NABORS
COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY
CEMENT BOND
VARIABLE DENSITY
CCL

Company	NOBLE ENERGY INC.
Well	HSR GARDNER 3-31A
Field	WATTENBERG
County	WELD
State	COLORADO

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Well HSR GARDNER 3-31A
Field WATTENBERG
County WELD State COLORADO

Location: API #: 05-123-15166
NE/NW
SEC 31 TWP 4N RGE 65W

Other Services

Permanent Datum GL Elevation 4826'
Log Measured From KB
Drilling Measured From KB

Elevation
K.B. 4836'
D.F. 4835'
G.L. 4836'

Date	MARCH 14,2014	
Run Number	ONE	
Depth Driller	7354'	
Depth Logger	1000'	
Bottom Logged Interval	1000'	
Top Log Interval	SURFACE	
Casing Size	4.5	
Type Fluid	WATER	
Max. Recorded Temp.		
Estimated Cement Top		
Time Well Ready		
Time Logger On Bottom		
Unit Number	92-3376	
Tool Size / ID Number	1 11/16 TETKO	
Location	WCR38&39,W6/10,NW9/10,EINTO	
Recorded By	ADAM FRANK	
Witnessed By	RYAN BEAM	

Borehole Record			Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

	Size	Wgt/Ft	Top	Bottom
Casing Record				
Surface String				
Prot. String				
Production String				
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 USING NABORS
LOG ANNULAR FILL 24 HOURS AFTER

Database File:	nblcblhsrgardner3-31a.db
Dataset Pathname:	pass2.1
Presentation Format:	nuexcbl
Dataset Creation:	Thu Mar 27 10:59:00 2014 by Calc 7.0 B1
Charted by:	Depth in Feet scaled 1:240

30	CCL	-3.3
0	Gamma Ray (GAPI)	150
400	TT3 (usec)	0
0	Amplified Amplitude (mV)	30
0	Amplitude (mV)	100
200	Variable Density	1200

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Calibration Report

Database File: nblcblhsrgardner3-31a.db
Dataset Pathname: pass2.1
Dataset Creation: Thu Mar 27 10:59:00 2014 by Calc 7.0 B1

Gamma Ray Calibration Report

Serial Number:	tit/temp	
Tool Model:	temp/tit	
Performed:	Wed Oct 09 08:50:28 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.7000	GAPI/cps

Cement Bond Log Calibration Report

Serial Number:	TEKCO-01		
Tool Model:	TEKCO-1x2		
Performed:	Thu Mar 27 08:47:04 2014		
Depth:	1148.04	ft	
Casing Diameter:	4.5	in	
	3' Spacing	5' Spacing	
Signal Zero:	1.5	0	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	-0.00583496	-0.00549316	V
Reading in Free Pipe:	1.1654	2.49878	V
Gain:	68.0445	32.423	
Offset:	1.89704	0.178105	