NABORS
COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY CCL CEMENT BOND VDL

Company NOBLE ENERGY INC.
Well LOEFFLER K01-65HN
Field WATTENBERG
County WELD
State COLORADO

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County WELD State COLORADO
Location: API #: 0512337739
BHL: 2554' FNL & 535' FEL
SW/NW
SEC 1 TWP 4N RGE 66W
Other Services

Permanent Datum GL Elevation 4666
Log Measured From KB
Drilling Measured From KB
Elevation
K.B. 4682
D.F.
G.L. 4666

Date	OCTOBER 31, 2014
Run Number	ONE
Depth Driller	11544
Depth Logger	7296
Bottom Logged Interval	7296
Top Log Interval	SURFACE
Open Hole Size	8-3/4
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	263°F
Estimated Cement Top	
Time Well Ready	BAYOU RIG
Time Logger on Bottom	2-3/4 PROBE
Equipment Number	4838
Location	45
Recorded By	GREG NOLAN
Witnessed By	QUINTON DOBBINS

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	16	635.5
Prot. String				
Production String	7	26# P-110 IC	16	7404
Liner	4-1/2	11.6# P-110	7330.6	11534

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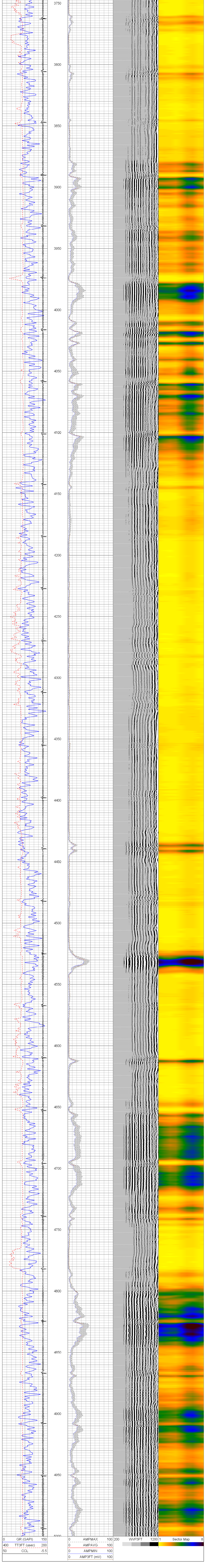
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 CORRELATED TO NCPS GAMMA RAY CCL,
CEMENT BOND SECTOR VDL LOG DATED NOVEMBER 26, 2013
WCR 394 & WCR 35, S.3, E INTO
SECOND WELL FROM THE WEST OF A 5 WELL PAD

Database File:	cbl noble loeffler k01-65hn second log.db
Dataset Pathname:	pass4
Presentation Format:	sector2
Dataset Creation:	Fri Oct 31 12:09:06 2014 by Log SCH 120430
Charted by:	Depth in Feet scaled 1:240



Database File: cbl noble loeffler k01-65hn second log.db
Dataset Pathname: pass3
Presentation Format: sector2
Dataset Creation: Fri Oct 31 11:48:40 2014 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: cbl noble loeffler k01-65hn second log.db
Dataset Pathname: pass3
Dataset Creation: Fri Oct 31 11:48:40 2014 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 101010

SHOP CALIBRATION Tue Feb 25 11:27:35 2014

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.4000			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: 386.817 ft

Master Calibration, performed Fri Oct 31 11:31:43 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	2.483	1.500	62.165	24.506	1.318
CAL	0.007	2.500				
5'	0.007	2.500	1.500	62.165	24.338	1.321
SUM						
S1	0.007	2.500	0.000	62.165	24.939	-0.183
S2	0.007	2.500	0.000	62.165	24.940	-0.185
S3	0.007	2.496	0.000	62.165	24.975	-0.181
S4	0.007	2.404	0.000	62.165	25.940	-0.190
S5	0.007	2.282	0.000	62.165	27.330	-0.201
S6	0.007	2.285	0.000	62.165	27.288	-0.200
S7	0.007	2.446	0.000	62.165	25.494	-0.189
S8	0.007	2.500	0.000	62.165	24.941	-0.184

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	0.007	2.500	1.000	0.000

Air Zero Calibration, performed Fri Oct 31 11:26:55 2014:

	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