

Thomas J. Funk
Petroleum Geologist

Geologist's Report
Drilling Time and Sample Log

OPERATOR **Murfin Drilling Co., Inc**

LEASE **WWWM 'A'** WELL NO **#3-4**

FIELD **High Hat** API **15-109-21338**

LOCATION **1650' FSL & 1560' FEL**

SEC. **4** TWP **13S** RGE **32W**

COUNTY **Logan** STATE **Kansas**

CONTRACTOR **Murfin Dring Co** Reg #4

COMM **9/29/2014** COMP **10/7/2014**

RTD **9/29/2014** LOG TD **4726'**

SAMPLES SAVED FROM **3670'** TO **4725'**

DRILLING TIME KEPT FROM **3670'** TO **4725'**

SAMPLES EXAMINED FROM **3670'** TO **4725'**

GEOLOGICAL SUPERVISION FROM **3700'** TO **4725'**

MUD UP **3300'** TYPE MUD **Chemical**

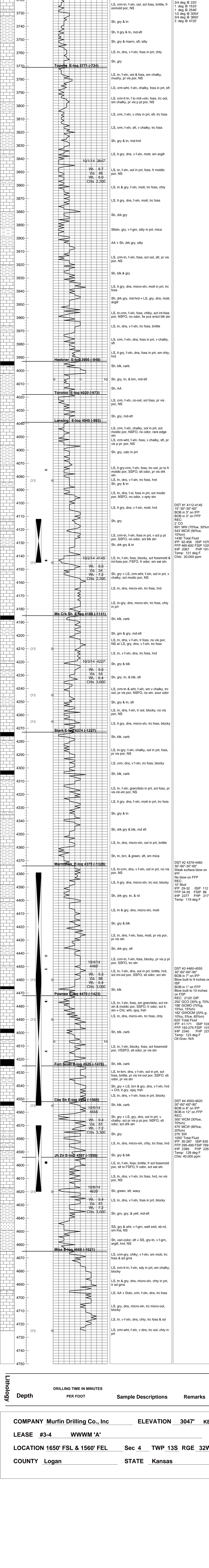
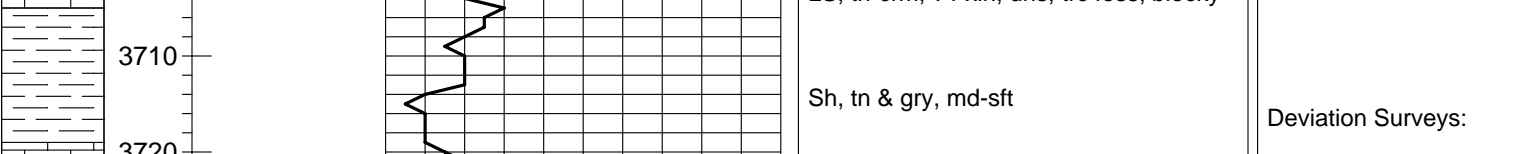
FORMATION	LOG	SAMPLE
	TOP DATUM	TOP DATUM
Anhydrite	2530 (+517)	2529 (+518)
B/Anhydrite	2554 (+493)	2548 (+499)
Topoka	3771 (-724)	3771 (-724)
Heebner Sh	3995 (-948)	3993 (-946)
Lansing	4040 (-993)	4039 (-992)
Muncie Creek	4188 (-1141)	4185 (-1138)
Stark Sh	4274 (-1227)	4273 (-1226)
Marmaton	4375 (-1328)	4374 (-1327)
Pawnee	4470 (-1423)	4471 (-1425)
Cherokee Sh	4552 (-1505)	4552 (-1505)
Johnson Zone	4597 (-1550)	4594 (-1547)
Mississippian	4668 (-1621)	4665 (-1618)

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Date	Drilling Progress	NO. Stret	Make	Type	Origin	Out	Feet	Hours
9/29/14	Spud	1	1 1/4" HTC	GTC-1	220	220	220	3
9/30/14	2885'	2	7 7/8" HTC	DF506	3650	3430	3430	48
10/1/14	3660'	3	7 7/8" HTC	GX20c	4725	1075	65	
10/2/14	4115'							
10/3/14	4165'							
10/4/14	4460'							
10/5/14	4555'							
10/6/14	4620'							
10/7/14	4725' TD							

Remarks: Based upon log analysis, DST recovery, and sample examination, it was decided to run 5 1/2" casing to further evaluate the #3-4 WWWM 'A'.
Thomas Funk
Petroleum Geologist

LEGEND



COMPANY Murfin Drilling Co., Inc	ELEVATION 3047'	KB
LEASE #3-4	WWWM 'A'	
LOCATION 1650' FSL & 1560' FEL	Sec 4	TWP 13S RGE 32W
COUNTY Logan	STATE Kansas	