PIONEER

Pioneer Energy Services

RADIAL CEMENT BOND LOG WITH GAMMA RAY/CCL/VDL AND CEMENT MAP

Company	ANADARKO PETROLEUM CORPORATION
Well	BUTTERBALL 4N-15HZ
Field	WATTENBERG
County	WELD
State	CO

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County WELD State CO

Location: API # : 0512337869
FSL 427' & FWL 585'
SEC 10 TWP 2N RGE 67W

Other Services
NONE

Permanent Datum GROUND LEVEL Elevation 4996'
Log Measured From KELLY BUSHING
Drilling Measured From KB = 17'

Elevation
K.B. 5013'
D.F. 5012'
G.L. 4996'

Date	5 DEC 2013		
Run Number	FOUR		
Depth Driller	12506'		
Depth Logger	6803'		
Bottom Logged Interval	6812'		
Top Log Interval	SURFACE		
Open Hole Size	8.75"		
Type Fluid	WATER		
Density / Viscosity	~8.34#		
Max. Recorded Temp.	219 Deg Fht		
Estimated Cement Top	910'		
Time Well Ready	15:00		
Time Logger on Bottom	15:15		
Equipment Number	59		
Location	FT. MORGAN		
Recorded By	A BELGUM		
Witnessed By	MIKE ASPA		

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9.625"	36#	SURFACE	1018'
Prot. String				
Production String	7"	26#	SURFACE	7733'
Liner	4.5"	11.6#	6710'	12491'

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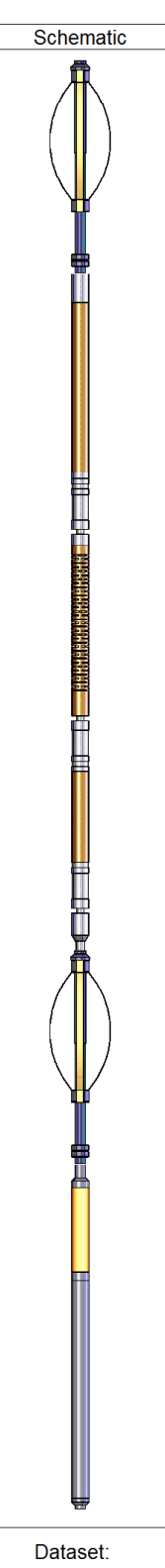
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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



Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			PTS275	2.83	2.75	
WVF3FT WVFCAL WVFS1 WVFS2 WVFS3 WVFS4 WVFS5 WVFS6 WVFS7 WVFS8 WVF5FT	11.71 11.71 11.71 11.71 11.71 11.71 11.71 11.71 11.71 11.71 10.63		RBT-Probe (Base) Probe Radii Bond Tool with Digital Telemetry	8.92	2.75	90.00
			PTS275	2.83	2.75	
CCL	3.63					
GR	2.30		GR_CCL-Probe (111211) Probe Gamma CCL	4.54	2.75	100.00

Dataset: butterball-4n-15hz.db: field/well/run4/pass1
Total Length: 19.13 ft
Total Weight: 190.00 lb
O.D.: 2.75 in

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MAIN PASS

LOGGED WITH 2800 PSI APPLIED AT SURFACE

Database File: butterball-4n-15hz.db
Dataset Pathname: run4/pass1
Presentation Format: scbl02
Dataset Creation: Fri Dec 06 15:04:02 2013 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

Calibration Report

Database File: butterball-4n-15hz.db
Dataset Pathname: run4/pass1
Dataset Creation: Fri Dec 06 15:04:02 2013 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number: 111211
Tool Model: Probe
Performed: Fri Nov 08 12:58:35 2013

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: Base
Tool Model: Probe

Calibration Casing Diameter: 7.000 in
Calibration Depth: 307.808 ft

Master Calibration, performed Fri Dec 06 14:43:12 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.014	0.612	2.000	62.165	96.114	3.354
CAL	1.000	1.036				
5'	0.164	0.729	2.000	62.165	106.553	-15.515
SUM						
S1	-0.068	0.589	0.000	95.000	144.598	9.768
S2	-0.077	0.633	0.000	95.000	133.946	10.254
S3	-0.042	0.667	0.000	95.000	133.922	5.621
S4	-0.030	0.687	0.000	95.000	132.608	3.954
S5	-0.043	0.664	0.000	95.000	134.302	5.805
S6	-0.047	0.627	0.000	95.000	141.063	6.575
S7	-0.030	0.599	0.000	95.000	151.152	4.504
S8	-0.077	0.570	0.000	95.000	146.713	11.338

Internal Reference Calibration, performed Wed Aug 21 11:08:58 2013:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	1.000	1.036	1.000	0.000

Air Zero Calibration, performed Sat Nov 09 07:23:33 2013:

	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

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County	WELD
State	CO