SUPERIOR WELL SERVICES

CEMENT BOND LOG
GAMMA RAY C C L
V D L

Company	Noble Energy INC.
Well	DF RANCH 1161-09-32
Field	Grover
County	Weld
State	Colorado

Company Noble Energy INC.
Well DF RANCH 1161-09-32
Field Grover
County Weld State Colorado
Location: API #: 05123310040O
621' FSL & 1925' FEL
SEC 31 TWP 6N RGE 62W
Other Services

		Elevation	
Permanent Datum	GL	Elevation 5268	K.B. 5280
Log Measured From	KB 12'		D.F. 5279
Drilling Measured From	KB		G.L. 5268

Date	May 19, 2010	
Run Number	One	
Depth Driller	7955	
Depth Logger	7883	
Bottom Logged Interval	7882	
Top Log Interval	Surface	
Casing Size	5 1/2"	
Type Fluid	Water	
Density / Viscosity	Not Recorded	
Max. Recorded Temp.	236 deg F	
Estimated Cement Top	168	
Time Well Ready	Mast Truck	
Time Logger on Bottom	AM	
Equipment Number	T5 (3344)	2.75 Tool 1 GRN
Location	Platteville, CO	
Recorded By	K. Monaghan	
Witnessed By	S. Armstrong	

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8"	24 lb/ft J-55	Surface	1059
Prot. String				
Production String	5 1/2"	17 lb/ft M-80	Surface	7941
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 Superior Well Services!!!
API# 05-123-31004-00
Correlated to Halliburton's
Spectral Density / Dual Spaced Neutron / Array Compensated / True Resistivity / Gamma Ray Microlog
Dated: May 11, 2010
Directions: 122 & 89, N 4.5mi, E 1/10, S Into

Database File:	cbldf ranch 1161-09-32.db
Dataset Pathname:	pass5
Presentation Format:	nuexbond
Dataset Creation:	Wed May 19 09:30:11 2010 by Log Std Casedhole 09061
Charted by:	Depth in Feet scaled 1:240

Database File:	cbldf ranch 1161-09-32.db
Dataset Pathname:	pass4
Presentation Format:	nuexbond
Dataset Creation:	Wed May 19 08:40:47 2010 by Log Std Casedhole 09061
Charted by:	Depth in Feet scaled 1:240

30	Gamma Ray (GAPI)	130	0	Amplified Amplitude (mV)	20	200	VDL	1200
20	CCL	-1	0	Amplitude (mV)	100			
340	TT3 (usec)	240						

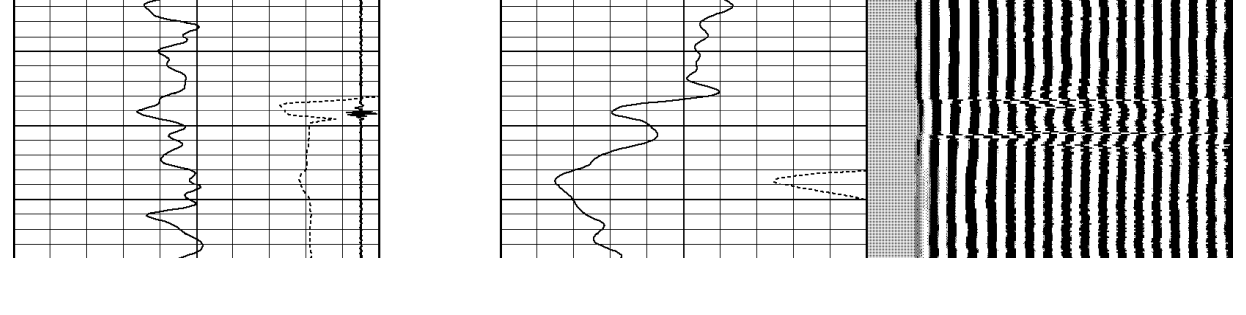
Database File: cbldf ranch 1161-09-32.db
Dataset Pathname: pass3
Presentation Format: nuexbond
Dataset Creation: Wed May 19 08:18:01 2010 by Log Std Casedhole 09061
Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	0	Amplified Amplitude (mV)	20	200	VDL	1200
20	CCL	-1	0	Amplitude (mV)	100			
340	TT3 (usec)	240						

0	Gamma Ray (GAPI)	150	0	Amplified Amplitude (mV)	20	200	VDL	1200
20	CCL	-1	0	Amplitude (mV)	100			
340	TT3 (usec)	240						

Database File: cbldf ranch 1161-09-32.db
Dataset Pathname: pass2
Presentation Format: nuexbond
Dataset Creation: Wed May 19 08:08:53 2010 by Log Std Casedhole 09061
Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	0	Amplified Amplitude (mV)	20	200	VDL	1200
20	CCL	-1	0	Amplitude (mV)	100			
340	TT3 (usec)	240						



Calibration Report

Database File: cbldf ranch 1161-09-32.db
Dataset Pathname: pass1
Dataset Creation: Wed May 19 07:49:12 2010 by Log Std Casedhole 09061

Gamma Ray Calibration Report

Serial Number:	234GR-328	
Tool Model:	TekcoGR	
Performed:	Thu Aug 02 12:04:45 2007	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.8000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	234B35C-8013	
Tool Model:	TEKCO	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	58.150	ft

Master Calibration, performed Wed May 19 07:48:35 2010:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.010	2.500	0.500	71.921	28.456	0.782
CAL	-0.012	2.500				
5'	-0.009	2.468	0.500	71.921	28.837	0.758
SUM						
S1						
S2						
S3						
S4						
S5						
S6						
S7						
S8						

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.012	2.500	1.000	0.000

Air Zero Calibration, performed Wed May 19 07:46:37 2010:

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