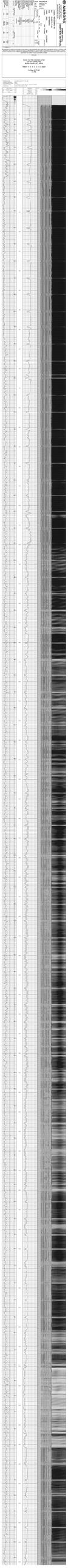

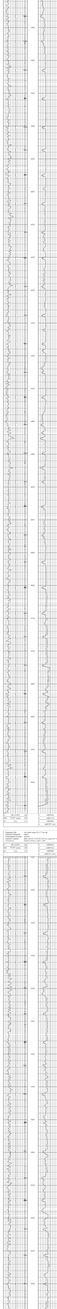

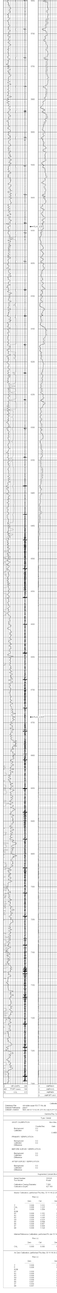

Company	NOBLE ENERGY INC.
Well	SAUER F33-77-1HC
Field	WATTENBERG
County	WELD
State	COLORADO

NABORS COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY CCL CEMENT BOND SECTOR VDL

Company	NOBLE ENERGY INC.		
Well	SAUER F33-77-1HC		
Field	WATTENBERG		
County	WELD	State	COLORADO
Location:	API #: 0512336444		Other Services
	SE/SW		
	SEC 33 TWP 5N RGE 65W		
Permanent Datum	GL	Elevation 4671	Elevation
Log Measured From	KB		K.B. 4684
Drilling Measured From	KB		D.F.
			G.L. 4671

Date	June 3, 2013
Run Number	ONE
Depth Driller	11,241
Depth Logger	7200'
Bottom Logged Interval	7200'-5000'
Top Log Interval	5000'-0'
Open Hole Size	8-3/4
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	225°F
Estimated Cement Top	990
Time Well Ready	PORTABLE MAST
Time Logger on Bottom	2-3/4 PROBE 101020
Equipment Number	4838
Location	45
Recorded By	Jake Meisner
Witnessed By	

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	13	610
Prot. String	7	26# P-110	13	7342
Production String	4-1/2	11.6# P-110	7244.7	11339
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 50 & WCR 41, E.1, N INTO

<WEST> O O O X $ O O <EAST

X = Sauer 33-77-1HC
$ = P/A

Database File:	cbl noble sauer f33-77-1hc.db
Dataset Pathname:	pass2
Presentation Format:	sector2
Dataset Creation:	Mon Jun 03 13:22:45 2013 by Log SCH 120430
Charted by:	Depth in Feet scaled 1:240

Database File: cbl noble sauer f33-77-1hc.db
Dataset Pathname: pass1
Presentation Format: sector2
Dataset Creation: Mon Jun 03 13:02:08 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: cbl noble sauer f33-77-1hc.db
Dataset Pathname: pass1
Dataset Creation: Mon Jun 03 13:02:08 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:	627.183	ft

Master Calibration, performed Thu May 30 11:18:22 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	1.012	1.500	62.165	60.376	1.036
CAL	0.008	1.223				
5'	0.008	1.064	1.500	62.165	57.432	1.061
SUM						
S1	0.008	1.152	0.000	62.165	54.317	-0.414
S2	0.008	1.115	0.000	62.165	56.159	-0.439
S3	0.008	1.036	0.000	62.165	60.449	-0.458
S4	0.008	0.929	0.000	62.165	67.442	-0.515
S5	0.008	0.844	0.000	62.165	74.288	-0.567
S6	0.008	0.857	0.000	62.165	73.198	-0.553
S7	0.008	0.994	0.000	62.165	63.024	-0.482
S8	0.008	1.128	0.000	62.165	55.492	-0.419

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	1.223	1.000	0.000

Air Zero Calibration, performed Thu May 30 11:18:39 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	0.007	0.000	0.000
S7	0.008	0.000	0.000
S8	0.007	0.000	0.000