CEMENT BOND GAMMA RAY COLLAR CORRELATION LOG

J-W WIRELINE COMPANY

Company NOBLE ENERGY INC.
Well LOWER LATHAM PC G 02-22D
Field WATTENBERG
County WELD
State COLORADO

Company	NOBLE ENERGY INC.
Well	LOWER LATHAM PC G 02-22D
Field	WATTENBERG
County	WELD
State	COLORADO
API #	05-123-33907-00
Location	SHL: 1918' FNL & 622' FEL SE NE BHL: 2445' FNL & 1334' FEL SW NE SEC. 2 TWP. 4N RGE. 65W
Other Services	NONE
Permanent Datum	GROUND LEVEL
Elevation	4692
Log Measured From	KELLY BUSHING
Drilling Measured From	KELLY BUSHING
Elevation	K.B. 4705 D.F. 4705 G.L. 4692

Date	06-SEPTEMBER-2012
Run Number	ONE
Depth Driller	7297
Depth Logger	7217
Bottom Logged Interval	7210
Top Log Interval	1700
Open Hole Size	7 7/8
Type Fluid	WATER
Density / Viscosity	---
Max. Recorded Temp.	240
Estimated Cement Top	1823
Time Well Ready	---
Time Logger on Bottom	---
Equipment Number	2405/WHITE
Location	BRIGHON
Recorded By	HAYES
Witnessed By	MR. TROY SETTLE

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	729
Prot. String				
Production String	4.5	11.6#	SURFACE	TOTAL DEPTH
Liner				

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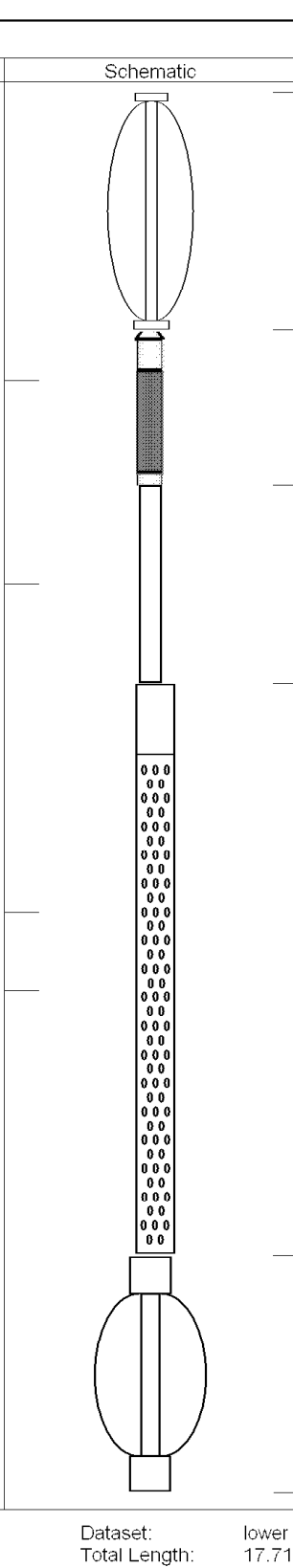
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 23-AUGUST-2012

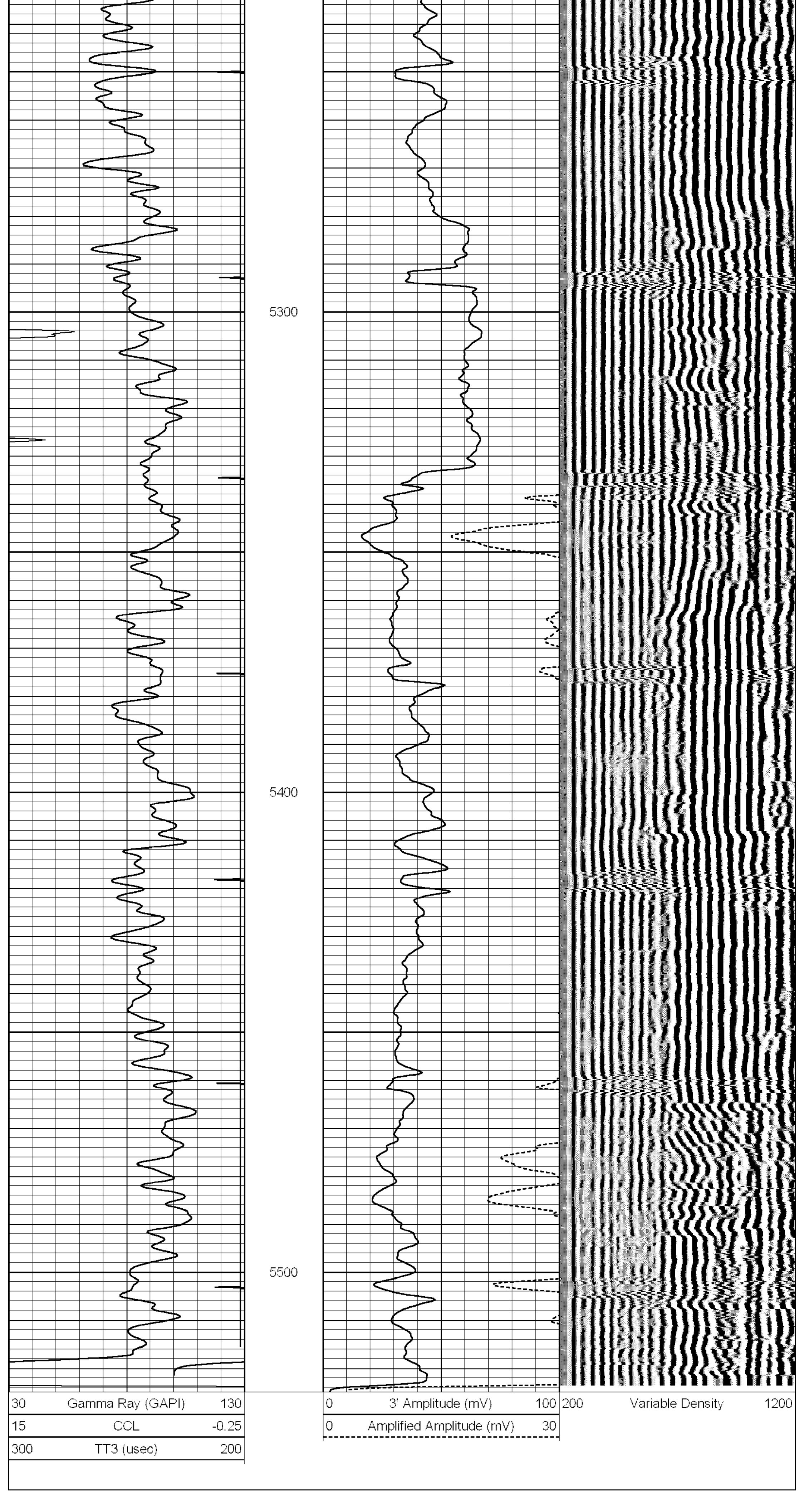
LG SPLIT FOR CORRELATION PURPOSES



Sensor	Offset (ft)	Description	Len (ft)	OD (in)	Wt (lb)
		CENT-A (1)	3.00	1.69	10.00
CCL	14.06	CCL-275tekco (2.75TEKCO) 2 3/4 TEK CCL Earth Mag	1.96	2.75	20.00
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: lower latham pc g02-22d.db: field/well/run1/pass2
Total Length: 17.71 ft
Total Weight: 197.00 lb
O.D.: 2.75 in

Database File: lower latham pc g02-22d.db
Dataset Pathname: pass2
Presentation Format: cblx
Dataset Creation: Thu Sep 06 21:55:34 2012 by Log SCH 111116
Charted by: Depth in Feet scaled 1:240



Database File: lower latham pc g02-22d.db
Dataset Pathname: pass1
Presentation Format: cblx
Dataset Creation: Thu Sep 06 21:30:17 2012 by Log SCH 111116
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: lower latham pc g02-22d.db
Dataset Pathname: pass2
Dataset Creation: Thu Sep 06 21:55:34 2012 by Log SCH 111116

Cement Bond Log Calibration Report

Serial Number:	001		
Tool Model:	3_5		
Performed:	Thu Sep 06 19:27:53 2012		
Depth:	1091.41	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:	2.5	2.5	V
Gain:	31.2784	31.2784	
Offset:	3	3	

Gamma Ray Calibration Report

Serial Number:	t001	
Tool Model:	s_t001	
Performed:	Sun Jun 13 14:33:21 1993	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps