J-W WIRELINE COMPANY

# CEMENT BOND
# GAMMA RAY
# COLLAR CORRELATION LOG

| | |
|---|---|
| Company | NOBLE ENERGY INC. |
| Well | GABEL USX AB 21-14 |
| Field | WATTENBERG |
| County | WELD |
| State | COLORADO |

Company NOBLE ENERGY INC.
Well GABEL USX AB 21-14
Field WATTENBERG
County WELD State COLORADO
Location: API #: 05-123-32501-00
641' FSL & 1913' FWL
SE SW
SEC. 21 TWP. 7N RGE. 64W
SEC TWP RGE
Other Services
NONE

Permanent Datum GROUND LEVEL Elevation 4880
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 4894
D.F. 4893
G.L. 4880

| | |
|---|---|
| Date | 14-FEBUARY-2011 |
| Run Number | ONE |
| Depth Driller | 7342 |
| Depth Logger | 7231 |
| Bottom Logged Interval | 7224 |
| Top Log Interval | 2750 |
| Open Hole Size | 7 7/8 |
| Type Fluid | WATER |
| Density / Viscosity | -- |
| Max. Recorded Temp. | 235 |
| Estimated Cement Top | 2940 |
| Time Well Ready | -- |
| Time Logger on Bottom | -- |
| Equipment Number | 2405/YELLOW |
| Location | BRIGHTON |
| Recorded By | HAYES |
| Witnessed By | MR. MITCH TRIMBLE |

Borehole Record

| Run Number | Bit | From | To |
|---|---|---|---|
| | | | |

Tubing Record

| Size | Weight | From | To |
|---|---|---|---|
| | | | |

| Casing Record | Size | Wgt/Ft | Top | Bottom |
|---|---|---|---|---|
| Surface String | 8 5/8 | 24 # | SURFACE | 773 |
| Prot. String | | | | |
| Production String | 4.5 | 11.6# | SURFACE | 7320 |
| Liner | | | | |

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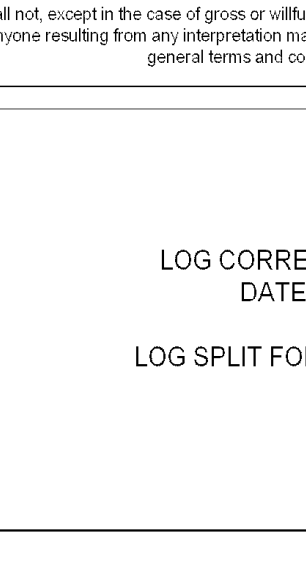
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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

LOG CORRELATED TO CD, CN, ML LOG
DATED 08-FEBUARY-2011

LOG SPLIT FOR CORRELATION PURPOSES



| Sensor | Offset (ft) | Description | Len (ft) | OD (in) | Wt (lb) |
|---|---|---|---|---|---|
| | | CENT-A (1) | 3.00 | 1.69 | 10.00 |
| CCL | 13.25 | CCL-GR_1_3/8 (001)<br>1 3/8 titan ccl | 1.00 | 1.38 | 11.00 |
| GR | 11.49 | GR-s_t001 (t001) | 2.52 | 1.69 | 30.00 |
| WVF5 | 7.34 | CBL-3_5 (001) | 7.23 | 2.44 | 127.00 |
| WVF3 | 6.34 | | | | |
| | | CENT-B (2) | 3.00 | 1.69 | 10.00 |

Dataset: gabel usx ab 21-14.db: field/well/run1/pass2
Total Length: 16.75 ft
Total Weight: 188.00 lb
O.D. 2.44 in

Database File: gabel usx ab 21-14.db
Dataset Pathname: pass2
Presentation Format: cblx
Dataset Creation: Mon Feb 14 12:53:56 2011 by Log Std Casedhole 08121
Charted by: Depth in Feet scaled 1:240

| | | | | | |
|---|---|---|---|---|---|
| 30 | GAMMA RAY (GAPI) | 130 | 0 | AMPLITUDE (mV) | 100 |
| 19 | CCL | -0.75 | 0 | AMPLIFIED AMPLITUDE (mV) | 30 |
| 300 | TT3 (usec) | 200 | | | |

200 Variable Density 1200

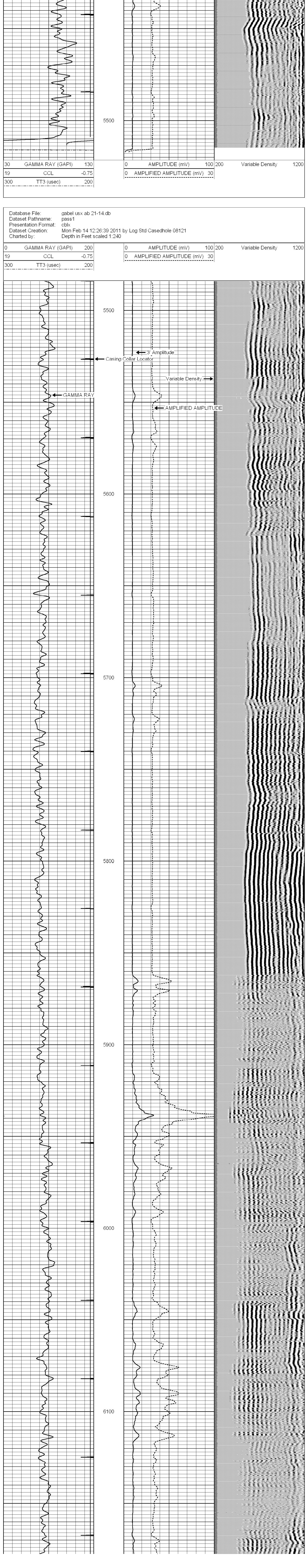
| | | | | | |
|---|---|---|---|---|---|
| 30 | GAMMA RAY (GAPI) | 130 | 0 | AMPLITUDE (mV) | 100 |
| 19 | CCL | -0.75 | 0 | AMPLIFIED AMPLITUDE (mV) | 30 |
| 300 | TT3 (usec) | 200 | | | |

200 Variable Density 1200

Database File: gabel usx ab 21-14.db
Dataset Pathname: pass1
Presentation Format: cblx
Dataset Creation: Mon Feb 14 12:26:39 2011 by Log Std Casedhole 08121
Charted by: Depth in Feet scaled 1:240

| | | | | | |
|---|---|---|---|---|---|
| 0 | GAMMA RAY (GAPI) | 200 | 0 | AMPLITUDE (mV) | 100 |
| 19 | CCL | -0.75 | 0 | AMPLIFIED AMPLITUDE (mV) | 30 |
| 300 | TT3 (usec) | 200 | | | |

200 Variable Density 1200



## Calibration Report

Database File: gabel usx ab 21-14.db
Dataset Pathname: pass2
Dataset Creation: Mon Feb 14 12:53:56 2011 by Log Std Casedhole 08121

### Cement Bond Log Calibration Report

Serial Number: 001
Tool Model: 3_5
Performed: Mon Feb 14 12:11:23 2011

Depth: 1394.36 ft
Casing Diameter: 4.5 in

| | 3' Spacing | 5' Spacing | |
|---|---|---|---|
| Signal Zero: | 3 | 3 | mV |
| Calibrated Amplitude: | 81.1961 | 81.1961 | mV |
| Reading at Signal Zero: | 0.04 | 0 | V |
| Reading in Free Pipe: | 2.49351 | 2.05139 | V |
| Gain: | 31.8711 | 38.1186 | |
| Offset: | 1.72516 | 3 | |

### Gamma Ray Calibration Report

Serial Number: t001
Tool Model: s_t001
Performed: Sun Jun 13 13:33:21 1993

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps