Company	NORTHWESTERN OIL INC
Well	DONNER #1-36
Field	
County	LANE
State	KANSAS
Location	Sec 36 Twp 20S Rng 29W
	Elev. KB 2827 DF 2825 GL 2820
	Log Date 16-Oct-2010
	Run Number ONE
	Depth Driller 4700
	Depth Logger 4703
	Bottom Log Interval 4700
	Top Log Interval 3500
	Casing Driller 8.625 @ 221
	Casing Logger 221
	Bit Size 7.875
	Type Fluid LSND
	Density / Viscosity 9.2 / 52
	PH / Fluid Loss 10.0 / 6.0
	Source of Sample FLOWLINE
	Rm @ Meas Temp 0.77 @ 75
	Rmf @ Meas Temp 0.61 @ 75
	Rmc @ Meas Temp 1.1 @ 75
	Source: Rmf Rmc MEASURED
	Rm @ BHT 0.41 @ 122
	Time Circ. 5:00
	Max. Rec. Temp. 122
	Equip. Number 10101
	Location HAYS, KS
	Recorded By D. HAMILTON
	Witnessed By MR. BRAD LEWIS

COMPENSATED DENSITY/NEUTRON LOG

Disclaimer:
All interpretations are based on information that whether or after interpretation you are satisfied and do not guarantee the accuracy or correctness of any interpretation, and you shall not, except to the extent 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 opinions based on inferences from electrical or other measurements, and we cannot and do not warrant their accuracy.

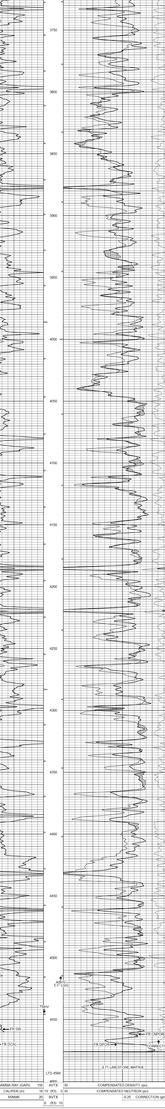
Comments

THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (TIM) 628-6366
DONNER #1-36
BEELER, KS. - WEST TO LANE/NESS COUNTY LINE RD. - 2 SOUTH
WEST & NORTH INTO

MAIN SECTION

Database File 2362dnd.db
Dataset Pathname pass1.0
Presentation Format dnc_pay
Dataset Creation Sun Feb 14 18:37:25 2016
Charted by Depth in Feet scaled 1:200

0	GAMMA RAY (GAPI)	150	BVTX	30	COMPENSATED DENSITY (gcc) 3
6	CALIPER (in)	16	16	(0.0)	30 COMPENSATED NEUTRON (pu)
0	SPARK	20	BVTX		(0.25) CORRECTION (gcc) (0.25)
				(0.0)	10

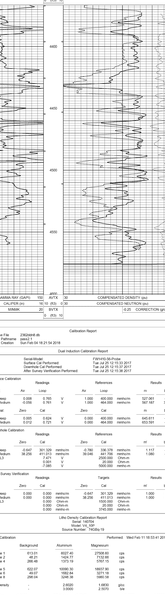


0	GAMMA RAY (GAPI)	150	BVTX	30	COMPENSATED DENSITY (gcc) 3
6	CALIPER (in)	16	16	(0.0)	30 COMPENSATED NEUTRON (pu)
0	SPARK	20	BVTX		(0.25) CORRECTION (gcc) (0.25)
				(0.0)	10

REPEAT SECTION

Database File 2362dnd.db
Dataset Pathname pass1.0
Presentation Format dnc_pay
Dataset Creation Sun Feb 14 18:31:34 2016
Charted by Depth in Feet scaled 1:200

0	GAMMA RAY (GAPI)	150	BVTX	30	COMPENSATED DENSITY (gcc) 3
6	CALIPER (in)	16	16	(0.0)	30 COMPENSATED NEUTRON (pu)
0	SPARK	20	BVTX		(0.25) CORRECTION (gcc) (0.25)
				(0.0)	10



0	GAMMA RAY (GAPI)	150	BVTX	30	COMPENSATED DENSITY (gcc) 3
6	CALIPER (in)	16	16	(0.0)	30 COMPENSATED NEUTRON (pu)
0	SPARK	20	BVTX		(0.25) CORRECTION (gcc) (0.25)
				(0.0)	10

Calibration Report

Database File 2362dnd.db
Dataset Pathname pass1.0
Dataset Creation Sun Feb 14 18:24:34 2016

Dual Induction Calibration Report

Serial/Model
Surface Cal Performed
Internal Cal Performed
After Survey Verification Performed

Fairchild SL-Probe
Tue Jul 20 12:15:31 2010
Tue Jul 20 12:15:31 2010
Tue Jul 20 12:15:36 2010

Surface Calibration

Loop	Ref	Readings Air	Loop	Ref	References Air	Results m	b
Deep	0.006	0.785 V	1.060	400.000	mmho/m	527.061	-3.241
Medium	0.006	0.785 V	1.060	400.000	mmho/m	567.567	-32.510

Internal

	Zero	Cal	Zero	Cal	m	b
Deep	0.024 V	0.024 V	0.000	400.000	mmho/m	400.000	0.024
Medium	0.024 V	0.024 V	0.000	400.000	mmho/m	400.000	0.024

Downhole Calibration

	Zero	Readings Cal	Zero	References Cal	m	Results b
Deep	2.027	301.329	0.000	538.705	mmho/m	1.117	2.036
Medium	38.256	411.013	39.094	561.756	mmho/m	1.090	-2.260
	0.000	0.000		0.000	Ohm-m		
	0.000	0.000		20.000	Ohm-m		
	7.588	0		1620.000	mmho-m		

After Survey Verification

	Zero	Readings Cal	Zero	References Cal	m	Results b
Deep	0.000	0.000 mmho/m	0.000	301.329 mmho/m	1.000	0.000
Medium	0.000	0.000 mmho/m	38.256	411.013 mmho/m	1.000	0.000
LLd		0.000 mmho-m		0.000 mmho-m		
		0.000 mmho-m		20.000 mmho-m		
		0.000 mmho-m		3700.000 mmho-m		

Lithe Density Calibration Report
Model 1000
Serial Number 1000
Source Number 7420Ls-10

Master Calibration Performed Wed Feb 11 16:53:41 2015

	Background	Aluminum	Magnesium	
Window 1	873.01	8027.40	27026.80	cps
Window 2	1.00	1.00	1.00	cps
Window 4	1.00	1.00	1.00	cps
Window 5	622.07	10590.30	16007.80	cps
Window 6	466.07	3562.94	3371.30	cps
Window 7	298.04	2557.94	2000.00	cps
Bulk Density		2.6000	1.0870	g/cc
Pe		2.6000	2.9870	b/e
LS Alpha	-1.6411	DS Alpha -10.7542	LS CPS	1.0982
LS Slope	1.08548 (bit7)	DS Slope 21.6000 (bit0)	DS CPS	1.0191

Before Survey Background Counts Verification Performed Wed Dec 31 16:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 7	0.00	cps

After Survey Background Counts Verification Performed Wed Dec 31 16:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 7	0.00	cps

Lithoberta Caliper Calibration Performed Wed Feb 11 16:53:41 2015

Results - Readings (in) References (in)

Low	High	Low	High	Gain	Offset
1107.5	7124.1	9.0	15.0	0.0	6.3

Before Survey Caliper Verification Performed

Reference	Reading
Caliper (in)	

After Survey Caliper Verification Performed

Reference	Reading
Caliper (in)	

Compensated Neutron Calibration Report

Serial Number 1006DPHC
Tool Model 1006DPHC

PRE SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	n/a		
Long Space	n/a	pu	pu

POST SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	n/a		
Long Space	n/a	pu	pu

Gamma Ray Calibration Report

Serial Number 07PDHS
Tool Model 07PDHS
Performed Tue Jul 20 12:15:23 2017

Calibrator Value	1.0	GAPI
Background Reading	0.0	cps
Calibration Reading	1.0	cps
Sensitivity	0.4000	GAPI/cps