

Thomas J. Funk
Petroleum Geologist

Geologists' Report
Drilling Time and Sample Log

OPERATOR **Murfin Drilling Co., Inc**
LEASE **Welch**
FIELD **Wildcat**
LOCATION **990' FSL & 1015' FWL**
SEC. **18**
COUNTY **Scott**

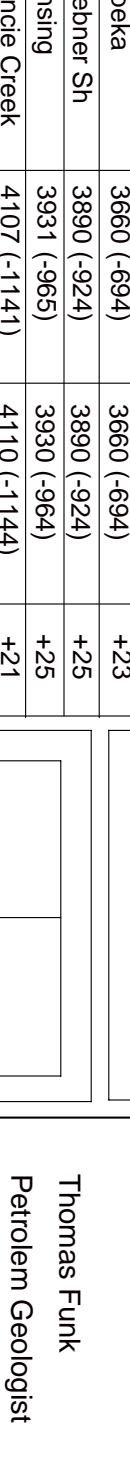
ELEVATION **2966'**
WELL NO **#1-18**
API **15-171-20905**
DF **2965'**
GL **2965'**
Measurements Are All **From KB**

CONTRACTOR **Murfin Drilling Co**
COMM **9/1/2012**
RTD **4/7/15**
SAMPLES SAVED FROM **3800**
DRILLING TIME KEPT FROM **3800**
SAMPLES EXAMINED FROM **3800**

CEOLOGICAL SUPERVISION FROM **3860**
MUD UP **3200**
TYPE MUD **Chemical**

FORMATION	LOG TOP DATUM	SAMPLE TOP DATUM	STRUCT COMP
Anyhrite	2324 (+642)	2324 (+642)	+32
Banyhrite	2344 (+622)	2443 (+623)	+27
Topexka	3860 (-924)	3860 (-924)	+23
Heebner Sh	3890 (-924)	3890 (-924)	+25
Lansing	3931 (-965)	3930 (-964)	+25
Murde Creek	4107 (-1141)	4110 (-1144)	+21
Stark Sh	4202 (-1236)	4200 (-1234)	+24
Marmaton	4316 (-1350)	4316 (-1350)	+24
Pawnee	4422 (-1456)	4419 (-1453)	+18
Cherokee Sh	4493 (-1527)	4492 (-1526)	+14
Johnson Zone	4533 (-1567)	4531 (-1565)	+13
Mississippian	4616 (-1650)	4615 (-1649)	+8

ELECTRICAL SURVEYS
Pioneer Energy Services
DIL
MEL
DUCP
BHCS



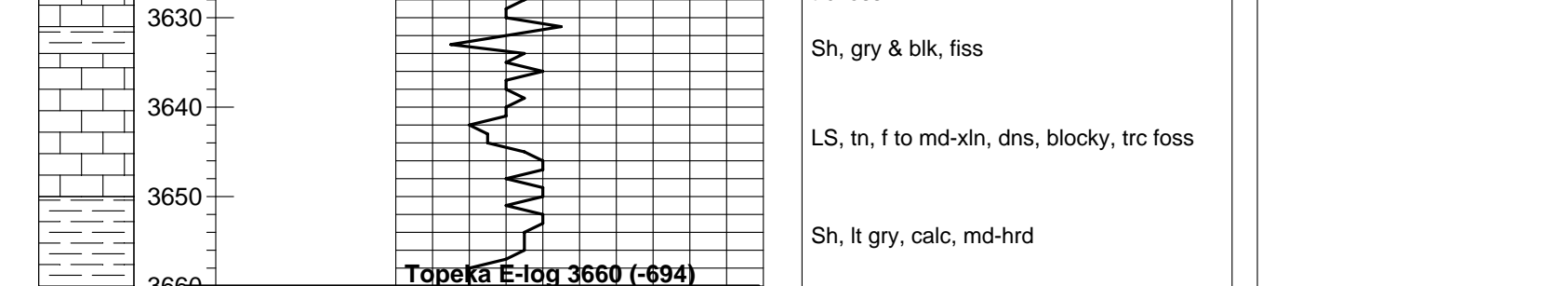
REFERENCE WELL FOR STRUCTURAL COMPARISON: Murfin Drilling Co. #1-17 Schowalter

Date	Daily Progress		NO Size	Make	Type	Depth Out	Feet	Hours
	Depth	Spud						
9/1/12			1 1/2	1/4	GMS	RR	222	222
9/2/12	535'		2	7/8"	Smith	M606	3564	3562
9/3/12	2484'		3	7/8"	Smith	F27V1	4715	1131
9/4/12	3628'						4715	69
9/5/12	3982'							
9/6/12	4152'							
9/7/12	4292'							
9/8/12	4448'							
9/9/12	4600'							
9/10/12	4715 TD							

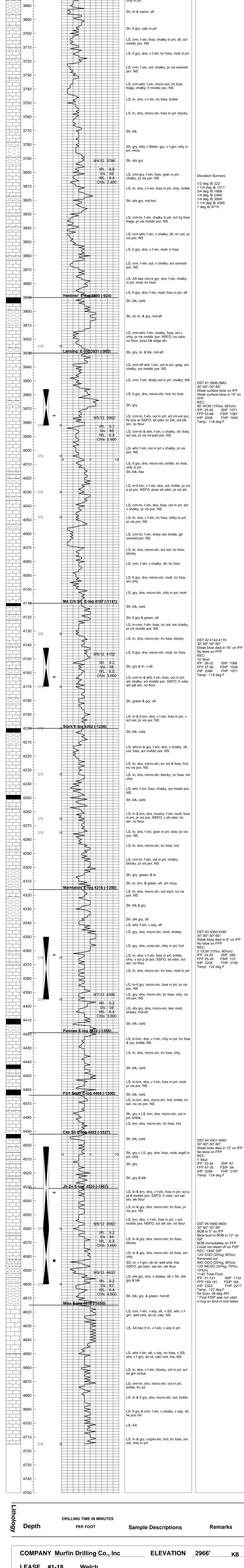
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9/10/12	4715 TD							

REMARKS AND RECOMMENDATIONS:
Based upon log analysis, DST recovery, and sample examination, it was recommended to run production casing to further test the #1-18 Welch.
Thomas Funk
Petroleum Geologist

LEGEND



Lithology



Lithology

Depth	DRILLING TIME IN MINUTES PER FOOT	Sample Descriptions	Remarks
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COMPANY **Murfin Drilling Co., Inc** ELEVATION **2966'** **KB**

LEASE **#1-18 Welch**

LOCATION **990' FSL & 1015' FWL** Sec **18** TWP **16S** RGE **32W**

COUNTY **Scott** STATE **Kansas**