J-W WIRELINE COMPANY

SECTOR BOND
GAMMA RAY
COLLAR LOG

Company	NOBLE ENERGY INC.		
Well	COCKROFT B15-69-1HNM		
Field	WATTENBERG		
County	WELD	State	COLORADO

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Well COCKROFT B15-69-1HNM
Field WATTENBERG
County WELD
State COLORADO

Location: API # : 05-123-37203-00
CL: NE NW
SEC. 14 TWP.5N RGE. 64W
BHL: 330' FNL & 2565' FWL
SEC TWP RGE

Other Services
NONE

Permanent Datum	GROUND LEVEL	Elevation	4589
Log Measured From	KELLY BUSHING		
Drilling Measured From	KELLY BUSHING		

Elevation
K.B. 4609
D.F. ---
G.L. 4589

Date	14-NOVEMBER-2013		
Run Number	ONE		
Depth Driller	11709		
Depth Logger	6830		
Bottom Logged Interval	6826		
Top Log Interval	SURFACE		
Open Hole Size	8 3/4		
Type Fluid	WATER		
Density / Viscosity	---		
Max. Recorded Temp.	215		
Estimated Cement Top	894		
Time Well Ready	---		
Time Logger on Bottom	---		
Equipment Number	2405/PROBE		
Location	BRIGHTON		
Recorded By	HAYES		
Witnessed By	MR. BILLMANSFIELD		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9 5/8	36#	SURFACE	634.4
Prot. String				
Production String	4.5	11.6#	6861.3	11699
Liner	7.0	26#	SURFACE	6926.6

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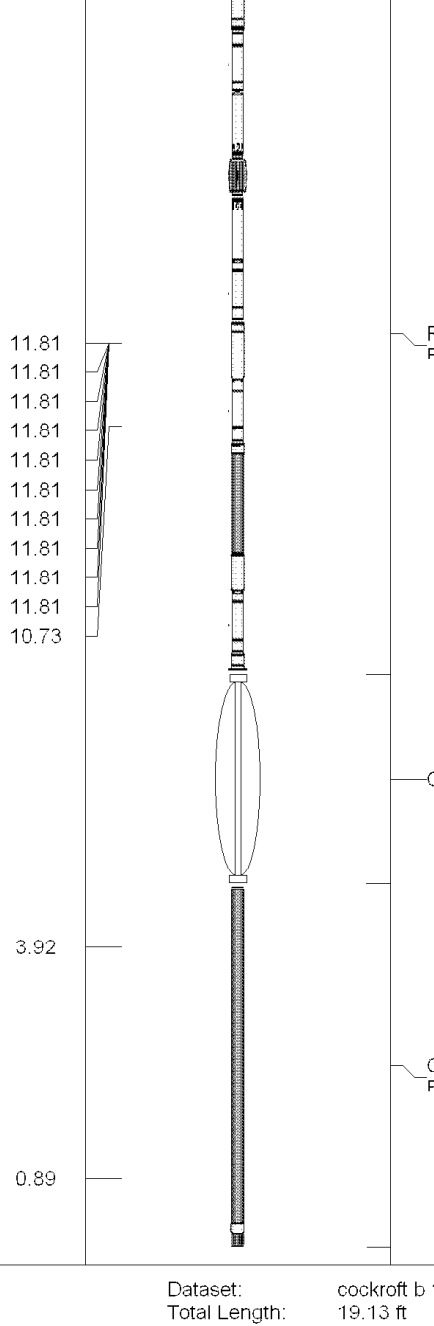
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CENT-TEKCO (101)	2.73	2.75	10.00
WVF3FT WVFCAL WVFS1 WVFS2 WVFS3 WVFS4 WVFS5 WVFS6 WVFS7 WVFS8 WVF5FT	11.81 11.81 11.81 11.81 11.81 11.81 11.81 11.81 11.81 11.81 10.73		RBT-Probe (4.5040904) Probe Radii Bond Tool with Digital Telemetry	8.92	2.75	90.00
			CENT-TEKCO (101)	2.73	2.75	10.00
CCL	3.92					
GR	0.89		GR-Probe275dig (pr051112) Probe Digital Gamma CCL	4.75	2.75	57.00



Dataset:	cockroft b 15-69-1hnm.db: field/well/run1/merge1	
Total Length:	19.13 ft	
Total Weight:	167.00 lb	
O.D.:	2.75 in	

Database File: cockroft b 15-69-1hnm.db
Dataset Pathname: merge1.1
Presentation Format: scbl02
Dataset Creation: Fri Nov 15 20:16:04 2013 by Calc SCH 111116
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: cockroft b 15-69-1hnm.db
Dataset Pathname: merge1.1
Dataset Creation: Fri Nov 15 20:16:04 2013 by Calc SCH 111116

Gamma Ray Calibration Report

Serial Number:	pr051112	
Tool Model:	Probe275dig	
Performed:	Thu Aug 30 04:40:39 2012	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	4.5040904	
Tool Model:	Probe	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	224.433	ft

Master Calibration, performed Thu Nov 14 19:38:39 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	2.499	1.000	62.000	24.412	1.000
CAL	0.000	1.716				
5'	0.000	2.334	1.000	62.000	26.138	1.000
SUM						
S1	0.000	0.555	0.000	100.000	180.175	0.000
S2	0.000	0.579	0.000	100.000	172.718	0.000
S3	0.000	0.539	0.000	100.000	185.432	0.000
S4	0.000	0.499	0.000	100.000	200.553	0.000
S5	0.000	0.516	0.000	100.000	193.724	0.000
S6	0.000	0.558	0.000	100.000	179.205	0.000
S7	0.000	0.561	0.000	100.000	178.312	0.000
S8	0.000	0.538	0.000	100.000	185.776	0.000

Internal Reference Calibration, performed Wed Dec 31 18:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.000	1.716	1.000	0.000

Air Zero Calibration, performed Tue Nov 17 14:36:52 2009:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000