J-W WIRELINE COMPANY

GAMMA RAY CCL
CEMENT BOND VDL
SECTOR MAP

Company NOBLE ENERGY INC
Well LILLI FEDERAL LG13-02
Field LILLI
County WELD
State COLORADO

Company NOBLE ENERGY INC
Well LILLI FEDERAL LG13-02
Field LILLI
County WELD State COLORADO

Location: API # : 05-123-39883
SHL: 620' FNL & 1740' FEL
SEC 13 TWP 8N RGE 59W

Other Services

Permanent Datum GL Elevation 4705
Log Measured From KB
Drilling Measured From KB

Elevation
K.B. 4735
D.F. 4734
G.L. 4705

Date	23-SEPTEMBER-2014		
Run Number	ONE		
Depth Driller	6750		
Depth Logger	6640		
Bottom Logged Interval	6636		
Top Log Interval	SURFACE		
Open Hole Size	9.625		
Type Fluid	WATER		
Density / Viscosity	9 lbm/gal		
Max. Recorded Temp.	204		
Estimated Cement Top	2514		
Time Well Ready	---		
Time Logger on Bottom	---		
Equipment Number	2829		
Location	STERLING, CO		
Recorded By	BRIAN HECHT		
Witnessed By	SCOTT ARMSTRONG		

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String				
Prot. String				
Production String	4.5"	11.6#		
Liner				

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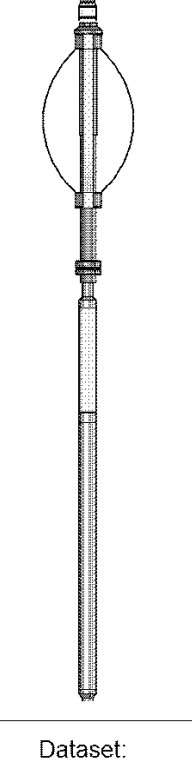
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

CORRELATED TO SCHLUMBERGER OPEN HOLE LOG
DATED 11-SEPTEMBER-2014

Database File: lilli federal lg13-02.db
Dataset Pathname: pass4
Presentation Format: scbl02
Dataset Creation: Tue Sep 23 09:49:41 2014 by Log Std Casedhole 10121
Charted by: Depth in Feet scaled 1:240

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CENT-Probe (Probe1) PROBE 2.75 CENT	3.00	2.75	25.00
WVF3FT WVFCAL WVFS1 WVFS2 WVFS3 WVFS4 WVFS5 WVFS6 WVFS7 WVFS8 WVF5FT	12.08 12.08 12.08 12.08 12.08 12.08 12.08 12.08 12.08 12.08 11.00		RBT-Probe (4.5040904) Probe Radii Bond Tool with Digital Telemetry	8.92	2.75	90.00
			CENT-Probe (Probe2) PROBE 2.75 CENT	3.00	2.75	25.00
CCL GR	3.92 2.54		GR-Probe275dig (pr051112) Probe Digital Gamma CCL	4.75	2.75	57.00

Dataset: lilli federal lg13-02.db: field/well/run1/pass4
Total Length: 19.67 ft
Total Weight: 197.00 lb
O.D. 2.75 in

Calibration Report

Database File: lilli federal lg13-02.db
Dataset Pathname: pass4
Dataset Creation: Tue Sep 23 09:49:41 2014 by Log Std Casedhole 10121

Gamma Ray Calibration Report

Type / Serial: Probe275dig / pr051112

SHOP CALIBRATION Sun Jun 13 14:33:21 1993

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		1.0000			GAPI/cps

PRIMARY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

BEFORE SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Segmented Cement Bond Log Calibration Report

Serial Number: 4.5040904
Tool Model: Probe

Calibration Casing Diameter: 4.500 in
Calibration Depth: 80.442 ft

Master Calibration, performed Tue Sep 23 09:26:44 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.509	1.000	81.196	53.139	1.000
CAL	0.000	1.705				
5'	0.000	1.227	1.000	81.196	65.346	1.000
SUM						
S1	0.000	1.500	0.000	81.000	53.999	0.000
S2	0.000	1.536	0.000	81.000	52.729	0.000
S3	0.000	1.544	0.000	81.000	52.471	0.000
S4	0.000	1.519	0.000	81.000	53.314	0.000
S5	0.000	1.505	0.000	81.000	53.834	0.000
S6	0.000	1.487	0.000	81.000	54.479	0.000
S7	0.000	1.445	0.000	81.000	56.065	0.000
S8	0.000	1.464	0.000	81.000	55.327	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	1.705	1.000	0.000

Air Zero Calibration, performed Wed Apr 02 16:37:00 2014:

	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