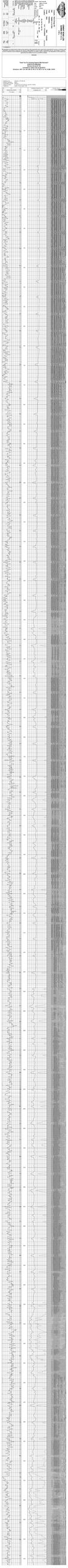

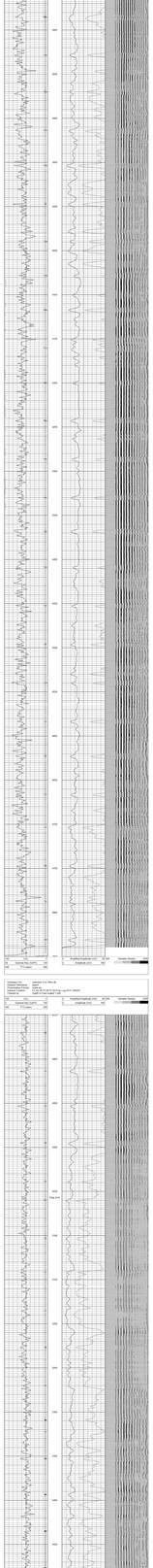

SUPERIOR WELL SERVICES

CEMENT BOND LOG
GAMMA RAY C C L
V D L

Company	Noble Energy INC.
Well	TIMBRO LC12-78HN
Field	Wattenberg
County	Weld
State	Colorado

Company Noble Energy INC.
Well TIMBRO LC12-78HN
Field Wattenberg
County Weld State Colorado

Location: API #: 05123330860000
BHL: 660' FSL & 660' FWL
SEC 12 TWP 9N RGE 59W

Other Services

Permanent Datum GL Elevation 4908
Log Measured From KB 30'
Drilling Measured From KB

Elevation
K.B. 4938
D.F. 4937
G.L. 4908

Date	July 20, 2012	
Run Number	One	
Depth Driller	10,400	
Depth Logger	6292	
Bottom Logged Interval	6291	
Top Log Interval	Surface	
Casing Size	7.0"	
Type Fluid	Water	
Max. Recorded Temp.	216 deg F	
Estimated Cement Top	1342 est.	
Time Well Ready	Crane	
Time Logger On Bottom	AM	
Unit Number	4367	4515
Tool Size / ID Number	2.75 Probe 101010	2.75 Probe 110802
Location	45	
Recorded By	K. Monaghan	
Witnessed By	E. Klem	

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 lb/ft J-55	Surface	752.8
Prot. String				
Production String	7.0"	26 lb/ft P-110	Surface	6421.7
Liner	4 1/2"	11.6 lb/ft P-110	6275.6	10,385

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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# 05-123-33086-0000
Wireline Zero @ 30' KB
Correlated to Tallied Liner top @ 6275.6
Directions: HWY 14 & 390, NW TO 105, N TO 104, E TO 119, N 2MI, E INTO

Database File:	cbltimbro lc12-78hn.db
Dataset Pathname:	pass5
Presentation Format:	noble en
Dataset Creation:	Fri Jul 20 07:45:37 2012 by Log SCH 120430
Charted by:	Depth in Feet scaled 1:240

130 CCL -7
30 Gamma Ray (GAPI) 130
340 TT3 (usec) 240
0 Amplified Amplitude (mV) 30
0 Amplitude (mV) 100
200 Variable Density 1200
Signal Loss, Out of Fluid

Database File: cbltimbro lc12-78hn.db
Dataset Pathname: pass4
Presentation Format: noble en
Dataset Creation: Fri Jul 20 07:29:37 2012 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: cbltimbro lc12-78hn.db
Dataset Pathname: pass5
Dataset Creation: Fri Jul 20 07:45:37 2012 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 101010

SHOP CALIBRATION Fri Jul 20 08:19:37 2012

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.8500			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

Cement Bond Log Calibration Report

Serial Number: 110802
Tool Model: Probe275Digital
Performed: Thu Jul 19 07:00:10 2012

Depth: 460.6 ft
Casing Diameter: 7 in

	3' Spacing	5' Spacing	
Signal Zero:	0.9	0	mV
Calibrated Amplitude:	62.1651	62.1651	mV
Reading at Signal Zero:	0.013623	0.0135254	V
Reading in Free Pipe:	2.49878	2.41499	V
Gain:	24.6524	25.8863	
Offset:	0.564159	-0.350123	