NABORS COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY / CCL
CEMENT BOND / VDL

Company: NOBLE ENERGY, INC.
Well: ALM 13-11
Field: WATTENBERG
County: WELD
State: COLORADO

Company: NOBLE ENERGY, INC
Field: WATTENBERG
Location: 34°4' 59.12339S 104°10'12.33N
County: WELD
State: COLORADO

Permanent Datum: GL
Log Measured From: KB 11 Ft. Above Permanent Datum
Drilling Measured From: KB

Elevation: GL 4771 ft, KB 4782 ft, DF ft

Date: 05-07-2014
Run Number: ONE
Depth Driller: 7010 ft
Depth Logger: 7010 ft
Bottom Logged Interval: 6990 ft
Top Logged Interval: 6500 ft
Casing Driller: 4.5 @ 7010 ft
Casing Logger: 7010 ft
Bit Size: 7.875 in
Type Fluid in Hole: WBM
Density: 9.2 lb/gal
Viscosity: 40 s
PH: 9.5
Fluid Loss: 6.4 cc
Source of Sample: CIRCULATED
Rm @ Measured Temp: 0.1 @ 70 °F
Rmf @ Measured Temp: 0.08 @ 70 °F
Rmc @ Measured Temp: 0.12 @ 70 °F
Source of Rmf and Rmc: CALC
Rm @ BHT: 0.05 @ 180 °F
Time Since Circulation: 4 hrs
Time on Bottom: 05-07-2014 13:30
Max Recorded Temp: 180 °F
Equipment Number: 11332
Location: GREELEY
Recorded By: A.KELLY/B.BOSWELL
Witnessed By: CHRIS MICHAEL

Run Number: ONE
Depth Driller: 7010 ft
Depth Logger: 7010 ft
Bottom Logged Interval: 6990 ft
Top Logged Interval: 6500 ft
Casing Driller: 4.5 @ 7010 ft
Casing Logger: 7010 ft
Bit Size: 7.875 in
Type Fluid in Hole: WBM
Density: 9.2 lb/gal
Viscosity: 40 s
PH: 9.5
Fluid Loss: 6.4 cc
Source of Sample: CIRCULATED
Rm @ Measured Temp: 0.1 @ 70 °F
Rmf @ Measured Temp: 0.08 @ 70 °F
Rmc @ Measured Temp: 0.12 @ 70 °F
Source of Rmf and Rmc: CALC
Rm @ BHT: 0.05 @ 180 °F
Time Since Circulation: 4 hrs
Time on Bottom: 05-07-2014 13:30
Max Recorded Temp: 180 °F
Equipment Number: 11332
Location: GREELEY
Recorded By: A.KELLY/B.BOSWELL
Witnessed By: CHRIS MICHAEL

Top Log Interval: 6500 ft
Bottom Log Interval: 6990 ft
Open Hole Size: 7.875 in
Table Type: CASING
Size: 4.5 in
Weight: 11.6 lb/ft
Grade: P-110
Type: CASING
Bottom: 7010 ft

Top Log Interval: 6500 ft
Bottom Log Interval: 6990 ft
Open Hole Size: 7.875 in
Table Type: CASING
Size: 4.5 in
Weight: 11.6 lb/ft
Grade: P-110
Type: CASING
Bottom: 7010 ft

*** Full Data ***

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 USING
NABORS COMLETION AND PRODUCTION SERVICES CO.
NOTE: LOG NOT CORROLATED

Calibration Report

Database File: c:\slam13-11.db
Dataset Pathname: pass3
Dataset Creation: Fri Dec 05 09:07:50 2014 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe2/75dg / 101010

Wed Feb 27 07:57:48 2013

SHOP CALIBRATION

	Counts/Sec	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.6500			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

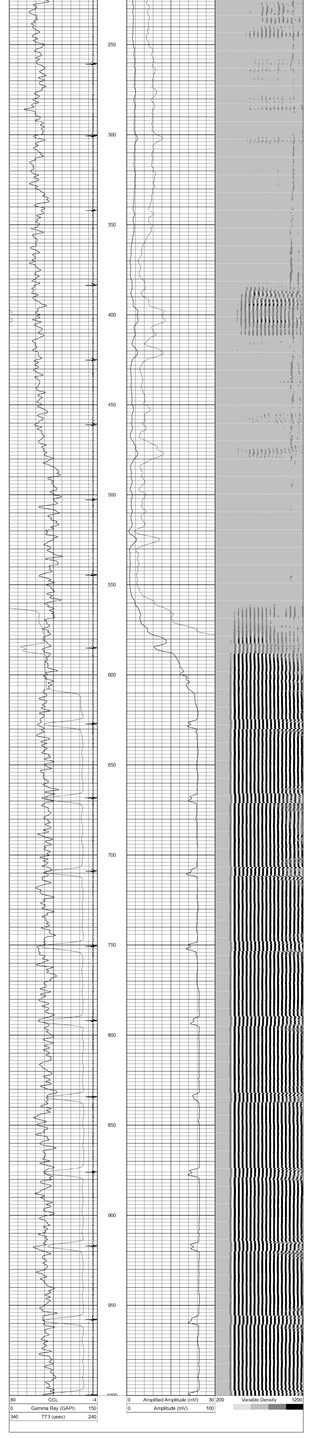
Background	0.0			cps
Calibrator	0.0			cps
Difference			0.0	GAPI

Cement Bond Log Calibration Report

Serial Number: 110802
Tool Model: Probe2/75Digital
Performed: Fri Dec 05 09:06:57 2014

Depth: 949.633 ft
Casing Diameter: 4.5 in

3' Spacing 5' Spacing

Signal Zero:	0.9	0 mV
Calibrated Amplitude:	81.1961	81.1961 mV
Reading at Signal Zero:	0.0157939	0.0136963 V
Reading in Free Pipe:	2.45569	0.937695 V
Gain:	33.9827	67.6747
Offset:	0.446418	-1.20356

Database File: c:\slam13-11.db
Dataset Pathname: pass3
Presentation Format: noble wrr
Dataset Creation: Fri Dec 05 09:07:50 2014 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240