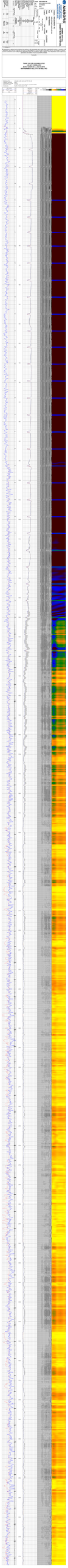

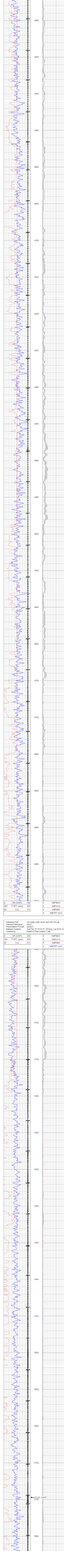

NABORS COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY CCL
CEMENT BOND SECTOR VDL

Company NOBLE ENERGY INC.
Well WELLS RANCH AA21-65-1HN
Field WATTENBERG
County WELD
State COLORADO

Company NOBLE ENERGY INC.
Well WELLS RANCH AA21-65-1HN
Field WATTENBERG
County WELD State COLORADO
Location: API #: 0512337599
BHL: 2310 FSL & 535 FWL
SE/SE
SEC 21 TWP 6N RGE 63W
Other Services

Permanent Datum	GL	Elevation 4730	Elevation K.B. 4754 D.F. G.L. 4730
Log Measured From	KB		
Drilling Measured From	KB		

Date	FEBRUARY 25, 2014
Run Number	ONE
Depth Driller	11080
Depth Logger	6886
Bottom Logged Interval	6886
Top Log Interval	SURFACE
Open Hole Size	8-3/4
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	224°F
Estimated Cement Top	946
Time Well Ready	PORTABLE MAST
Time Logger on Bottom	2-3/4 PROBE 101020/010
Equipment Number	4838
Location	45
Recorded By	ADAM FRANK
Witnessed By	BILL MANSFIELD

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# J-55	24	960
Prot. String				
Production String	7	26# P-110 IC	24	7119.1
Liner	4-1/2	11.6# P-110	7007.8	11065

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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 67 & WCR 68, E.2, S.4, W.2 INTO
NORTHERNMOST WELL OF A SIX WELL PAD

Database File: cbl noble wells ranch aa21-65-1hn.db
Dataset Pathname: pass3
Presentation Format: sector2
Dataset Creation: Tue Feb 25 15:19:17 2014 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Database File: cbl noble wells ranch aa21-65-1hn.db
Dataset Pathname: pass2
Presentation Format: sector2
Dataset Creation: Tue Feb 25 15:03:37 2014 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: cbl noble wells ranch aa21-65-1hn.db
Dataset Pathname: pass2
Dataset Creation: Tue Feb 25 15:03:37 2014 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 101010

SHOP CALIBRATION Tue Feb 25 11:27:35 2014

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.4000			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: 101020
Tool Model: Probe

Calibration Casing Diameter: 7.000 in
Calibration Depth: 180.283 ft

Master Calibration, performed Tue Feb 25 14:45:32 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	1.508	1.500	62.165	40.433	1.188
CAL	0.008	1.622				
5'	0.008	1.590	1.500	62.165	38.350	1.202
SUM						
S1	0.007	1.716	0.000	62.165	36.391	-0.270
S2	0.008	1.686	0.000	62.165	37.036	-0.285
S3	0.007	1.603	0.000	62.165	38.957	-0.292
S4	0.008	1.446	0.000	62.165	43.237	-0.336
S5	0.008	1.284	0.000	62.165	48.697	-0.366
S6	0.008	1.257	0.000	62.165	49.750	-0.376
S7	0.008	1.434	0.000	62.165	43.582	-0.335
S8	0.008	1.635	0.000	62.165	38.201	-0.291

Internal Reference Calibration, performed Fri Jan 13 14:30:16 2012:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.008	1.622	1.000	0.000

Air Zero Calibration, performed Tue Feb 25 13:16:04 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