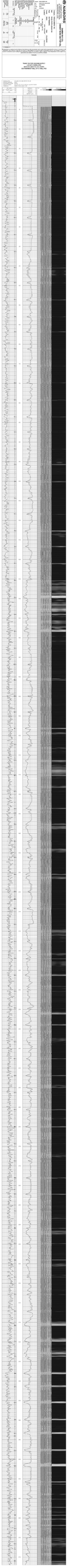

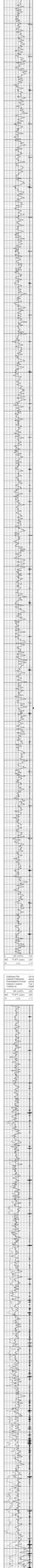

NABORS
COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY CCL CEMENT BOND SECTOR VDL

Company NOBLE ENERGY INC.
Well ROHN STATE LD09-68-1HN
Field WATTENBERG
County WELD
State COLORADO

Company	NOBLE ENERGY INC.		
Well	ROHN STATE LD09-68-1HN		
Field	WATTENBERG		
County	WELD	State	COLORADO
Location:	API #: 0512337547 BHL: 990' FNL & 660' FWL NE/NE		Other Services
	SEC 9 TWP 9N RGE 58W		
Permanent Datum	GL	Elevation 4739	Elevation K.B. 4769 D.F. G.L. 4739
Log Measured From	KB		
Drilling Measured From	KB		

Date	NOVEMBER 5, 2013
Run Number	ONE
Depth Driller	9435
Depth Logger	5780
Bottom Logged Interval	5780
Top Log Interval	SURFACE
Open Hole Size	8-3/4
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	211°F
Estimated Cement Top	930
Time Well Ready	PORTABLE MAST
Time Logger on Bottom	2-3/4 PROBE 101020/785
Equipment Number	4838
Location	45
Recorded By	GREG NOLAN
Witnessed By	BILL MANSFIELD

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9-5/8	36# J-55	30	1248
Prot. String				
Production String	7	26# P-110 IC	30	6108
Liner	4-1/2	11.6# P-110 IC	5967	9425

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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

THANK YOU FOR CHOOSING NCPS!!!!
LOG NOT CORRELATED
WCR 127 & WCR 110, S1.5, W INTO
SOUTHERNMOST WELL OF A 3 WELL PAD

Database File: cbl noble rohn state ld09-68-1hn.db
Dataset Pathname: pass5
Presentation Format: sector2
Dataset Creation: Tue Nov 05 11:51:21 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Database File: cbl noble rohn state ld09-68-1hn.db
Dataset Pathname: pass4
Presentation Format: sector2
Dataset Creation: Tue Nov 05 11:42:33 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: cbl noble rohn state ld09-68-1hn.db
Dataset Pathname: pass2
Dataset Creation: Tue Nov 05 11:41:31 2013 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 110785

SHOP CALIBRATION Wed Oct 30 10:18:18 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.4500			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

Segmented Cement Bond Log Calibration Report

Serial Number: 101020
Tool Model: Probe

Calibration Casing Diameter: 7.000 in
Calibration Depth: 558.425 ft

Master Calibration, performed Tue Nov 05 11:27:47 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	1.010	1.500	62.165	60.492	1.042
CAL	0.008	1.642				
5'	0.008	1.041	1.500	62.165	58.723	1.057
SUM						
S1	0.007	1.144	0.000	62.165	54.690	-0.407
S2	0.008	1.077	0.000	62.165	58.136	-0.441
S3	0.007	1.002	0.000	62.165	62.525	-0.466
S4	0.007	0.916	0.000	62.165	68.385	-0.499
S5	0.007	0.852	0.000	62.165	73.599	-0.530
S6	0.008	0.884	0.000	62.165	70.965	-0.591
S7	0.008	1.034	0.000	62.165	60.561	-0.472
S8	0.007	1.162	0.000	62.165	53.849	-0.401

Internal Reference Calibration, performed Fri Jan 13 14:30:16 2012:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.008	1.642	1.000	0.000

Air Zero Calibration, performed Tue Oct 01 06:41:46 2013:

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