

Thomas J. Funk
Petroleum Geologist

Geologists Report
Drilling Time and Sample Log

OPERATOR **Murfin Drilling Co., Inc**
LEASE **Vanava**
WELL NO **#2-5**

FIELD **Field Ext**
LOCATION **1070' FSL & 2600' FWL**
SEC. **5** TWP. **13S** RGE. **32W**
COUNTY **Logan** STATE **Kansas**

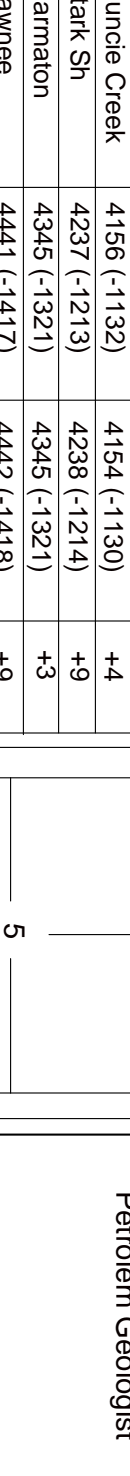
ELEVATION **KB 3024'**
DF **GL 3013**
Measurements Are All **From KB**

CONTRACTOR **Murfin Drilling Co** Rig #22
COMP **8/12/2012**
COMM **8/1/2012** LOG TD **4723'**
RTD **4720'** TO **4720'**
SAMPLES SAVED FROM **3700'** TO **4720'**
DRILLING TIME KEPT FROM **3700'** TO **4720'**
SAMPLES EXAMINED FROM **3700'** TO **4720'**

GEOLOGICAL SUPERVISION FROM **3845'** TO **4720'**
MUD/UP **3200'** TYPE MUD **Chemical**

FORMATION	LOG TOP DATUM	SAMPLE TOP DATUM	STRUCT COMP
Anhydrite	2507 (-4517)	2509 (-4515)	+1
B/Anhydrite	2530 (-4394)	2531 (-4393)	-1
Topoka	3745 (-721)	3744 (-720)	+3
Healdene Sh	3968 (-944)	3970 (-946)	+7
Lansing	4012 (-988)	4012 (-988)	+5
Murde Creek	4156 (-1132)	4154 (-1130)	+4
Stark Sh	4237 (-1213)	4238 (-1214)	+9
Marmaton	4345 (-1321)	4345 (-1321)	+3
Pawnee	4441 (-1417)	4442 (-1418)	+9
Cherokee Sh	4526 (-1502)	4526 (-1502)	+8
Johnson Zone	4569 (-1545)	4569 (-1545)	+8
Mississippi	4637 (-1613)	4638 (-1614)	+23

ELECTRICAL SURVEYS
Log-Tech
DIL
DUOCP
BHCS



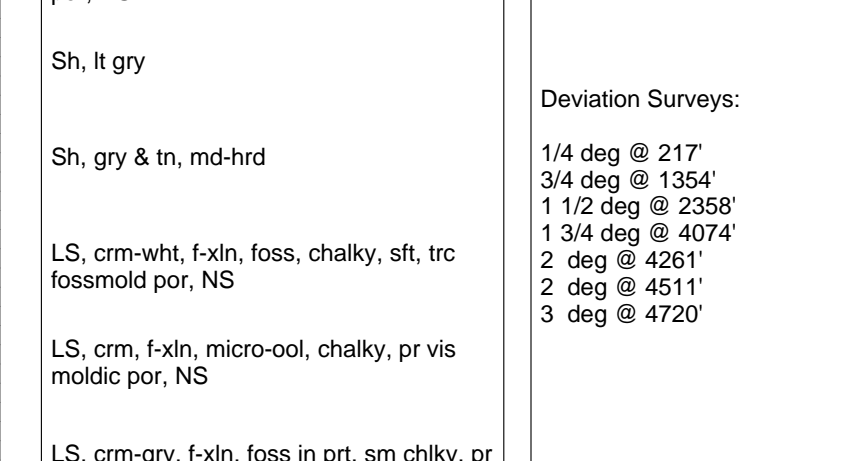
REFERENCE WELL FOR STRUCTURAL COMPARISON: Murfin Drilling Co. #1-5 Vanava

Date	Daily Progress		No Size	Make	Type	Depth Out	Feet	Hours
	Depth	Spud						
8/1/12			1	1 1/4"	GMS	RR	217	217
8/2/12		300'	2	7 7/8"	HTC	DP906F	3650	3433
8/3/12		2840'	3	7 7/8"	HTC	GX22S	4720	1070
8/4/12		3895'						59
8/5/12		4074'						
8/6/12		4110'						
8/7/12		4213'						
8/8/12		4235'						
8/9/12		4345'						
8/10/12		4511'						
8/11/12		4678'						
8/12/12		4720'						

REMARKS AND RECOMMENDATIONS:
Based upon log analysis, DST recovery, and sample examination, it was decided to run production casing to further evaluate the #2-5 Vanava.

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LEGEND

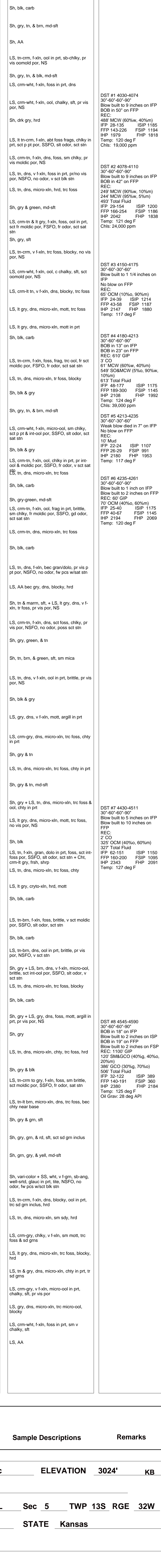


Lithology

DRILLING TIME IN MINUTES PER FOOT

Sample Descriptions

Remarks



Lithology

DRILLING TIME IN MINUTES PER FOOT

Sample Descriptions

Remarks

COMPANY Murfin Drilling Co., Inc	ELEVATION 3024'	KB
LEASE #2-5 Vanava		
LOCATION 1070' FSL & 2600' FWL	Sec 5	TWP 13S RGE 32W
COUNTY Logan	STATE Kansas	