NABORS
COMPLETION
& PRODUCTION
SERVICES CO.

GAMMA RAY CCL
CEMENT BOND VDL

Company NOBLE ENERGY INC.
Well FRANK PC H 22-20D
Field WATTENBERG
County WELD
State COLORADO

Company	NOBLE ENERGY INC.
Well	FRANK PC H 22-20D
Field	WATTENBERG
County	WELD
State	COLORADO

Location: API #: 0512332579

SE/SW

SEC 22 TWP 3N RGE 65W

Other Services

Permanent Datum	GL	Elevation	4808
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4821
D.F. 4821
G.L. 4808

Date	NOVEMBER 10, 2014		
Run Number	ONE		
Depth Driller	7690		
Depth Logger	2000		
Bottom Logged Interval	2000		
Top Log Interval	SURFACE		
Open Hole Size	7-7/8		
Type Fluid	WATER		
Density / Viscosity	N/A		
Max. Recorded Temp.	N/A		
Estimated Cement Top	762		
Time Well Ready	BOHLER RIG		
Time Logger on Bottom	2-3/4 PROBE		
Equipment Number	4838		
Location	45		
Recorded By	GREG NOLAN		
Witnessed By	JON HALL		

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	650
Prot. String				
Production String	4-1/2	11.6#	SURFACE	7692
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

THANK YOU FOR CHOOSING NCPS!!!!!
LOG NOT CORRELATED
WCR 43 & WCR 30, E.5, N.2, W INTO

Database File: cbl noble frank pc h 22-20d.db
Dataset Pathname: pass2
Presentation Format: noble en
Dataset Creation: Mon Nov 10 08:47:14 2014 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

50	CCL	-5.5	0	Amplified Amplitude (mV)	30	200	Variable Density	1200
0	Gamma Ray (GAPI)	150	0	Amplitude (mV)	100			
400	TT3 (usec)	0						

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Calibration Report

Database File: cbl noble frank pc h 22-20d.db
Dataset Pathname: pass2
Dataset Creation: Mon Nov 10 08:47:14 2014 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 110785

SHOP CALIBRATION		Fri Nov 08 09:38:30 2013			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.4400			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

Cement Bond Log Calibration Report

Serial Number:	110802		
Tool Model:	Probe275Digital		
Performed:	Mon Nov 10 08:47:05 2014		
Depth:	2017.53	ft	
Casing Diameter:	4.5	in	
	3' Spacing	5' Spacing	
Signal Zero:	0.7	0	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	-0.00539551	-0.00561523	V
Reading in Free Pipe:	2.49565	2.31272	V
Gain:	32.1849	35.0235	
Offset:	0.873654	0.196665	