

Robert L. Milford

PETROLEUM GEOLOGIST
Wichita, Kansas

GEOLOGISTS REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR: **Murfin Drilling Company, Inc.**
LEASE: **Walter 'A' #2-1**
LOC. FOOT: **150' E of NW SW SE**

LOC. FOOTAGE: **990' FSL 2,160' FEL**
SEC: **1** TWP: **1S** RNG: **36W**
COUNTY: **Rauville** STATE: **Kansas**

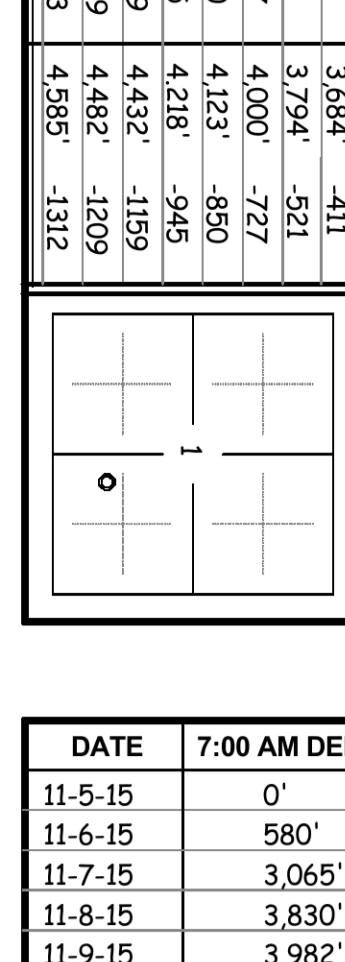
API: **15-153-21171-00-00**

CONTRACTOR: **Murfin Drilling Co., Inc.** RIG NO.: **2**
DRILLING STARTED: **11-5-2015** COMPLETED: **11-13-2015**
MUD DISPLACED: **3,385'** MUD TYPE: **Chemical**
DRILLING TIME LEFT FROM: **3,638'** TO: **RTD**
SAMPLES SAVED FROM: **3,670'** TO: **RTD**
SAMPLES EXAMINED FROM: **3,670'** TO: **RTD**
GEOLOGICAL SUPERVISION FROM: **3,670'** TO: **RTD**

MEASUREMENTS: **Surface 8.5/81 @ 306'**
w/ 250 sacks cement
Production 5.1/2" @ 4582'
w/ 500 sacks cement

CONDUCTOR: **Electrical Surveys**
Pioneer Wireline
Dud Induction Log
Dud Compensated -

FORMATION NAME	LOG	DATE/TIME	SAMPLE	TOP DATUM	TOP SAMPLE DATUM
Stone Corral	3,207'	+66	3,208'	+65	
Base Stone Corral	3,237'	+36	3,238'	+35	
Neva	3,684'	-411	3,684'	-411	
Foraker	3,794'	-521	3,794'	-521	
Topeka	4,000'	-727	4,000'	-727	
Oread	4,123'	-850	4,123'	-850	
Lansing	4,218'	-945	4,218'	-945	
Stark	4,432'	-1159	4,432'	-1159	
B/KC	4,482'	-1209	4,482'	-1209	
Total Depth	4,586'	-1313	4,585'	-1312	



DATE	7:00 AM DEPTH	REMARKS
11-5-15	0'	Spud @ 4:15 pm. Plug down @ 9:00 pm. Drilled out plug @ 5:00 am on 11-6-15 w/ PDC bit
11-6-15	580'	Cut 580' in last 24 hrs.
11-7-15	3,065'	Cut 2,485' in last 24 hrs; 22.5 hrs drlg. Bit trip @ 3637' (ran button bit)
11-8-15	3,830'	Cut 765' in last 24 hrs; 17 hrs drlg. DST #1 @ 3982'
11-9-15	3,982'	Cut 152' in last 24 hrs; 8.5 hrs drlg. DST #2 @ 4138'
11-10-15	4,138'	Cut 156' in last 24 hrs; 12.25 hrs drlg. DST #3 @ 4285'
11-11-15	4,285'	Cut 147' in last 24 hrs; 12.5 hrs drlg. DST #4 @ 4345'
11-12-15	4,345'	Cut 60' in last 24 hrs; 5.5 hrs drlg. DST #5 @ 4433'
11-13-15	4,442'	Cut 97' in last 24 hrs; 8.25 hrs drlg. RTD 4585' @ 7:45 pm
11-14-15	4,585'	Cut 143' in last 24 hrs; 11.75 hrs drlg. Ran production casing.

Remarks

The electric log measurements correlate from even to 1' higher to the drilling measurements.

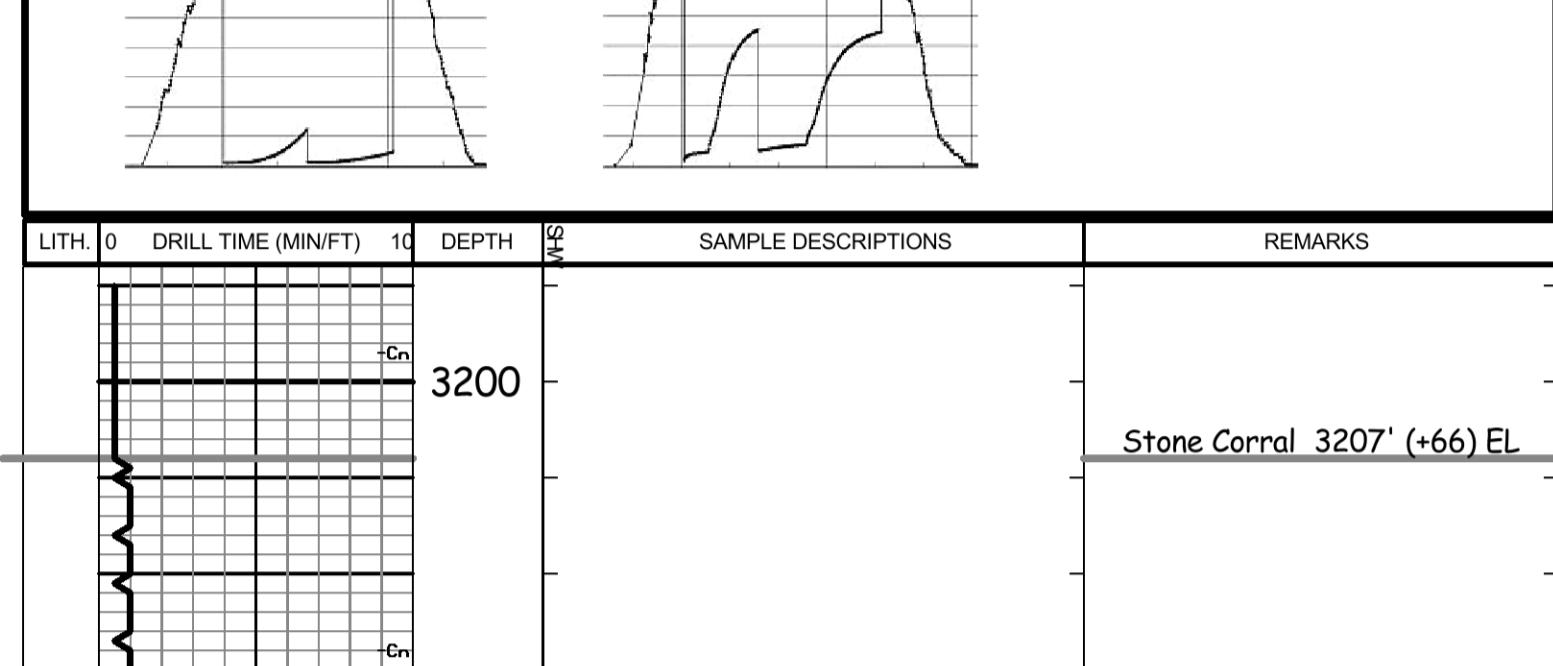
Formation tops and lithology on this report have been corrected to the electric log.

The drilling samples were deposited at the Kansas Geological Survey office in Wichita.

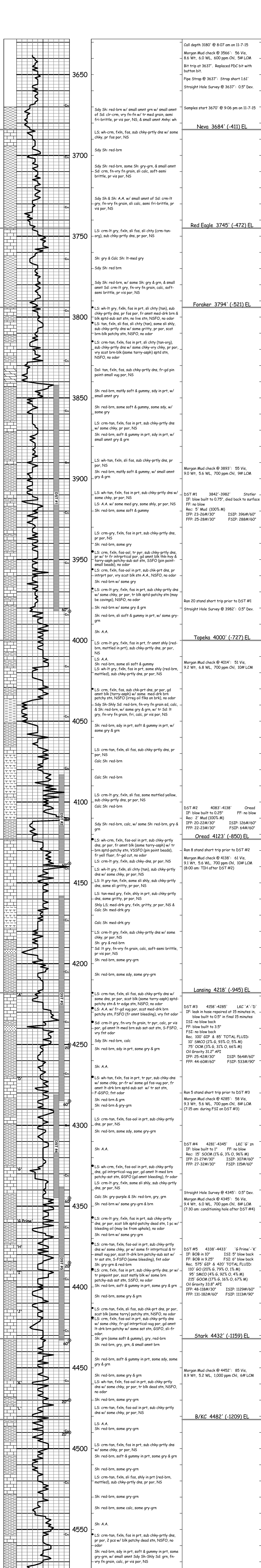
Respectfully submitted,

Robert L. Milford

Drill Stem Test Charts



LITH	0	DRILL TIME (MIN/FT)	10	DEPTH	SAMPLE DESCRIPTIONS	REMARKS
				3200		Stone Corral 3207' (+66) EL
				3250		B/Stone Corral 3237' (+36) EL



DATE	7:00 AM DEPTH	REMARKS
11-5-15	0'	Spud @ 4:15 pm. Plug down @ 9:00 pm. Drilled out plug @ 5:00 am on 11-6-15 w/ PDC bit
11-6-15	580'	Cut 580' in last 24 hrs.
11-7-15	3,065'	Cut 2,485' in last 24 hrs; 22.5 hrs drlg. Bit trip @ 3637' (ran button bit)
11-8-15	3,830'	Cut 765' in last 24 hrs; 17 hrs drlg. DST #1 @ 3982'
11-9-15	3,982'	Cut 152' in last 24 hrs; 8.5 hrs drlg. DST #2 @ 4138'
11-10-15	4,138'	Cut 156' in last 24 hrs; 12.25 hrs drlg. DST #3 @ 4285'
11-11-15	4,285'	Cut 147' in last 24 hrs; 12.5 hrs drlg. DST #4 @ 4345'
11-12-15	4,345'	Cut 60' in last 24 hrs; 5.5 hrs drlg. DST #5 @ 4433'
11-13-15	4,442'	Cut 97' in last 24 hrs; 8.25 hrs drlg. RTD 4585' @ 7:45 pm
11-14-15	4,585'	Cut 143' in last 24 hrs; 11.75 hrs drlg. Ran production casing.