SUPERIOR WELL SERVICES

CEMENT BOND LOG
GAMMA RAY C C L
V D L

Company	Noble Energy INC.
Well	SMITH PC D06-20D
Field	Wattenberg
County	Weld
State	Colorado

Company Noble Energy INC.
Well SMITH PC D06-20D
Field Wattenberg
County Weld State Colorado

Location: API #: 05123323220000.
SHL: 2519' FSL & 2333' FWL NE SW
BHL: 2525' FSL & 1324' FWL NE SW
SEC 6 TWP 3N RGE 64W

Other Services

Permanent Datum	GL	Elevation	4823	Elevation K.B. 4840 D.F. 4839 G.L. 4823
Log Measured From	KB	17'		
Drilling Measured From	KB			

Date	February 24, 2011
Run Number	One
Depth Driller	7325
Depth Logger	7224
Bottom Logged Interval	7223
Top Log Interval	765
Casing Size	4 1/2"
Type Fluid	Water
Max. Recorded Temp.	239 deg F
Estimated Cement Top	1322
Time Well Ready	Mast Truck
Time Logger On Bottom	AM
Unit Number	3344
Tool Size / ID Number	1 11/16 Tool 1 RED
Location	Platteville, CO
Recorded By	K. Monaghan
Witnessed By	M. Trimble

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	699
Prot. String				
Production String	4 1/2"	11.6 lb/ft M-80	Surface	7314.9
Liner				

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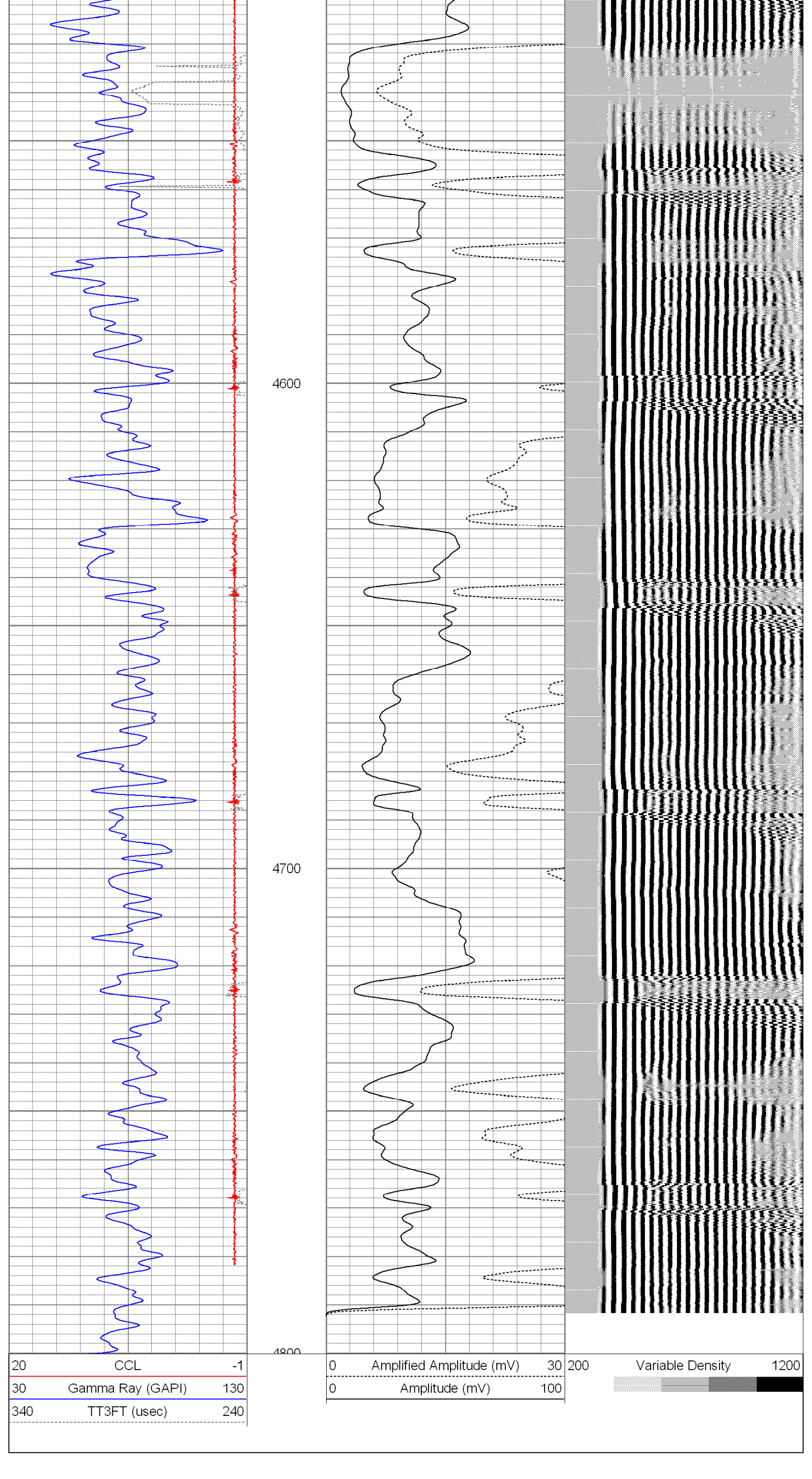
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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# 05-123-32322-0000
Correlated to PSI's
Compensated Density / Compensated Neutron / Gamma Ray
Dated: February 11, 2011
Directions: 49 & 36, E 1/2, N 1/2 Into
(2nd well from western most well on 4 well pad)

Database File:	cblsmithpc d06-20d.db
Dataset Pathname:	pass4
Presentation Format:	nuexcbl
Dataset Creation:	Thu Feb 24 11:54:31 2011 by Log Std Casedhole 10081
Charted by:	Depth in Feet scaled 1:240



20	CCL	-1
30	Gamma Ray (GAPI)	130
340	TT3FT (usec)	240

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

200	Variable Density	1200

Database File: cblsmithpc d06-20d.db
Dataset Pathname: pass3
Presentation Format: muecbl
Dataset Creation: Thu Feb 24 11:30:58 2011 by Log Std Casedhole 10081
Charted by: Depth in Feet scaled 1:240

15	CCL	-0.6
0	Gamma Ray (GAPI)	150
1000	TT3FT (usec)	300

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

200	Variable Density	1200

15	CCL	-0.6
0	Gamma Ray (GAPI)	150
1000	TT3FT (usec)	300

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

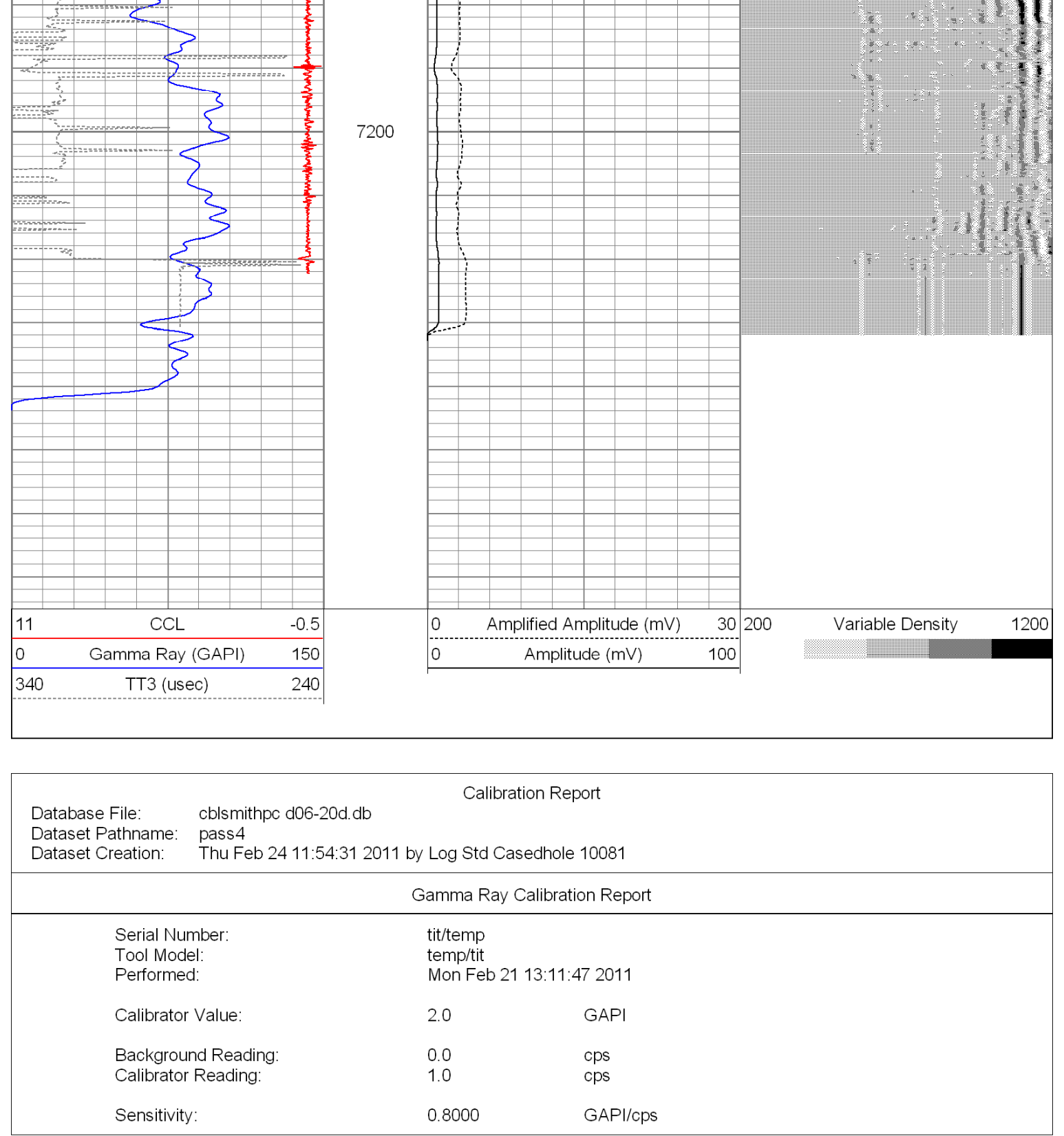
200	Variable Density	1200

Database File: cblsmithpc d06-20d.db
Dataset Pathname: pass2
Presentation Format: muecbl
Dataset Creation: Thu Feb 24 11:27:32 2011 by Log Std Casedhole 10081
Charted by: Depth in Feet scaled 1:240

11	CCL	-0.5
0	Gamma Ray (GAPI)	150
340	TT3 (usec)	240

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

200	Variable Density	1200



11	CCL	-0.5
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: cblsmithpc d06-20d.db
Dataset Pathname: pass4
Dataset Creation: Thu Feb 24 11:54:31 2011 by Log Std Casedhole 10081

Gamma Ray Calibration Report

Serial Number:	tit/temp	
Tool Model:	temp/tit	
Performed:	Mon Feb 21 13:11:47 2011	
Calibrator Value:	2.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.8000	GAPI/cps

Cement Bond Log Calibration Report

Serial Number:	TEKCO-01		
Tool Model:	TEKCO-1x2		
Performed:	Thu Feb 24 11:09:51 2011		
Depth:	897.375	ft	
Casing Diameter:	4.5	in	
	3' Spacing	5' Spacing	
Signal Zero:	0.5	0	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	0.0137939	0.0124756	V
Reading in Free Pipe:	2.20659	2.49878	V
Gain:	36.8005	32.6574	
Offset:	-0.00762435	-0.40742	