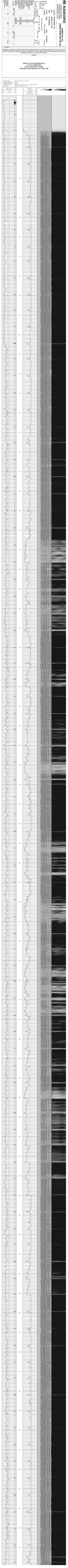

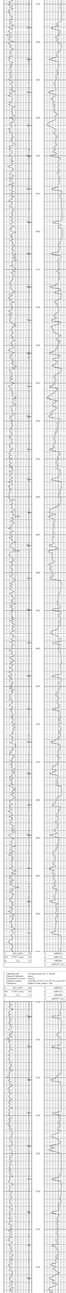

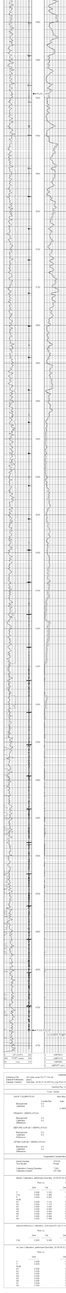

NABORS
COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY CCL CEMENT BOND SECTOR VDL

Company NOBLE ENERGY INC.
Well SAUER F33-77-1HN
Field WATTENBERG
County WELD State COLORADO

Location: API #: 0512335634
BHL: 635' FNL & 1650' FWL
SEC 33 TWP 5N RGE 65W

Other Services

Permanent Datum GL Elevation 4670
Log Measured From KB
Drilling Measured From KB

Elevation
K.B. 4683
D.F.
G.L. 4670

Company NOBLE ENERGY INC.
Well SAUER F33-77-1HN
Field WATTENBERG
County WELD
State COLORADO

Date	MAY 29, 2013
Run Number	ONE
Depth Driller	10976
Depth Logger	6736
Bottom Logged Interval	6736
Top Log Interval	SURFACE
Open Hole Size	8-3/4
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	223°F
Estimated Cement Top	860
Time Well Ready	PORTABLE MAST
Time Logger on Bottom	2-3/4 PROBE 101020
Equipment Number	4838
Location	45
Recorded By	GREG NOLAN
Witnessed By	BRIAN MURRAY

Borehole Record

Run Number	Bit	From	To

Tubing Record

Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String				
Prot. String				
Production String	7			
Liner				

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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 41 & WCR 50, E.1, N INTO
THIRD WELL FROM THE EAST OF A 7 WELL PAD

Database File: cbl noble sauer f33-77-1hn.db
Dataset Pathname: pass3
Presentation Format: sector2
Dataset Creation: Wed May 29 09:35:41 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Database File: cbl noble sauer f33-77-1hn.db
Dataset Pathname: pass2
Presentation Format: sector2
Dataset Creation: Wed May 29 09:21:14 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: cbl noble sauer f33-77-1hn.db
Dataset Pathname: pass2
Dataset Creation: Wed May 29 09:21:14 2013 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 110785

SHOP CALIBRATION Mon May 13 11:26:24 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:	257.908	ft

Master Calibration, performed Wed May 29 08:59:34 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	1.010	1.500	62.165	60.528	1.026
CAL	0.008	1.400				
5'	0.008	0.963	1.500	62.165	63.476	1.008
SUM						
S1	0.008	1.132	0.000	62.165	55.280	-0.420
S2	0.008	1.115	0.000	62.165	56.170	-0.438
S3	0.008	1.047	0.000	62.165	59.809	-0.458
S4	0.008	0.955	0.000	62.165	65.639	-0.502
S5	0.008	0.868	0.000	62.165	72.240	-0.549
S6	0.008	0.863	0.000	62.165	72.705	-0.546
S7	0.008	0.966	0.000	62.165	64.883	-0.507
S8	0.008	1.089	0.000	62.165	57.493	-0.443

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	1.400	1.000	0.000

Air Zero Calibration, performed Wed May 29 08:59:52 2013:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.008	0.000	0.000
5'	0.008	0.000	-0.000
SUM			
S1	0.008	0.000	0.000
S2	0.008	0.000	-0.000
S3	0.008	0.000	-0.000
S4	0.008	0.000	-0.000
S5	0.008	0.000	-0.000
S6	0.008	0.000	-0.000
S7	0.008	0.000	0.000
S8	0.008	0.000	0.000