C&J ENERGY SERVICES

GAMMA RAY -C.C.L. SECTOR CEMENT BOND -V.D.L.

Company	NOBLE ENERGY
Well	CAMOLO RED D 27-4
Field	WATTENBERG
County	WELD
State	COLORADO

Company NOBLE ENERGY
Well CAMOLO RED D 27-4
Field WATTENBERG
County WELD State COLORADO
Location: API # :
NW/SW
SEC 27 TWP 3N RGE 64W

Other Services

Permanent Datum	G.L.	Elevation 4836	Elevation
Log Measured From	K.B.		K.B. 4849
Drilling Measured From	K.B.		D.F. 4948
			G.L. 4836

Date	APRIL-8-2019
Run Number	ONE
Depth Driller	7198
Depth Logger	4340
Bottom Logged Interval	3000
Top Log Interval	-0-
Casing Size	3 1/2
Type Fluid	WATER
Max. Recorded Temp.	
Estimated Cement Top	
Time Well Ready	
Time Logger On Bottom	
Unit Number	
Tool Size / ID Number	1 11/16 PROBE SECTOR
Location	STERLING
Recorded By	R.GARDNER
Witnessed By	ERIC PETERSON

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	3 1/2			
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

Calibration Report

Database File: qqqqqqqqqqqqq.db
Dataset Pathname: pass14
Dataset Creation: Mon Apr 08 12:04:10 2019 by Log 7.0 B1

Gamma Ray Calibration Report

Type / Serial: GCT / FW1806-050

SHOP CALIBRATION Sun Jun 13 13:33:21 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

Temperature Calibration Report

Serial Number: FW1806-050
Tool Model: GCT
Performed: Fri Aug 24 13:22:34 2018

	Reference	Reading
Low Reference:	100.00 degF	6176.05degF
High Reference:	350.00 degF	26317.70degF

Gain: 0.01
Offset: 23.34
Delta Spacing 1

Segmented Cement Bond Log Calibration Report

Serial Number: FW1804-090
Tool Model: 1.70

Calibration Casing Diameter: 3.500 in
Calibration Depth: 2694.392 ft

Master Calibration, performed Mon Apr 08 12:00:25 2019:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.081	0.000	94.517	87.461	0.000
CAL	0.000	1.642				
5'	0.000	0.921	0.000	94.517	102.595	0.000
SUM						
S1	0.000	0.949	0.000	100.000	105.331	0.000
S2	0.000	1.058	0.000	100.000	94.505	0.000
S3	0.000	1.160	0.000	100.000	86.230	0.000
S4	0.000	0.761	0.000	100.000	131.394	0.000
S5	0.000	0.920	0.000	100.000	108.672	0.000
S6	0.000	0.323	0.000	100.000	309.447	0.000
S7	0.000	1.058	0.000	100.000	94.523	0.000
S8	0.000	0.921	0.000	100.000	108.607	0.000

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.000	1.642	1.000	0.000

Air Zero Calibration, performed Wed Dec 31 17:00:00 1969:

	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

Database File: qqqqqqqqqqqqq.db
Dataset Pathname: pass14
Presentation Format: zwag
Dataset Creation: Mon Apr 08 12:04:10 2019 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

50 CCL -5.5
0 GR (GAPI) 150
340 TT3 (usec) 240

0 AMP (mV) 100
AMPLIFIED AMP3
0 (mV) 20

0 AMPS1 100
0 AMPS2 100
0 AMPS3 100
0 AMPS4 100
0 AMPS5 100
0 AMPS6 100
0 AMPS7 100
0 AMPS8 100

200 VDL 1200

1 RADIAL MAP 8
80 1

50 CCL -5.5
0 GR (GAPI) 150
340 TT3 (usec) 240

0 AMP (mV) 100
AMPLIFIED AMP3
0 (mV) 20

0 AMPS1 100
0 AMPS2 100
0 AMPS3 100
0 AMPS4 100
0 AMPS5 100
0 AMPS6 100
0 AMPS7 100
0 AMPS8 100

200 VDL 1200

1 RADIAL MAP 8
80 1