

Thomas J. Funk  
Petroleum Geologist

**Geologists Report**  
**Drilling Time and Sample Log**

OPERATOR **Murfin Drilling Co., Inc**

LEASE **Abell Ranch 'A'** WELL NO **#1-30**  
FIELD **Field Ext** API **15-063-22172**  
LOCATION **660' FSL & 330' FWL**  
SEC. **30** TWP **12S** RGE. **30W**  
COUNTY **Gove** STATE **Kansas**

ELEVATION  
KB **2907'**  
DF  
GL **2896'**  
Measurements Are All From **KB**

CASING RECORD  
SURFACE  
8 5/8" at 215'KB w/175sx  
TO 4620

DRILLING TIME KEPT FROM 3600' TO 4620'  
SAMPLES EXAMINED FROM 3600' TO 4620'  
GEOLOGICAL SUPERVISION FROM 3620' TO 4620'  
MUD UP 3300' TYPE MUD Chemical

FORMATION	LOG	SAMPLE	TOP DATUM
Anhydrite	2395 (+512)	2393 (+514)	
B/Anhydrite	2419 (+489)	2417 (+490)	
Topokaka	3699 (-792)	3701 (-794)	
Heebner Sh	3920 (-1013)	3918 (-1011)	
Lansing	3953 (-1046)	3953 (-1046)	
Muncie Creek	4099 (-1192)	4097 (-1190)	
Start Sh	4182 (-1275)	4181 (-1274)	
Marmaton	4306 (-1389)	4305 (-1388)	
Pawnee	4374 (-1467)	4369 (-1462)	
Cherokee Sh	4464 (-1557)	4463 (-1556)	
Johnson Zone	4508 (-1601)	4507 (-1600)	
Mississippian	4525 (-1618)	4624 (-1617)	

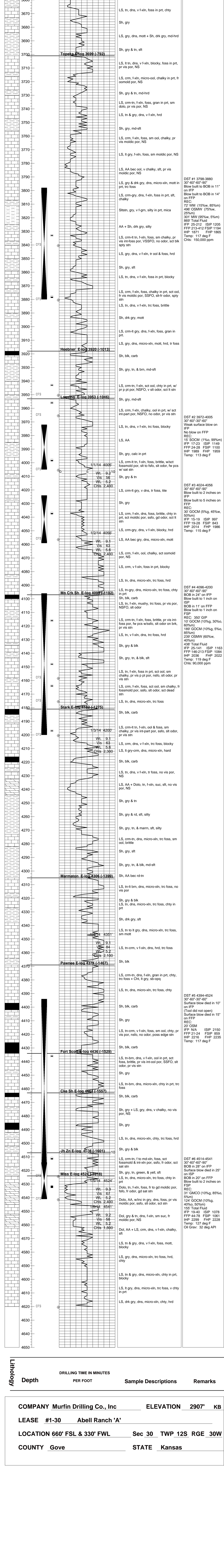
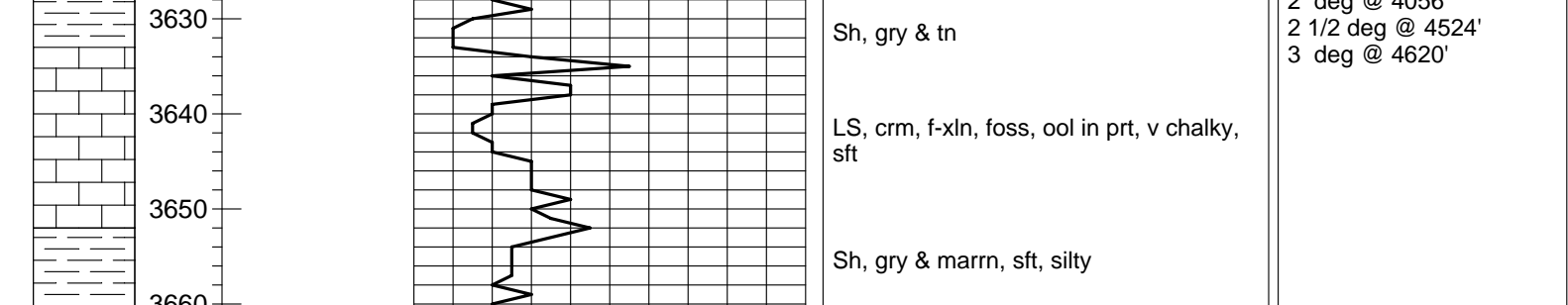
Date	Daily Progress	NO	Stret	Make	Type	Depth	Out	Feet	Hours
12/27/13	Spud	1	12 1/4"	HTC	RR	217	217		2
12/28/13		2	7 7/8"	HTC	DF506F	3600	3393	42	
12/29/13		3	7 7/8"	HTC	GX20c	4620	1020	84	
12/30/13									
12/31/13									
1/1/14									
1/2/14									
1/3/14									
1/4/14									
1/5/14									
1/6/14									
1/7/14									

PRODUCTION  
5 1/2" at 4612'KB w/175sx

ELECTRICAL SURVEYS  
Pioneer Energy Services  
DIL  
MEL  
DUQP  
BHCS

REMARKS AND RECOMMENDATIONS:  
Based upon log analysis, DST recovery, and sample examination, it was decided to set production casing on the #1-30 Abell Ranch 'A'.  
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**LEGEND**



COMPANY **Murfin Drilling Co., Inc** ELEVATION **2907'** KB  
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COUNTY **Gove** STATE **Kansas**