SUPERIOR WELL SERVICES

CEMENT BOND LOG
GAMMA RAY C C L
V D L

Company	Noble Energy INC.
Well	JURGENS PC B16-30D
Field	Wattenberg
County	Weld
State	Colorado

Company Noble Energy INC.
Well JURGENS PC B16-30D
Field Wattenberg
County Weld State Colorado
Location: API #: 05123349740000
SHL: 1250' FSL & 1442' FEL SW SE
BHL: 82' FSL & 53' FEL SE SE
SEC 08 TWP 5N RGE 64W

Other Services

			Elevation
Permanent Datum	GL	Elevation 4590	K.B. 4604
Log Measured From	KB 14'		D.F. 4604
Drilling Measured From	KB		G.L. 4590

Date	March 6, 2012	
Run Number	One	
Depth Driller	7335	
Depth Logger	7258	
Bottom Logged Interval	7257	
Top Log Interval	665	
Casing Size	4 1/2"	
Type Fluid	Water	
Max. Recorded Temp.	242 deg F	
Estimated Cement Top	1910	
Time Well Ready	Crane	
Time Logger On Bottom	AM	
Unit Number	3344	
Tool Size / ID Number	2.75 Probe 101010	2.75 Probe 110802
Location	Platteville, CO	
Recorded By	K. Monaghan	
Witnessed By	J. Brnak	

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	701
Prot. String				
Production String	4 1/2"	11.6 lb/ft M-80	Surface	7327
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

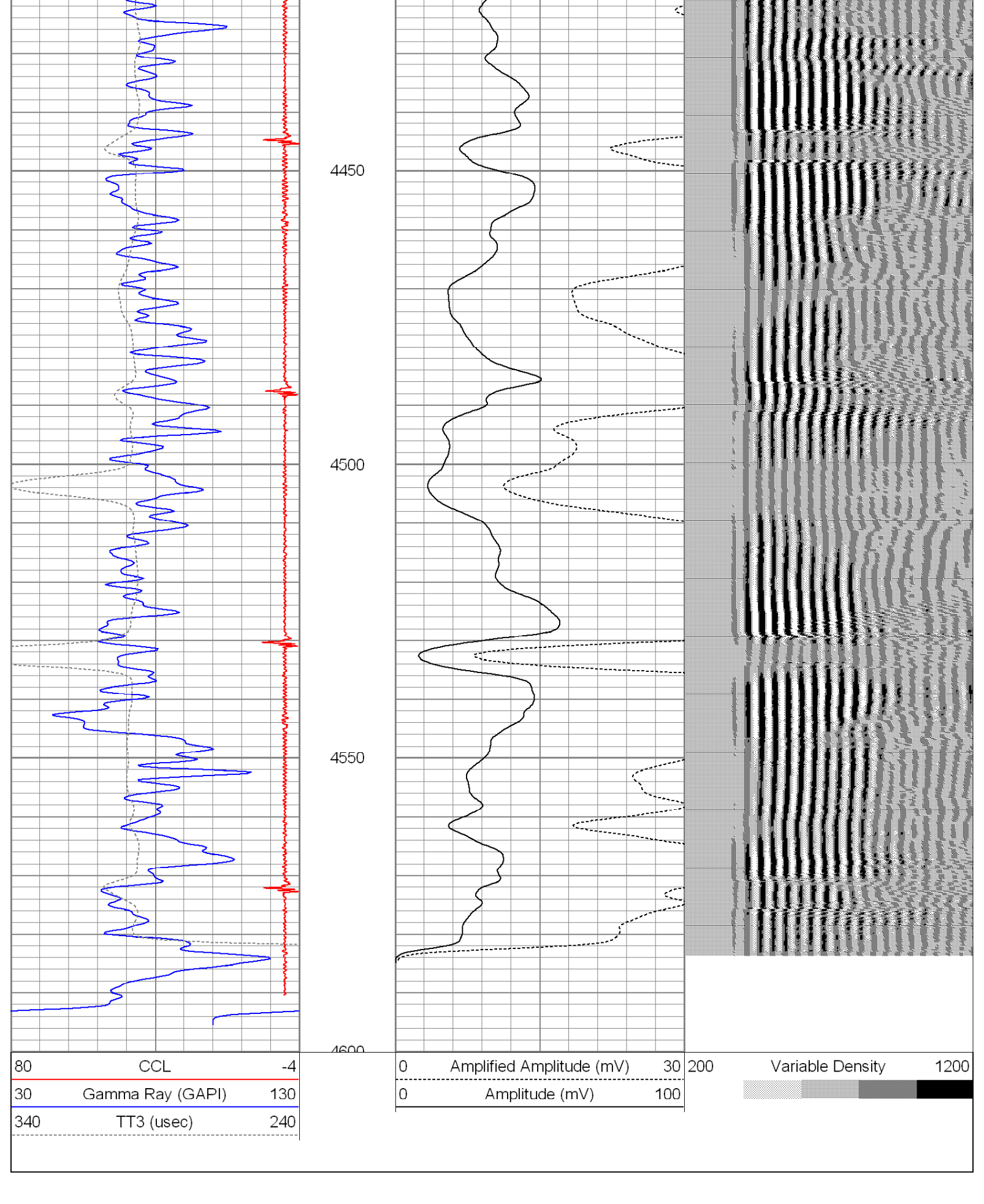
Thank Yu For Choosing Superior Well Services!!!
API# 05-123-34974-0000
Correlated to PSI's
Compenasated Densigty / Compensated Neutron / Microlog
Dated: March 1, 2012
Directions: 58 & 53, N 2/10, W 1/2, N Into
(Southern Most Well of 4 Well Pad)

Database File:	cbljurgens pc b16-30d.db
Dataset Pathname:	pass3
Presentation Format:	noble en
Dataset Creation:	Tue Mar 06 11:32:38 2012 by Log SCH 111116
Charted by:	Depth in Feet scaled 1:240

80	CCL	-4
30	Gamma Ray (GAPI)	130
340	TT3 (usec)	240

0	Amplified Amplitude (mV)	30
0	Amplitude (mV)	100

200	Variable Density	1200



80 CCL -4
30 Gamma Ray (GAPI) 130
340 TT3 (usec) 240

0 Amplified Amplitude (mV) 30
0 Amplitude (mV) 100

200 Variable Density 1200

Database File: cbljurgens pc b16-30d.db
Dataset Pathname: pass2
Presentation Format: noble en
Dataset Creation: Tue Mar 06 11:11:43 2012 by Log SCH 111116
Charted by: Depth in Feet scaled 1:240

80 CCL -4
0 Gamma Ray (GAPI) 150
340 TT3 (usec) 240

0 Amplified Amplitude (mV) 30
0 Amplitude (mV) 100

200 Variable Density 1200

80 CCL -4
0 Gamma Ray (GAPI) 150
340 TT3 (usec) 240

0 Amplified Amplitude (mV) 30
0 Amplitude (mV) 100

200 Variable Density 1200

Calibration Report

Database File: cbljurgens pc b16-30d.db
Dataset Pathname: pass3
Dataset Creation: Tue Mar 06 11:32:38 2012 by Log SCH 111116

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 101010

SHOP CALIBRATION	Mon Mar 05 10:27:20 2012				
	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.6500			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: Tue Mar 06 08:42:01 2012

Depth:	332.425	ft	
Casing Diameter:	4.5	in	
	3' Spacing	5' Spacing	
Signal Zero:	0.7	0	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	0.012915	0.0131836	V
Reading in Free Pipe:	2.497	2.44941	V
Gain:	32.4048	33.3286	
Offset:	0.281491	-0.43939	