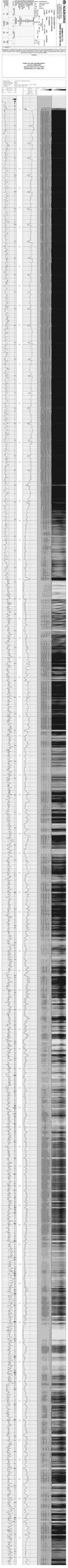

NABORS
COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY CCL CEMENT BOND SECTOR VDL

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

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

Location: API #: 0512337545
BHL: 660' FNL & 660' FWL
NE/NE
SEC 9 TWP 9N RGE 58W

Other Services

Permanent Datum	GL	Elevation	4740	Elevation K.B. 4770 D.F. G.L. 4740
Log Measured From	KB			
Drilling Measured From	KB			

Date	NOVEMBER 5, 2013
Run Number	ONE
Depth Driller	9716
Depth Logger	5890
Bottom Logged Interval	5890
Top Log Interval	SURFACE
Open Hole Size	8-3/4
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	214°F
Estimated Cement Top	1000
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	1244
Prot. String	7	26# P-110 IC	30.1	6023
Production String				
Liner	4-1/2	11.6# HCP-110	6007	9701

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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
CENTER WELL OF A 3 WELL PAD

Database File:	cbl noble rohn state ld09-68hn.db
Dataset Pathname:	pass3
Presentation Format:	sector2
Dataset Creation:	Tue Nov 05 13:06:20 2013 by Log SCH 120430
Charted by:	Depth in Feet scaled 1:240

Database File: cbl noble rohn state ld09-68hn.db
Dataset Pathname: pass2
Presentation Format: sector2
Dataset Creation: Tue Nov 05 12:57:54 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: cbl noble rohn state ld09-68hn.db
Dataset Pathname: pass2
Dataset Creation: Tue Nov 05 12:57:54 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:	675.708	ft

Master Calibration, performed Tue Nov 05 12:43:43 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	1.020	1.500	62.165	59.937	1.053
CAL	0.008	1.456				
5'	0.007	1.157	1.500	62.165	52.745	1.123
SUM						
S1	0.007	1.162	0.000	62.165	53.820	-0.390
S2	0.007	1.119	0.000	62.165	55.922	-0.404
S3	0.008	1.035	0.000	62.165	60.565	-0.515
S4	0.008	0.929	0.000	62.165	67.465	-0.506
S5	0.008	0.851	0.000	62.165	73.705	-0.555
S6	0.007	0.874	0.000	62.165	71.706	-0.528
S7	0.007	1.021	0.000	62.165	61.338	-0.459
S8	0.007	1.156	0.000	62.165	54.120	-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	1.456	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