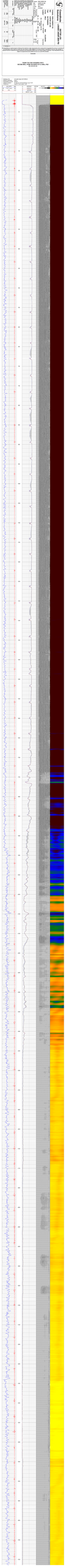

Company NOBLE ENERGY INC.
Well HARPER LD21-668
Field WATTENBERG
County WELD
State COLORADO

Casedhole Solutions

SECTOR LOG
LOGGED UNDER 2500 PSI

Company	NOBLE ENERGY INC.		
Well	HARPER LD21-668		
Field	WATTENBERG		
County	WELD	State	COLORADO
Location:	API #: 0512343291 BHL: 1430' FNL & 330' FWL SW/NW	Other Services	
	SEC 22 TWP 9N RGE 58W		
Permanent Datum	GL	Elevation 4776	Elevation
Log Measured From	KB		K.B. 4806
Drilling Measured From	KB		D.F.
			G.L. 4776

Date	SEPTEMBER 23, 2016
Run Number	ONE
Depth Driller	10798
Depth Logger	6037
Bottom Logged Interval	6037
Top Log Interval	SURFACE
Open Hole Size	8-1/2
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	239°F
Estimated Cement Top	1725
Time Well Ready	CRANE
Time Logger on Bottom	2-3/4 PROBE
Equipment Number	922338
Location	FORT LUPTON
Recorded By	GREG NOLAN
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	30	1927.8
Prot. String				
Production String	5-1/2	20# P-110C	30	10782.1
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 CHS!!!!
SECOND WELL FROM THE NORTH OF A 4 WELL PAD
N< O X O O >S

Database File:	cbl noble harper ld21-668.db
Dataset Pathname:	pass3
Presentation Format:	sector2
Dataset Creation:	Fri Sep 23 12:05:36 2016 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

Calibration Report

Database File: cbl noble harper ld21-668.db
Dataset Pathname: pass3
Dataset Creation: Fri Sep 23 12:05:36 2016 by Log 7.0 B1

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 110785

SHOP CALIBRATION Wed Sep 21 09:39:53 2016

	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: 5.500 in
Calibration Depth: 377.058 ft

Master Calibration, performed Fri Sep 23 11:50:16 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	1.005	1.500	71.921	70.603	0.973
CAL	0.007	1.141				
5'	0.008	1.057	1.500	71.921	67.105	0.996
SUM						
S1	0.007	1.130	0.000	71.196	63.435	-0.468
S2	0.007	1.117	0.000	71.196	64.154	-0.481
S3	0.007	1.072	0.000	71.196	66.870	-0.501
S4	0.007	0.974	0.000	71.196	73.650	-0.544
S5	0.008	0.862	0.000	71.196	83.361	-0.629
S6	0.007	0.839	0.000	71.196	85.612	-0.629
S7	0.008	0.951	0.000	71.196	75.476	-0.567
S8	0.007	1.079	0.000	71.196	66.415	-0.486

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	0.007	1.141	1.000	0.000

Air Zero Calibration, performed Fri Sep 23 09:50:50 2016:

	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