

**OPERATOR**

Company: Murfin Drilling Company  
 Address: 250 N. Water Suite 300  
 Wichita, KS 67202  
 Contact Geologist: Shauna Gunzelman  
 Contact Phone Nbr: 316-267-3241  
 Well Name: Kacirek Trust #3-5  
 Location: Sec. 5 - T2S - R36W  
 API: 15-153-21057-0000  
 Pool: \_\_\_\_\_  
 State: Kansas  
 Field: Brumm NE  
 Country: USA



Scale 1:240 Imperial

Well Name: Kacirek Trust #3-5  
 Surface Location: Sec. 5 - T2S - R36W  
 Bottom Location: \_\_\_\_\_  
 API: 15-153-21057-0000  
 License Number: 30606  
 Spud Date: 10/2/2014  
 Region: Rawlins County  
 Drilling Completed: 10/9/2014  
 Surface Coordinates: 1320' FNL & 1320' FWL  
 Bottom Hole Coordinates: \_\_\_\_\_  
 Ground Elevation: 3229.00ft  
 K.B. Elevation: 3240.00ft  
 Logged Interval: 3520.00ft  
 Total Depth: 4750.00ft  
 Formation: Cherokee  
 Drilling Fluid Type: Chemical/Fresh Water Gel  
 Time: 2:30 PM  
 Time: 11:30 PM  
 To: 4750.00ft

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: \_\_\_\_\_  
 Latitude: \_\_\_\_\_  
 N/S Co-ord: 1320' FNL  
 E/W Co-ord: 1320' FWL

**LOGGED BY**

**Keith Reavis**  
*Consulting Geologist*

Company: Keith Reavis, Inc.  
 Address: 3420 22nd Street  
 Great Bend, KS 67530  
 Phone Nbr: 620-617-4091  
 Logged By: KLG #136  
 Name: Keith Reavis

**CONTRACTOR**

Contractor: Murfin Drilling Company  
 Rig #: Rig #2  
 Rig Type: mud rotary  
 Spud Date: 10/2/2014  
 TD Date: 10/9/2014  
 Rig Release: \_\_\_\_\_  
 Time: 2:30 PM  
 Time: 11:30 PM  
 Time: \_\_\_\_\_

**ELEVATIONS**

K.B. Elevation: 3240.00ft  
 K.B. to Ground: 11.00ft  
 Ground Elevation: 3229.00ft

**NOTES**

Due to positive drill stem testing, it was determined by the operator to set 5 1/2" production casing and further test the Lansing-KC through perforations and stimulation.  
 The samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.  
 Respectfully submitted,  
 Keith Reavis

**Murfin Drilling Company**  
**daily drilling report**

DATE	7:00 AM DEPTH	REMARKS
10/03/2014		Geologist Keith Reavis on location @ 1715 hrs, 3506 ft, running bit trip, Repair hydromatic, back on bottom w/button bit, ctch, resume drilling
10/04/2014	3686	drilling ahead, Neva, Red Eagle, Foraker, Stotler, Topeka
10/05/2014	4092	drilling ahead, Topeka, Oread, show in Oread warrants test, short trip, conduct and complete DST #1, successful test, TIH w/bit, resume drilling
10/06/2014	4190	drilling ahead, Lansing, show in D zone warrants test, TOH w/bit, in w/tools, conduct and complete DST #2, successful test, TIH w/bit, ctch
10/07/2014	4310	resume drilling, show in G zone warrants test, conduct and complete DST #3, Successful test, TIH w/bit, resume drilling
10/08/2014	4395	drilling ahead, show in Lansing H and J zones warrant test, TOH for DST #4, conducting and complete DST #4, successful test, TIH w/bit, resume drilling
10/09/2014	4552	drilling ahead, Marmaton, Pawnee, Cherokee, TD 4750' @ 2330 hrs
10/10/2014	4750	short trip, ctch, TOH w/bit, conduct and complete logging operations geologist off location @ 1030 hrs

**Murfin Drilling Company**  
**well comparison sheet**

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
MDC - Kacirek Trust #3-5 1320' FNL & 1320' FWL Sec 5-T2S-R36W					MDC - Kacirek Trust #2-5 2310' FSL & 600' FWL Sec 5-T2S-R36W				MDC - Kacirek Trust #1-5 v Sec 5-T2S-R36W			
3240 KB					3241 KB				3252 KB			
					Structural Relationship				Structural Relationship			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Neva	3622	-382	3624	-384	3620	-379	-3	-5	3628	-376	-6	-8
Red Eagle	3687	-447	3687	-447	3683	-442	-5	-5	3691	-439	-8	-8
Foraker	3737	-497	3737	-497	3730	-489	-8	-8	3739	-487	-10	-10
Stotler	3890	-650	3888	-648	3886	-645	-5	-3	3892	-640	-10	-8
Topeka	3956	-716	3953	-713	3953	-712	-4	-1	3957	-705	-11	-8
Oread	4081	-841	4081	-841	4081	-840	-1	-1	4085	-833	-8	-8
Lansing	4169	-929	4171	-931	4167	-926	-3	-5	4170	-918	-11	-13
Lansing D	4235	-995	4231	-991	4228	-987	-8	-4	4230	-978	-17	-13
Stark	4386	-1146	4388	-1148	4386	-1145	-1	-3	4388	-1136	-10	-12
BKC	4440	-1200	4443	-1203	4436	-1195	-5	-8	4438	-1186	-14	-17
Pawnee	4564	-1324	4564	-1324	4564	-1323	-1	-1	4564	-1312	-12	-12
Cherokee	4644	-1404	4640	-1400	4639	-1398	-6	-2	4639	-1397	-17	-13
Mississippian	nr	nr			nr	nr			4859	-1607		
Total Depth	4750	-1510	4750	-1510	4776	-1535	25	25	4935	-1683	173	173

**Drill Stem Test #1**

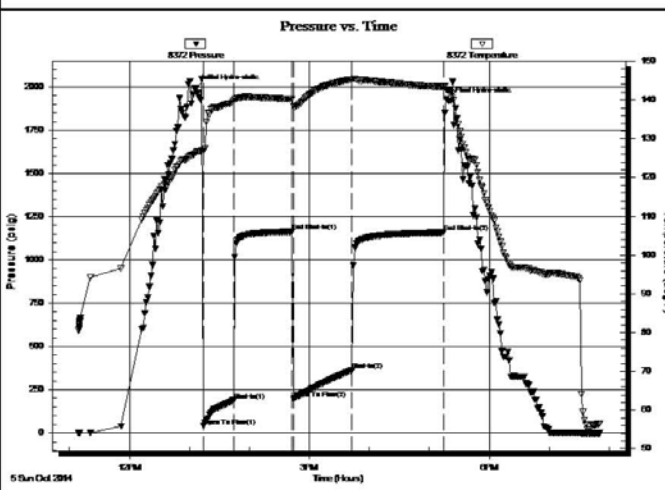
	<b>DRILL STEM TEST REPORT</b>	
	Murfin Drig. Co., LLC	<b>5/2S/36W</b>
	250 N. Water, STE 300 Wichita, KS 67202	<b>Kacirek #3-5</b>
ATTN: Keith Reavis	Job Ticket: 60729	<b>DST#: 1</b>
	Test Start: 2014.10.05 @ 11:09:00	

**GENERAL INFORMATION:**

Formation: **Oread**  
 Deviated: No Whipstock ft (KB)  
 Time Tool Opened: 13:14:00  
 Time Test Ended: 19:50:30  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Brandon Quintana  
 Unit No: 48  
 Interval: **4034.00 ft (KB) To 4092.00 ft (KB) (TVD)**  
 Total Depth: 4092.00 ft (KB) (TVD)  
 Reference Elevations: 3240.00 ft (KB)  
 Hole Diameter: 7.88 inches-Hole Condition: Fair  
 KB to GR/CF: 3229.00 ft (CF)  
 KB to GR/CF: 11.00 ft

Serial #: **8372** Outside  
 Press@RunDepth: 363.59 psig @ 4035.00 ft (KB)  
 Capacity: 8000.00 psig  
 Start Date: 2014.10.05 End Date: 2014.10.05 Last Calib.: 2014.10.05  
 Start Time: 11:09:01 End Time: 19:50:30 Time On Btm: 2014.10.05 @ 13:06:30  
 Time Off Btm: 2014.10.05 @ 17:20:00

TEST COMMENT: 30 - IF - Opened w / surface blow , B.o.B in 14 min.  
 60 - ISI - Return built to 1/2", died back to surface  
 60 - FF - Blow built to B.o.B in 15 min.  
 90 - FSI - Return built to 3 1/2", died back to 3"



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1991.85	126.53	Initial Hydro-static
8	40.69	126.84	Open To Flow (1)
38	189.09	139.72	Shut-In(1)
96	1163.32	140.18	End Shut-In(1)
98	196.46	138.32	Open To Flow (2)
156	363.59	145.25	Shut-In(2)
248	1158.14	143.39	End Shut-In(2)
254	1918.89	142.05	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bb)
180.00	MW90%w, 10%m	0.89
184.00	WOCM 65%w, 30%m, 5%o	2.33
280.00	OCM 80%w, 20%o	3.93

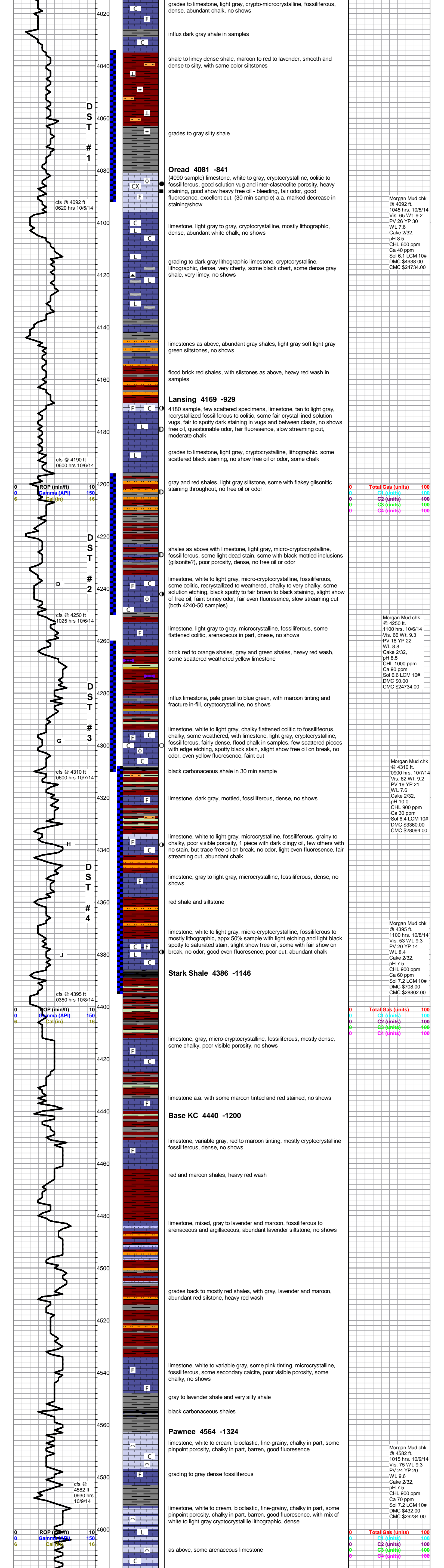
Gas Rates		
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





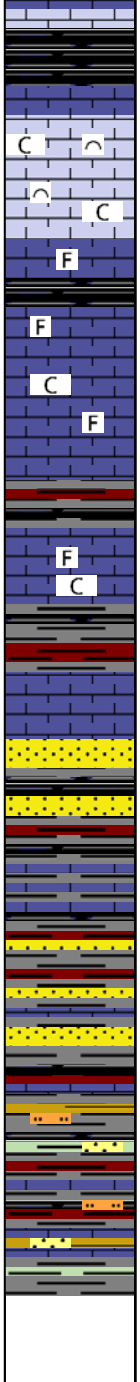






4620  
4640  
4660  
4680  
4700  
4720  
4740

cfs @ 4680 ft  
1905 hrs  
10/9/14



shale, black carbonaceous

limestone, white, grainy bioclastic, some light gray to tan pelletal, some chalky to weathered, some scattered pinpoint interclast porosity, no shows, moderate chalk in samples

**Cherokee 4644 -1404**

limestone, light gray to gray and tan-light brown, micro-cryptocrystalline, fossiliferous, some grainy, chalky in part, some large flattened clasts, poor visible porosity, no shows, abundant chalk in samples, faint even fluorescence

limestone, light gray, some maroon tinting, mostly cryptocrystalline, fossiliferous to lithographic, dense, some chalky, moderate chalk, no shows

limestone a.a.

picking up sandstone, white, quartz, very fine grain, well ousnded, fair sorted, well cemented, very dense, no shows

mixed shales with limestone, maroon, lithographic to argillaceous

flood sandstone a.a and red, very fine grain, dirty, silty, round to angular, poor sorting, well cemented, no shows

mixed gray to lavender to maroon limestone, variable shales including olive striated shale, mixed scattered siltstone and sand, looks like a conglomerate

**Rotary TD 4750 ft @ 2330 hrs 10/9/14**  
**Pioneer Log TD 4750 ft**  
**Complete Logging Operations 1000 hrs 10/10/14**