J-W WIRELINE COMPANY

CEMENT BOND GAMMA RAY COLLAR CORRELATION LOG

Company	NOBLE ENERGY INC.
Well	LDS D 20-30 D
Field	WATTENBERG
County	WELD
State	COLORADO

Company NOBLE ENERGY INC.
Well LDS D 20-30 D
Field WATTENBERG
County WELD State COLORADO

Location: API #: 05-123-31306-00
SHL: 269' FSL & 251' FWL SW/SW
BHL: 119' FNL & 131' FEL NE/NE
SEC. 17 TWP. 3N RGE. 64W
SEC TWP RGE

Other Services: NONE

Permanent Datum GROUND LEVEL Elevation 4763
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 4776
D.F. 4776
G.L. 4763

Date	19-OCTOBER-2010
Run Number	ONE
Depth Driller	7734
Depth Logger	7661
Bottom Logged Interval	7654
Top Log Interval	1040
Open Hole Size	7 7/8
Type Fluid	WATER
Density / Viscosity	--
Max. Recorded Temp.	240
Estimated Cement Top	1184
Time Well Ready	--
Time Logger on Bottom	--
Equipment Number	2405/YELLOW
Location	BRIGHTON
Recorded By	HAYES
Witnessed By	MR. ARMSTRONG

Borehole Record

Run Number	Bit	From	To

Tubing Record

Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8	24 #	SURFACE	642
Prot. String				
Production String	4.5	11.6 #	SURFACE	7724
Liner				

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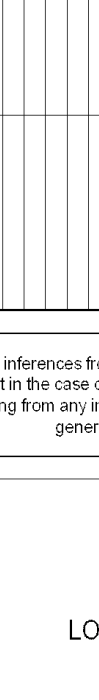
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 29-SEPTEMBER-2010

LOG SPLIT FOR CORRELATION PURPOSES

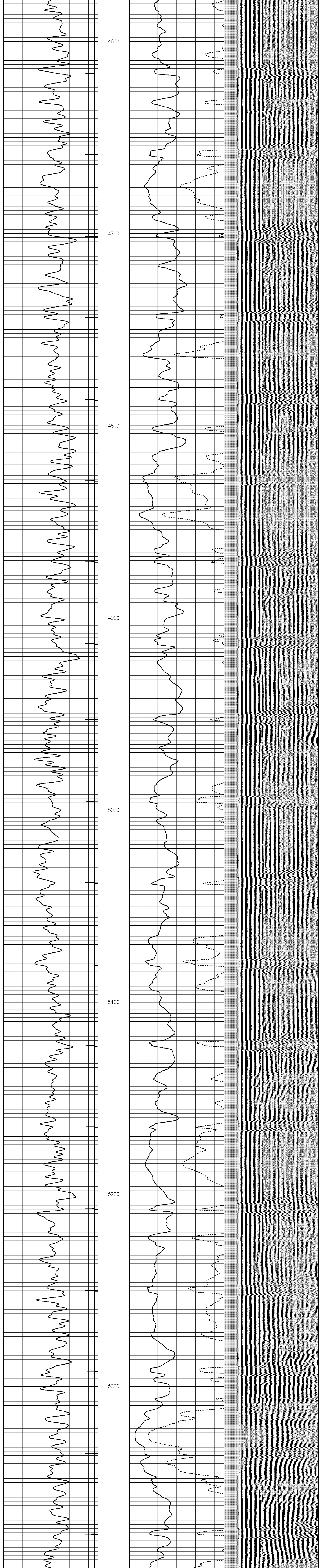


Sensor	Offset (ft)	Description	Len (ft)	OD (in)	Wt (lb)
		CENT-A (1)	3.00	1.69	10.00
CCL	13.25	CCL-GR_1_3/8 (001) 1 3/8 titan ccl	1.00	1.38	11.00
GR	11.49	GR-s_t001 (t001)	2.52	1.69	30.00
WVF5	7.34				
WVF3	6.34	CBL-3_5 (001)	7.23	2.44	127.00
		CENT-B (2)	3.00	1.69	10.00

Dataset: lds 20-30d.db: field/well/run1/pass2
Total Length: 16.75 ft
Total Weight: 188.00 lb
O.D. 2.44 in

Database File: lds 20-30d.db
Dataset Pathname: pass2
Presentation Format: cblx
Dataset Creation: Tue Oct 19 11:43:04 2010 by Log Std Casedhole 08121
Charted by: Depth in Feet scaled 1:240

30	GAMMA RAY (GAPI)	130	0	AMPLITUDE (mV)	100	200 Variable Density 1200
20	CCL	-0.75	0	AMPLIFIED AMPLITUDE (mV)	30	



30 GAMMA RAY (GAPI) 130	0 AMPLITUDE (mV) 100	200 Variable Density 1200
20 CCL -0.75	0 AMPLIFIED AMPLITUDE (mV) 30	

Database File: lds 20-30d.db
Dataset Pathname: pass1
Presentation Format: cblx
Dataset Creation: Tue Oct 19 11:10:24 2010 by Log Std Casedhole 08121
Charted by: Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 200	0 AMPLITUDE (mV) 100	200 Variable Density 1200
20 CCL -0.75	0 AMPLIFIED AMPLITUDE (mV) 30	

0 GAMMA RAY (GAPI) 200	0 AMPLITUDE (mV) 100	200 Variable Density 1200
20 CCL -0.75	0 AMPLIFIED AMPLITUDE (mV) 30	

Calibration Report

Database File: lds 20-30d.db
Dataset Pathname: pass2
Dataset Creation: Tue Oct 19 11:43:04 2010 by Log Std Casedhole 08121

Cement Bond Log Calibration Report

Serial Number:	001		
Tool Model:	3_5		
Performed:	Tue Oct 19 10:51:05 2010		
Depth:	1100.11	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:	0.05	0	V
Reading in Free Pipe:	2.49883	2.07305	V
Gain:	31.932	37.7204	
Offset:	1.4034	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