Company	NOBLE ENERGY INC.
Well	CARLSON K 23-22D
Field	WATTENBERG
County	WELD
State	COLORADO

J-W WIRELINE COMPANY

CEMENT BOND
GAMMA RAY
COLLAR CORRELATION LOG

Company	NOBLE ENERGY INC.		
Well	CARLSON K 23-22D		
Field	WATTENBERG		
County	WELD	State	COLORADO

Location: API #: 05-123-31671-00
SHL: 2342' FSL & 2537' FWL NE/SW
BHL: 2606' FNL & 1471' FEL SW/NE
SEC. 23 TWP. 4N RGE. 66W
SEC TWP RGE

Other Services
NONE

Permanent Datum	GROUND LEVEL	Elevation	4726
Log Measured From	KELLY BUSHING		
Drilling Measured From	KELLY BUSHING		

Elevation
K.B. 4739
D.F. 4739
G.L. 4726

Date	16-MAY-2011
Run Number	ONE
Depth Driller	7593
Depth Logger	7521
Bottom Logged Interval	7514
Top Log Interval	1500
Open Hole Size	7 7/8
Type Fluid	WATER
Density / Viscosity	--
Max. Recorded Temp.	260
Estimated Cement Top	1716
Time Well Ready	--
Time Logger on Bottom	--
Equipment Number	2405/YELLOW
Location	BRIGHTON
Recorded By	HAYES
Witnessed By	MR. MITCH 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#	SURFACE	609
Prot. String				
Production String	4.5	11.6#	SURFACE	7583
Liner				

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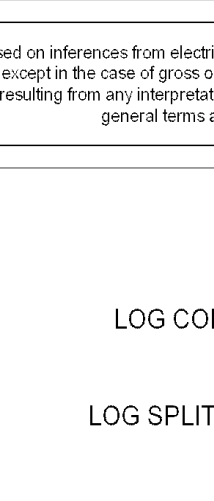
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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

LOG CORRELATED TO CD, CN, ML LOG
DATED 12-APRIL-2011

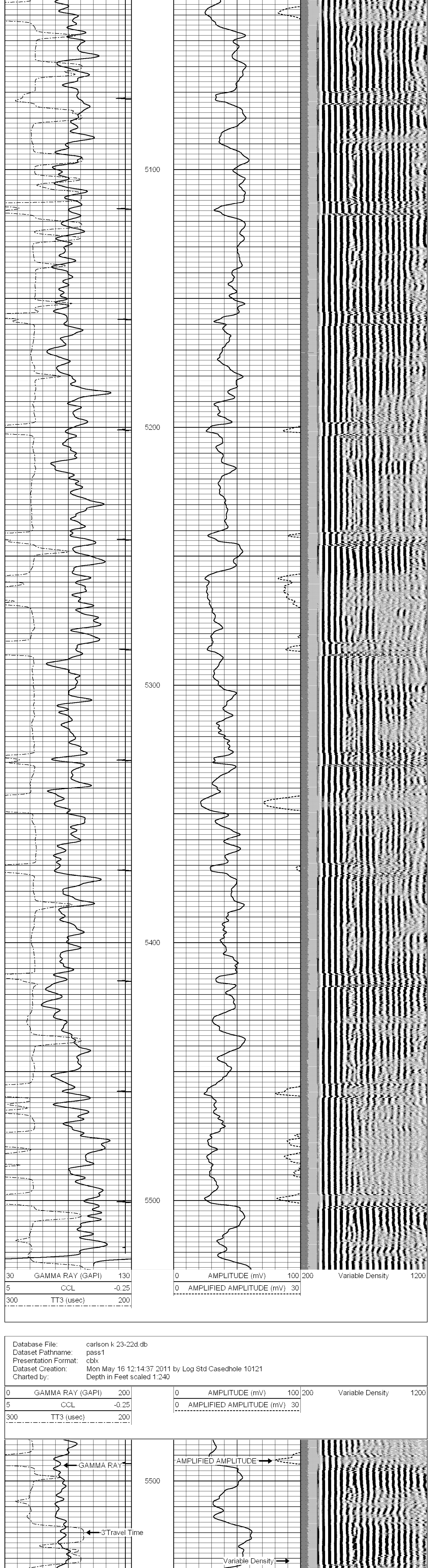
LOG SPLIT FOR CORRELATION PURPOSES



Sensor	Offset (ft)	Description	Len (ft)	OD (in)	Wt (lb)
		CENT-A (1)	3.00	1.69	10.00
CCL	13.46	CCL-TEKCO (TEK101)	1.81	2.75	10.00
GR	11.49	GR-s_t001 (t001)	2.52	1.69	30.00
WVF5 WVF3	7.34 6.34	CBL-3_5 (001)	7.23	2.44	127.00
		CENT-B (2)	3.00	1.69	10.00

Dataset: carlson k 23-22d.db: field/well/run1/pass2
Total Length: 17.56 ft
Total Weight: 187.00 lb
O.D. 2.75 in

Database File: carlson k 23-22d.db
Dataset Pathname: pass2
Presentation Format: cblx
Dataset Creation: Mon May 16 12:42:08 2011 by Log Std Casedhole 10121
Charted by: Depth in Feet scaled 1:240



Database File: carlson k 23-22d.db
Dataset Pathname: pass1
Presentation Format: cblx
Dataset Creation: Mon May 16 12:14:37 2011 by Log Std Casedhole 10121
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: carlson k 23-22d.db
Dataset Pathname: pass2
Dataset Creation: Mon May 16 12:42:08 2011 by Log Std Casedhole 10121

Cement Bond Log Calibration Report

Serial Number:	001		
Tool Model:	3_5		
Performed:	Mon May 16 11:59:59 2011		
Depth:	1628.39	ft	
Casing Diameter:	4.5	in	
	3' Spacing	5' Spacing	
Signal Zero:	3	3	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	0	0	V
Reading in Free Pipe:	2.47981	1.94802	V
Gain:	31.5331	40.1413	
Offset:	3	3	

Gamma Ray Calibration Report

Serial Number:	t001	
Tool Model:	s_t001	
Performed:	Sun Jun 13 13:33:21 1993	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps