | | | | |
| Production String | 7.00" | 26 lb/ft J-55 | Surface | 7066.2 |
| Liner | 4.50" | 11.6 lb/ft P-110 | 6924.8 | 11,123 |

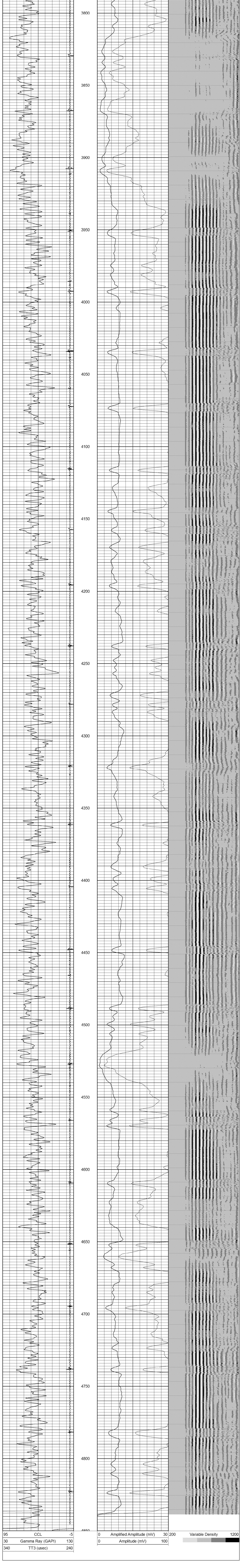
<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

## Comments

Thank You For Choosing Nabors Completion and Production Services CO!!!
API# 05-123-35673-0000
Wireline Zero @ 24' KB
Directions: 68 & 69, E 1.25MI, N.75, E.75, N INTO
(North Well of 4 Well Pad)

| | |
|---|---|
| Database File: | cblwells ranch ae18-69-1hn.db |
| Dataset Pathname: | pass3 |
| Presentation Format: | noblehozo |
| Dataset Creation: | Thu Dec 27 07:59:59 2012 by Log SCH 120430 |
| Charted by: | Depth in Feet scaled 1:240 |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 95 | CCL | -5 | 0 | Amplified Amplitude (mV) | 30 | 200 | Variable Density | 1200 |
| 30 | Gamma Ray (GAPI) | 130 | 0 | Amplitude (mV) | 100 | | | |
| 340 | TT3 (usec) | 240 | | | | | | |

| | |
|---|---|
| Database File: | cblwells ranch ae18-69-1hn.db |
| Dataset Pathname: | pass2 |
| Presentation Format: | noblehozo |
| Dataset Creation: | Thu Dec 27 07:41:17 2012 by Log SCH 120430 |
| Charted by: | Depth in Feet scaled 1:240 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 95 | CCL | -5 | 0 | Amplified Amplitude (mV) | 30 | 200 | Variable Density | 1200 |
| 0 | Gamma Ray (GAPI) | 150 | 0 | Amplitude (mV) | 100 | | | |
| 340 | TT3 (usec) | 240 | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 95 | CCL | -5 | 0 | Amplified Amplitude (mV) | 30 | 200 | Variable Density | 1200 |
| 0 | Gamma Ray (GAPI) | 150 | 0 | Amplitude (mV) | 100 | | | |
| 340 | TT3 (usec) | 240 | | | | | | |

## Calibration Report

| | |
|---|---|
| Database File: | cblwells ranch ae18-69-1hn.db |
| Dataset Pathname: | pass3 |
| Dataset Creation: | Thu Dec 27 07:59:59 2012 by Log SCH 120430 |

### Gamma Ray Calibration Report

Type / Serial: Probe275dig / 110785

| | Counts/Sec. | Gain | Offset | Jig | Units |
|---|---|---|---|---|---|
| SHOP CALIBRATION | Wed Dec 26 07:51:18 2012 | | | | |
| Background | 0.0 | | | | cps |
| Calibrator | 1.0 | | | | cps |
| | | 0.9000 | | | GAPI/cps |
| PRIMARY VERIFICATION | | | | | |
| Background | 0.0 | | | | cps |
| Calibrator | 0.0 | | | | cps |
| Difference | | | | 0.0 | GAPI |
| BEFORE SURVEY VERIFICATION | | | | | |
| Background | 0.0 | | | | cps |
| Calibrator | 0.0 | | | | cps |
| Difference | | | | 0.0 | GAPI |
| AFTER SURVEY VERIFICATION | | | | | |
| Background | 0.0 | | | | cps |
| Calibrator | 0.0 | | | | cps |
| Difference | | | | 0.0 | GAPI |

### Cement Bond Log Calibration Report

| | | | |
|---|---|---|---|
| Serial Number: | 110802 | | |
| Tool Model: | Probe275Digital | | |
| Performed: | Thu Dec 27 07:22:21 2012 | | |
| Depth: | 257.692 | ft | |
| Casing Diameter: | 7 | in | |
| | 3' Spacing | 5' Spacing | |
| Signal Zero: | 0.9 | 0 | mV |
| Calibrated Amplitude: | 62.1651 | 62.1651 | mV |
| Reading at Signal Zero: | 0.0257813 | 0.0296631 | V |
| Reading in Free Pipe: | 2.4981 | 2.41951 | V |
| Gain: | 24.7805 | 26.0122 | |
| Offset: | 0.261129 | -0.771602 | |