Company	Noble Energy INC.
Well	LETTERLY USX AB 23-09P
Field	Wattenberg
County	Weld
State	Colorado

CEMENT BOND LOG
GAMMA RAY C C L
V D L

Company	Noble Energy INC.		
Well	LETTERLY USX AB 23-09P		
Field	Wattenberg		
County	Weld	State	Colorado
Location:	API # : 05123319720 2160' FSL & 480' FEL NE SE		Other Services
	SEC 23 TWP 7N RGE 64W		
Permanent Datum	GL	Elevation 4789	Elevation K.B. 4805 D.F. 4804 G.L. 4789
Log Measured From	KB 16'		
Drilling Measured From	KB		

Date	September 7, 2010
Run Number	One
Depth Driller	7143
Depth Logger	7023
Bottom Logged Interval	7022
Top Log Interval	1190
Casing Size	4 1/2"
Type Fluid	Water
Max. Recorded Temp.	229 deg F
Estimated Cement Top	1382
Time Well Ready	Mast Truck
Time Logger On Bottom	PM
Unit Number	3344
Tool Size / ID Number	2.75 Tool 1 BLK
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	779
Prot. String				
Production String	4 1/2"	11.6 lb/ft M-80	Surface	7102
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# 05-123-31972-00
Correlated to PSI's
Compensated Density / Compensated Neutron / Gamma Ray Microlog
By Matt Gill on September 1, 2010

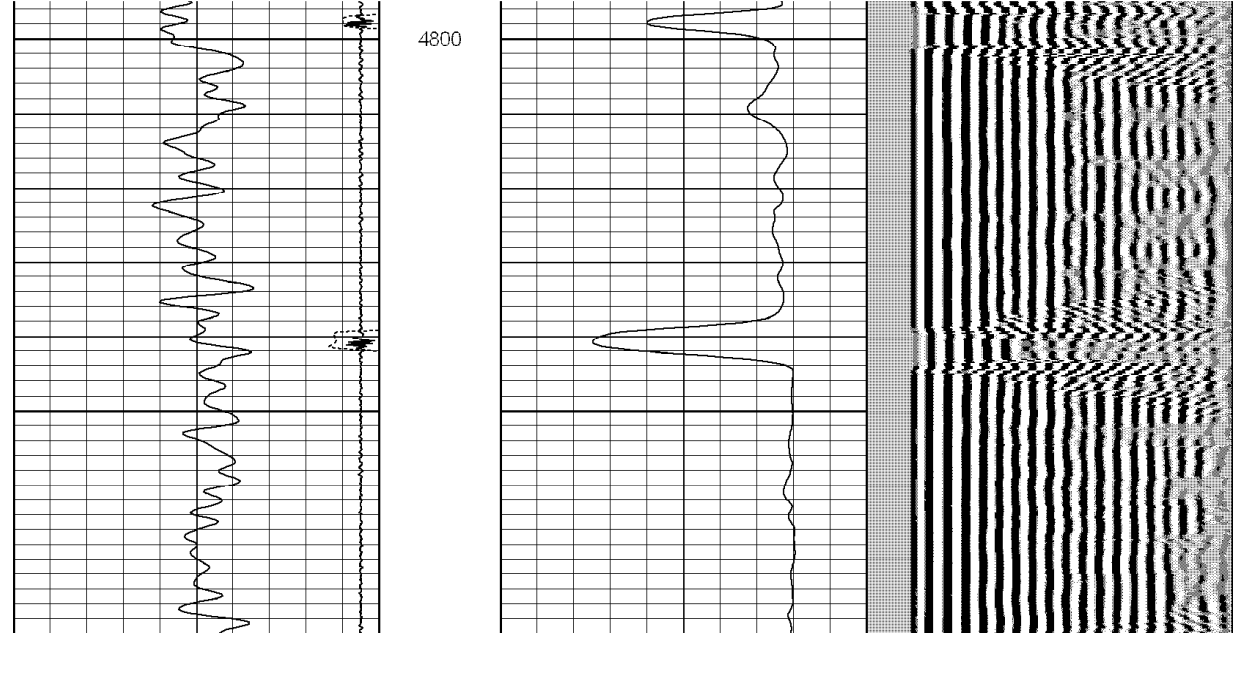
Database File:	cblletterly usx ab 23-09p.db
Dataset Pathname:	pass3
Presentation Format:	nuexbond
Dataset Creation:	Tue Sep 07 12:29:58 2010 by Log Std Casedhole 09061
Charted by:	Depth in Feet scaled 1:240

30	Gamma Ray (GAPI)	130
18	CCL	-0.9
340	TT3 (usec)	240
0	Amplified Amplitude (mV)	20
0	Amplitude (mV)	100
200	VDL	1200

30	Gamma Ray (GAPI)	130
18	CCL	-0.9
340	TT3 (usec)	240
0	Amplified Amplitude (mV)	20
0	Amplitude (mV)	100
200	VDL	1200

Database File:	cblletterly usx ab 23-09p.db
Dataset Pathname:	pass2
Presentation Format:	nuexbond
Dataset Creation:	Tue Sep 07 12:08:36 2010 by Log Std Casedhole 09061
Charted by:	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
18	CCL	-0.9
340	TT3 (usec)	240
0	Amplified Amplitude (mV)	20
0	Amplitude (mV)	100
200	VDL	1200



Calibration Report

Database File: cblletterly usx ab 23-09p.db
Dataset Pathname: pass3
Dataset Creation: Tue Sep 07 12:29:58 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: 4.500 in
Calibration Depth: 115.050 ft

Master Calibration, performed Thu Sep 02 10:18:28 2010:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.017	2.500	1.100	81.196	32.260	0.546
CAL	-0.009	2.500				
5'	-0.005	2.500	1.100	81.196	31.974	1.262
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	-0.009	2.500	1.000	0.000

Air Zero Calibration, performed Thu Sep 02 10:16:08 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			