NABORS
COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY CCL CEMENT BOND SECTOR VDL

Company	NOBLE ENERGY INC.
Well	LOEFFLER K01-69-1HN
Field	WATTENBERG
County	WELD
State	COLORADO

Company NOBLE ENERGY INC.
Well LOEFFLER K01-69-1HN
Field WATTENBERG
County WELD State COLORADO
Location: API #: 0512337735
BHL: 330' 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	NOVEMBER 26, 2013
Run Number	ONE
Depth Driller	11700
Depth Logger	7381
Bottom Logged Interval	7381
Top Log Interval	SURFACE
Open Hole Size	8-3/4
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	266°F
Estimated Cement Top	515
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

Run Number	Bit	From	To

Tubing Record

Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9-5/8	36# J-55	16	634
Prot. String				
Production String	7	26# P-110-IC	16	7571
Liner	4-1/2	11.6# P-110-IC	7490.9	11684

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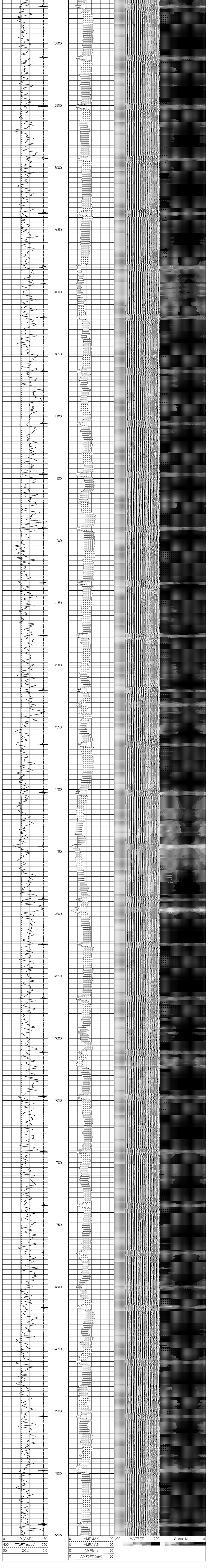
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 394 & WCR 35, S.3, E INTO
WESTERNMOST WELL OF A 5 WELL PAD

Database File:	cbl noble loeffler k01-69-1hn.db
Dataset Pathname:	pass3
Presentation Format:	sector2
Dataset Creation:	Tue Nov 26 14:48:50 2013 by Log SCH 120430
Charted by:	Depth in Feet scaled 1:240



Database File:	cbl noble loeffler k01-69-1hn.db
Dataset Pathname:	pass2
Presentation Format:	sector2
Dataset Creation:	Tue Nov 26 14:24:35 2013 by Log SCH 120430
Charted by:	Depth in Feet scaled 1:240

Calibration Report

Database File:	cbl noble loeffler k01-69-1hn.db
Dataset Pathname:	pass2
Dataset Creation:	Tue Nov 26 14:24:35 2013 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 110785

SHOP CALIBRATION	Fri Nov 08 09:38:30 2013				
	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.4400			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:	354.383	ft

Master Calibration, performed Tue Nov 26 14:05:29 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	1.032	1.500	62.165	59.191	1.066
CAL	0.007	1.353				
5'	0.008	1.178	1.500	62.165	51.823	1.109
SUM						
S1	0.007	1.138	0.000	62.165	55.001	-0.403
S2	0.008	1.139	0.000	62.165	54.949	-0.413
S3	0.007	1.091	0.000	62.165	57.355	-0.424
S4	0.007	0.987	0.000	62.165	63.467	-0.458
S5	0.007	0.884	0.000	62.165	70.881	-0.472
S6	0.007	0.872	0.000	62.165	71.901	-0.524
S7	0.007	0.983	0.000	62.165	63.726	-0.474
S8	0.007	1.105	0.000	62.165	56.617	-0.417

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	1.353	1.000	0.000

Air Zero Calibration, performed Tue Nov 26 14:01:15 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