SUPERIOR WELL SERVICES

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

| | |
|---|---|
| Company | Noble Energy INC. |
| Well | DF RANCH 1161-08-42 |
| Field | Grover |
| County | Weld |
| State | Colorado |

Company Noble Energy INC.
Well DF RANCH 1161-08-42
Field Grover
County Weld State Colorado
Location: API # : 051233107400
1980' FSL & 1980' FEL
LAT/LONG: 40.9341 DEG N / 104.22727 DEG W
SEC 8 TWP 11N RGE 61W

Other Services

| | | | | | Elevation |
|---|---|---|---|---|---|
| Permanent Datum | GL | | Elevation | 5271 | K.B. 5286 |
| Log Measured From | KB | 15' | | | D.F. 5271 |
| Drilling Measured From | KB | | | | G.L. 5285 |

| | |
|---|---|
| Date | October 21, 2010 |
| Run Number | One |
| Depth Driller | 7981 |
| Depth Logger | 7902 |
| Bottom Logged Interval | 7901 |
| Top Log Interval | 1885 |
| Casing Size | 5 1/2" |
| Type Fluid | Water |
| Max. Recorded Temp. | 242 deg F |
| Estimated Cement Top | 2618 |
| Time Well Ready | Mast Truck |
| Time Logger On Bottom | PM |
| Unit Number | 3344 |
| Tool Size / ID Number | 2.75 Tool 1 BLK |
| Location | Platteville, CO |
| Recorded By | K. Monaghan |
| Witnessed By | S. Armstrong |

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

| Casing Record | Size | Wgt/Ft | Top | Bottom |
|---|---|---|---|---|
| Surface String | 8 5/8" | 24 lb/ft J-55 | Surface | 1263 |
| Prot. String | | | | |
| Production String | 5 1/2" | 17.0 lb/ft M-80 | Surface | 7964.2 |
| Liner | | | | |

<<< 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 Superior Well Services!!!
API# 05-123-31074-00
Correlated to Schlumberger's
Platform Express / Triple Combo / Gamma Ray
Dated: October 11, 2010
Directions: 122 & 89, N 4.5MI, E 4/10, S INTO

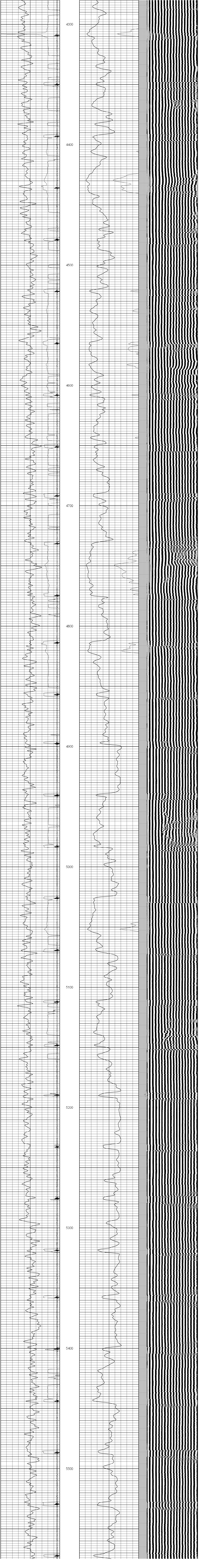
| | |
|---|---|
| Database File: | cbldf ranch 1161-08-42.db |
| Dataset Pathname: | pass4 |
| Presentation Format: | nuexbond |
| Dataset Creation: | Thu Oct 21 14:37:11 2010 by Log Std Casedhole 10081 |
| Charted by: | Depth in Feet scaled 1:240 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 30 | Gamma Ray (GAPI) | 130 | 0 | Amplified Amplitude (mV) | 20 | 200 | VDL | 1200 |
| 18 | CCL | -0.8 | 0 | Amplitude (mV) | 100 | | | |
| 340 | TT3 (usec) | 240 | | | | | | |

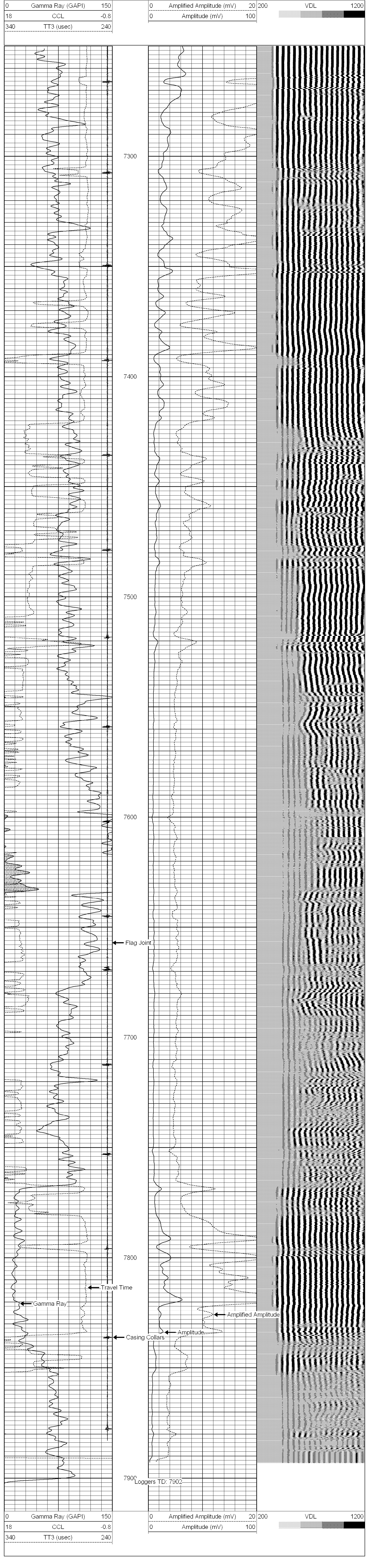
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 30 | Gamma Ray (GAPI) | 130 | 0 | Amplified Amplitude (mV) | 20 | 200 | VDL | 1200 |
| 18 | CCL | -0.8 | 0 | Amplitude (mV) | 100 | | | |
| 340 | TT3 (usec) | 240 | | | | | | |

| | |
|---|---|
| Database File: | cbldf ranch 1161-08-42.db |
| Dataset Pathname: | pass3 |
| Presentation Format: | nuexbond |
| Dataset Creation: | Thu Oct 21 14:10:45 2010 by Log Std Casedhole 10081 |
| Charted by: | Depth in Feet scaled 1:240 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 | 0 | Amplified Amplitude (mV) | 20 | 200 | VDL | 1200 |
| 18 | CCL | -0.8 | 0 | Amplitude (mV) | 100 | | | |
| 340 | TT3 (usec) | 240 | | | | | | |



Database File: cbldf ranch 1161-08-42.db
Dataset Pathname: pass2
Presentation Format: nuexbond
Dataset Creation: Thu Oct 21 14:02:42 2010 by Log Std Casedhole 10081
Charted by: Depth in Feet scaled 1:240



## Calibration Report

Database File: cbldf ranch 1161-08-42.db
Dataset Pathname: pass2
Dataset Creation: Thu Oct 21 14:02:42 2010 by Log Std Casedhole 10081

### Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | 234GR-328 | |
| Tool Model: | TekcoGR | |
| Performed: | Thu Aug 02 12:04:45 2007 | |
| Calibrator Value: | 1.0 | GAPI |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 0.8000 | GAPI/cps |

### Segmented Cement Bond Log Calibration Report

| | | |
|---|---|---|
| Serial Number: | 234B35C-8013 | |
| Tool Model: | TEKCO | |
| Calibration Casing Diameter: | 5.500 | in |
| Calibration Depth: | 302.100 | ft |

Master Calibration, performed Thu Oct 21 13:37:07 2010:

| | Raw (v) | | Calibrated (mv) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | -0.014 | 2.494 | 1.100 | 71.921 | 28.242 | 1.496 |
| CAL | 0.007 | 2.500 | | | | |
| 5' | -0.005 | 2.500 | 1.100 | 71.921 | 28.272 | 1.241 |
| SUM | | | | | | |
| S1 | | | | | | |
| S2 | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| S5 | | | | | | |
| S6 | | | | | | |
| S7 | | | | | | |
| S8 | | | | | | |

Internal Reference Calibration, performed Thu Oct 21 13:33:40 2010:

| | Raw (v) | | Calibrated (v) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | 0.007 | 2.500 | 1.000 | 0.000 |

Air Zero Calibration, performed Thu Oct 21 13:31:36 2010:

| | Raw (v) | Calibrated (v) | Results |
|---|---|---|---|
| | Zero | Zero | Offset |
| 3' | 0.000 | 0.000 | 0.000 |
| 5' | 0.000 | 0.000 | 0.000 |
| SUM | | | |
| S1 | | | |
| S2 | | | |
| S3 | | | |
| S4 | | | |
| S5 | | | |
| S6 | | | |
| S7 | | | |
| S8 | | | |