

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

COMPANY **SHAKESPEARE OIL CO.** ELEVATIONS
 LEASE **SHAKY 4-16** KB 2818'
 FIELD **Wildcat** 1852' FWL DF _____
 LOCATION **1999' F.W.L. 1852' F.W.L.** GL 2808'
 SEC **16** T1MSP **14S** RPE **32W**
 COUNTY **Logan** STATE **Kansas** Measurements Are All From **KB**
 CONTRACTOR **HD Drilling Rig #2**
 SPUD **7-24-13** COMP **8-4-13**
 RTD **4:53:00** LTD **4:52:28** CASING N/A
 MUD UP **3:50:00** TYPE MUD **Chemical** CONDUCTION _____
 SURFACE **8-5/8" @ 225'**
 PRODUCTION **3 1/2 @ 4:53:00**

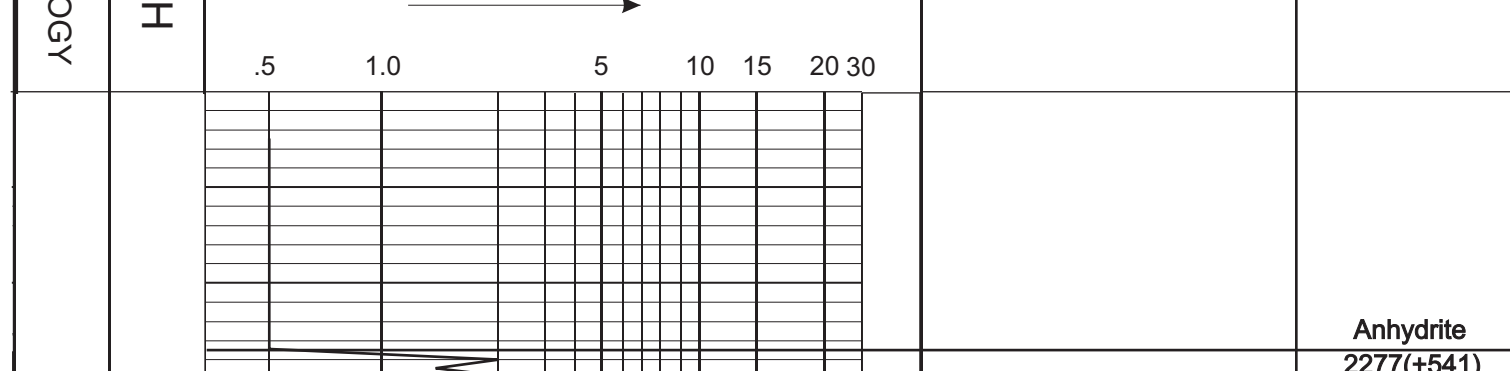
SAMPLES SAVED FROM **3600'** to RTD
 DRILLING TIME KEPT FROM **3600'** to RTD
 SAMPLES EXAMINED FROM **3650'** to RTD
ELECTRICAL SURVEYS
CND/D/SP/P.E.
 GEOLOGICAL SUPERVISION FROM 3700' to RTD
 GEOLOGIST ON WELL **Tim Priest** By: **Weatherford**

FORMATION TOPS ELECTRIC LOG SAMPLE
 Anhydrite 2274 (-544) 2277 (-541)
 Heebner Shale 3774 (-956) 3777 (-959)
 Lansing 3812 (-994) 3818 (-1000)
 SARC 4038 (-1240) 4062 (-1244)
 BRC 4138 (-1330) 4140 (-1332)
 Fort Scott 4320 (-1502) 4323 (-1505)
 Cherokee Shale 4346 (-1528) 4348 (-1530)
 Mississippian 4449 (-1630) 4451 (-1633)

REMARKS Due to the results of DST's, it was decided to set production casing to further test the well.

Respectfully Submitted,
 Tim Priest
 Petroleum Geologist

API #15-109-21198-00-00



DEPTH	DRILLING TIME IN MINUTES PER FOOT Rate of Penetration Decreases	SAMPLE DESCRIPTION	REMARKS
2277		Anhydrite	2277(+541)
2299		Base/ Anhydrite	2299(+519)
3600		Sh blk, carb	
3600		Sh red-grm-gry, silty-fn sandy	
3650		Ls crm-lt gry, fn xtl, fos-ool, sli chky, f-gd int frag por, NS	
3650		Sh blk, carb	
3650		Ls crm-tan, fn xtl, ool, f int ool por, NS	
3650		Ls crm-lt gry, vfn xtl,	
3650		Sh gry, silty	
3650		Ls lt gry-gry, fn xtl, ool, p int ool por, NS	
3650		Ls lt gry-gry, fn xtl, ool, p int ool por, NS	
3650		Sh blk, carb	Heebner 3777 (-959)
3650		Ls crm-tan, vfn xtl, dnse	
3650		Sh mostly red, silty, calc	
3650		Ls crm, fn xtl, fos, chky, p-f int xtl & pp-vug por, NS	Toronto 3795 (-977)
3650		Sh gry-blk	
3650		Ls crm, fn xtl, fos-ool, chky, p-f int xtl & pp-vug por, NS	Lansing 3818 (-1000)
3650		Ls crm, fn xtl, ool, chky, p-f int ool por, NS	DST # 1 (3839-3864) IF: Built to 2 in., no return FF: Surface Blow, no return Rec: 20-30M(15%O,85%N) Fps: 106M/1082# HSPs: 106M/1082# BHT: 112 deg F
3650		Sh gm-gry	
3650		Ls crm-lt gry, fn xtl, fos, dnse	
3650		Sh gm-gry	
3650		Ls crm-lt gry, fn xtl, fos-ool, sli chky, p-f int xtl-pp por w/few vugs, sptd-sli sat dk stn, SFO, v sli odor, no-dull fluor	Pipe strap @ 3864 was 1.81' long to board
3650		Sh gm-gry	DST # 2 (3886-3920) 15'-30"-45'-60" IF: BOB 3", BOB 60" return FF: 780' GO(20%G,80%O) Rec: 240' MW(65%W,35%M) Fps: 40-125M/139-291# HSPs: 103M/1048# HSPs: 182M/1855# BHT: 112 deg F Grav: 52
3650		Sh red-maroon	
3650		Ls crm-lt gry, vfn xtl, sli fos, sli chky, sli chly, dnse	
3650		Sh gm-gry	
3650		Ls crm-lt gry, vfn xtl, dnse	
3650		Ls lt gry-gry, vfn xtl, dnse	
3650		Ls crm, vfn xtl, dnse	
3650		Sh blk, carb	Muncie Creek 3976 (-1158)
3650		Ls crm-tan, vfn xtl, dnse	
3650		Sh gry-dk gry, calc	
3650		Ls crm-lt gry, fn xtl, fos, sli chky, p-f int xtl-pp por, NS	
3650		Ls crm-lt gry, vfn xtl, dnse	
3650		Sh blk, carb	
3650		Sh gm-gry	
3650		Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl-pp por, NS	DST # 3 (4031-4065) 30'-30"-30'-30" IF: Surface Blow, no return FF: No blow, no return Rec: 5' Mud Fps: 15-16M/15-15# HSPs: 203M/178# HSPs: 200M/1848# BHT: 112 deg F
3650		Sh gm-gry, calc	
3650		Ls crm-lt gry, fn xtl, fos, sli chky, p-f int xtl-pp por w/few vugs, sptd-sli sat dk stn, SFO, f odor, dull fluor	DST # 4 (4001-4125) 15'-30"-45'-60" IF: BOB 3", BOB 4", 114 in. return FF: BOB 3", BOB 4", surface return died in 10' Rec: 5' Mud Fps: 28-36M/1048# HSPs: 103M/1048# HSPs: 653M/526# HSPs: 2149M/1905# BHT: 112 deg F
3650		Sh blk, carb	
3650		Ls crm-lt gry, fn xtl, fos, sli chky, f int xtl & int frag por w/scat vugs, sptd-sat stn, SFO, f-strong odor, dull-f fluor	DST # 5 (4200-4225) 15'-30"-45'-60" IF: BOB 3", BOB 4", 114 in. return FF: BOB 3", BOB 4", surface return died in 10' Rec: 5' Mud Fps: 68-226M/231-623# HSPs: 126M/1242# HSPs: 201M/1695# BHT: 120 deg F Grav: 24.000ppm
3650		Ls crm-lt gry, vfn xtl, sli chky, dnse	
3650		Sh blk, carb	B/C.C. 4140 (-1322)
3650		Ls crm-lt gry, vfn xtl, sli chky, dnse	
3650		Sh var col, silty	
3650		Ls crm, vfn xtl, sli fos, sli chky, dnse	Marmaton 4172 (-1354)
3650		Sh var col	
3650		Sh red-grm-gry	
3650		Ls crm-lt gry, vfn xtl, dnse	
3650		Sh red-gry	
3650		Ls crm-lt gry, vfn xtl, sli chly, sli chky, dnse	
3650		Ls crm, fn-vfn xtl, sli fos, sli chky, p int xtl-pp por, sptd stn, VSSFO, no odor, dull fluor	
3650		Sh red-grm-gry	
3650		Ls crm-tan, vfn xtl, sli chly, sli chky, dnse	
3650		Sh blk, carb	Pawnee 4268 (-1450)
3650		Ls crm-lt gry, vfn xtl, sli chky, dnse	
3650		Ls tan-gry, vfn xtl, chly, dnse	DST # 6 (4295-4318) 30'-30"-30'-30" IF: Surface Blow, no return FF: No blow, no return Rec: 5' Mud Fps: 28-36M/1048# HSPs: 653M/526# HSPs: 2149M/1905# BHT: 112 deg F
3650		Sh blk, carb	
3650		Ls tan-brn, vfn xtl, dnse	
3650		Sh gm-gry	
3650		Ls tan-gry, fn xtl, fos, sli chky, p-f int xtl-pp por w/few vugs, sptd-sat stn, SFO, f odor, dull-f fluor	Myric Station 4307 (-1489)
3650		Sh blk, carb	
3650		Ls crm-tan-gry mottld, vfn xtl, sli fos, sli chky, dnse	
3650		Ls crm-lt gry, vfn xtl, chky, dnse	
3650		Ls crm-tan-lt gry, mic xtl, dnse	Fort Scott 4323 (-1505)
3650		Sh blk, carb	
3650		Ls crm-lt gry, fn xtl, fos, v chky, f int xtl-pp por, sptd-sli sat stn, SSFO, sli odor, no fluor	Cherokee Shale 4348 (-1530)
3650		Sh blk, carb, w/int bed tan-gry dnse Ls	
3650		Ls dk brn-gry, vfn xtl, dnse	
3650		Sh gry-grm-red	Johnson Zone 4380 (-1572)
3650		Ls tan-gry, fn xtl, sli fos, p-f int xtl-pp por w/scat vugs, sptd-sli sat dk stn, SFO, f odor, no fluor	DST # 7 (4360-4420) IF: Built to 8in., no return FF: BOB 45", surface return Rec: 300' Q35-20' GO(85%G, 94%O), 60' MG(O2)4%G, 57%O, 19%N, 60' GOM (20' MW(65%W,35%M), Total Fluid: 140' Fps: 16-36M/40-59# HSPs: 113M/1205# HSPs: 2186M/2045# BHT: 115 deg F Grav: 28
3650		Ls crm-tan-gry, vfn xtl, sli fos, sli chky, dnse	
3650		SS wh-lt gry-lt gm, fn gm, sub md, well sort, f cement, fria, NS	
3650		Sh var col, silty-sandy in prt	
3650		SS wh-lt gry, fn-med gm, sub md, p sort, p-f cement, fria, sli chky in prt, NS	
3650		Ls crm-lt gry, vfn xtl, sandy, dnse	Mississippian 4451 (-1633)
3650		Ls crm-tan, vfn xtl, sli sandy, dnse,	
3650		Ls lt gry, vfn xtl, sandy, dnse	
3650		Ls crm, vfn xtl, v sandy, chky, dnse	
3650		Ls tan, vfn xtl, sandy, dnse	
3650		Ls crm-tan, vfn xtl, sli sandy, dnse,	
4530		Total Depth	4530' (-1712)