

Thomas J. Funk
Petroleum Geologist

Geologists Report
Drilling Time and Sample Log

OPERATOR: Murfin Drilling Co., Inc
LEASE: Kuhn
FIELD: Wildcat
LOCATION: 1378' FSL & 1030' FWL
SEC. 4
COUNTY: Logan

WELL NO: #1-4
API: #5-109-21184
ELEVATION: KB 3022'

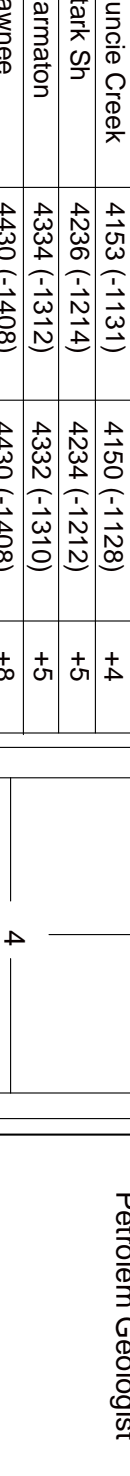
DF: 3022'
GL: 3011'
Measurements Are All From KB

CONTRACTOR: Murfin Drilling Co. Rig #22
COMM: 5/23/13
RTD: 4/20
SAMPLES SAVED FROM: 3650 TO 4720
DRILLING TIME KEPT FROM: 3650 TO 4720
SAMPLES EXAMINED FROM: 3650 TO 4720

MECHANICAL SUPERVISION FROM: 3705 TO 4720
MUD/UP: 3200
TYPE MUD: Chemical

FORMATION	LOG TOP DATUM	SAMPLE TOP DATUM	STRUCT COMP
Anyhydrite	2502 (-4517)	2504 (-4518)	+1
B/Anyhydrite	2527 (-4493)	2527 (-4495)	+2
Topeka	3741 (-719)	3741 (-719)	+2
Heabene Sh	3964 (-942)	3964 (-942)	Flai
Lansing	4009 (-987)	4005 (-983)	+2
Murde Creek	4153 (-1131)	4150 (-1128)	+4
Stark Sh	4236 (-1214)	4234 (-1212)	+5
Marmaton	4334 (-1312)	4332 (-1310)	+5
Pawnee	4430 (-1408)	4430 (-1408)	+8
Cherokee Sh	4515 (-1493)	4513 (-1491)	+5
Johnson Zone	4557 (-1535)	4556 (-1534)	+7
Mississippi	4619 (-1597)	4620 (-1598)	+15

ELECTRICAL SURVEYS
Log-Tech
DIL
MEL
DUCP
BHCS



REFERENCE WELL FOR STRUCTURAL COMPARISON: Murfin Drilling Co. #1-5 Larna
710' FNL & 375' FEL sec. 5-13S-32W, Logan Co. KS

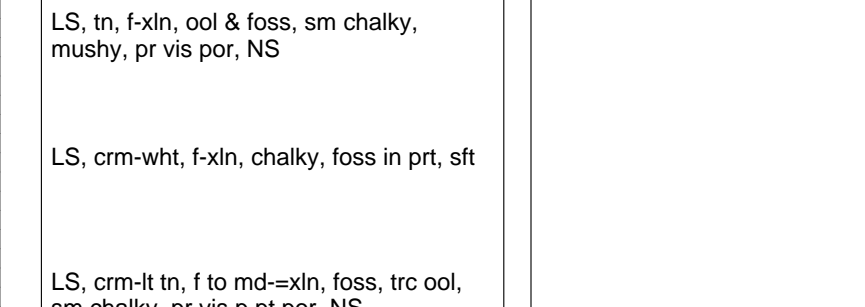
Date	Depth	NO	Size	Make	Type	Depth Out	Feet	Hours
5/23/13	Stud	1	12 1/4"	GMS	RR	224	224	3
5/24/13	40"	2	7 7/8"	HTC	DP906F	3650	3426	48
5/25/13	2500'	2	7 7/8"	HTC	GX20c	4365	745	52
5/26/13	3640'	3	7 7/8"	HTC	GX20c	4720	300	28
5/27/13	3970'	4	7 7/8"	HTC	GX22s			
5/28/13	4085'							
5/29/13	4212'							
5/30/13	4230'							
5/31/13	4295'							
6/1/13	4420'							
6/2/13	4505'							
6/3/13	4600'							

Remarks And Recommendations:
Based upon log analysis, DST recovery, and sample examination, it was decided to run production casing to further evaluate the #1-4 Kuhn.

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Log tops correlate approximately 2 feet downhole to drilling time. No correction was made.

LEGEND

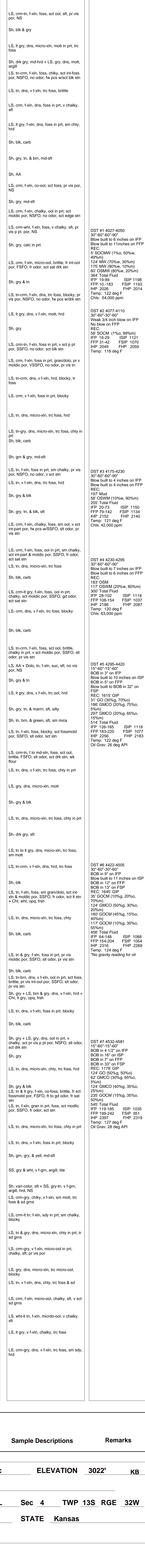


DRILLING TIME IN MINUTES PER FOOT

Depth

Sample Descriptions

Remarks



COMPANY Murfin Drilling Co., Inc

LEASE #1-4 Kuhn

LOCATION 1378' FSL & 1030' FWL

COUNTY Logan

ELEVATION 3022' KB

Sec 4 TWP 13S RGE 32W

STATE Kansas