

**GEOLOGIST'S REPORT**  
**DRILLING TIME AND SAMPLE LOG**

COMPANY **SHAKESPEARE OIL CO.** ELEVATIONS  
 LEASE **Bahlin 2-21** KG 3145'  
 FIELD **Wildcat** DF \_\_\_\_\_  
 LOCATION **335° FN1, 2120' FE1** GL 3135'  
 SEC **21** T1MSP **16S** R0E **34W**  
 COUNTY **Scott** STATE **Kansas** Measurements Are All From **KB**

CONTRACTOR **HD Rite 2** From **KB**  
 SPUD **10-22-14** COMP **11-2-14**  
 RTD **4890'** LTD **4890'** CASING CONDUCTION **N/A**  
 MUD UP **3300'** TYPE MUD **Chemical** SURFACE **8-5/8" @ 267'**  
 SAMPLES SAVED FROM **3800'** to RTD PRODUCTION **5-1/2" @ 4890'**  
 DRILLING TIME KEPT FROM **3800'** to RTD  
 SAMPLES EXAMINED FROM **3800'** to RTD  
 GEOLOGICAL SUPERVISION FROM **3900'** to RTD

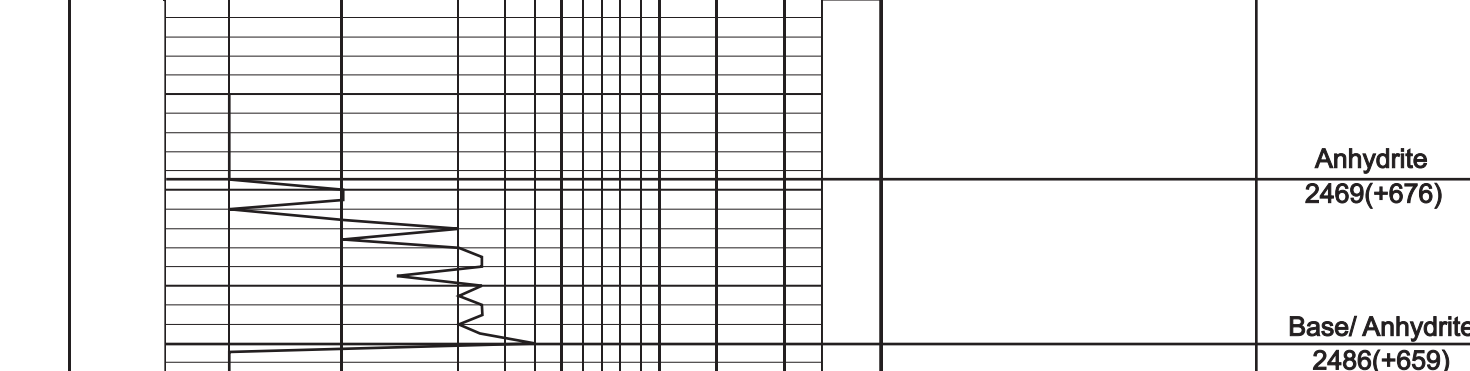
GEOLOGIST ON WELL: **Tim Priest** By: **Weatherford**

FORMATION TOPS    ELECTRIC LOG    SAMPLE  
 Anyvrite    2460 (+687)    2469 (+676)  
 Heebner Shale    3995 (+830)    3995 (+830)  
 Lansing    4036 (+891)    4038 (+893)  
 Stark    4320 (+1175)    4320 (+1175)  
 BRC    4420 (+1275)    4420 (+1275)  
 Fort Scott    4590 (+1445)    4591 (+1446)  
 Cherokee Shale    4618 (+1473)    4618 (+1473)  
 Mississippian    4814 (+1669)    4814 (+1669)

REMARKS Due to the results of DST #1, it was decided to set production casing to further test the well.

Respectfully Submitted,  
 Tim Priest  
 Petroleum Geologist

API #15-171-21101-00-00



**LEGEND**

Anhydrite    Sandstone    Limestone    Shale    Carb Sh    Cherty LS    Chert    Dolomite

DEPTH    DRILLING TIME IN MINUTES PER FOOT (Rate of Penetration Decreases)    SAMPLE DESCRIPTION    REMARKS

2500    Anhydrite 2469(+676)  
 Base/ Anhydrite 2486(+659)

50    Ls crm-lt gry, fos, chky, dnse  
 Sh grn-gry  
 Ls crm-gry mottd, fos, sli chky, p-f int xtl-pp por, NS  
 Sh grn-gry

3900    Ls crm-gry mottd, fos, sli chky, p-f int xtl-pp por, NS  
 Sh blk, carb  
 Sh/SS red-gry, fn-med gm, p sort, friable, NS

50    Ls crm-tan-gry, fn xtl, arg in prt no vis por  
 Sh grn-gry, calc  
 Ls tan, vfn xtl, sli fos, dnse  
 Sh blk, carb

50    Ls crm-lt gry, fos, chky, p-f int xtl & int frag por, NS  
 Ls crm, vfn xtl, chty, dnse  
 Sh red-maroon  
 Ls crm-tan, fn xtl, fos, p-f int xtl-pp por, NS  
 Ls crm-tan, fn xtl, fos, f int xtl-pp por, NS

4000    Sh blk, carb    Heebner 3995 (-850)  
 Sh gry-dk gry, calc    Toronto 4009 (-864)

50    Ls crm-lt gry, fn xtl, fos, v chky, f int xtl-pp por, NS  
 Ls crm-lt gry, vfn xtl, sli chty, dnse  
 Sh red-gm-gry, calc    Lansing 4038 (-893)

50    Ls crm-lt gry, fn xtl, fos-sli ool, chky, f int xtl & int frag por, NS  
 Sh gry-dk gry  
 Ls crm-lt gry, fn xtl, fos-sub ool chky, p-f pp-vug por, NS  
 Sh grn-gry

4100    Ls crm, fn xtl, fos, v chky, p-f int xtl-pp por, NS  
 Ls crm-lt gry, vfn xtl, sli chky, sli chty, dnse  
 Sh blk, carb  
 Ls crm-lt gry, vfn xtl, dnse  
 Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl-pp por, NS

4200    Ls crm-lt gry, vfn xtl, dnse  
 Ls crm-tan, fn xtl, fos, chky, p int xtl por, NS  
 Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl-pp por, NS  
 Sh gry-dk gry  
 Ls gry, vfn xtl, dnse

4300    Sh blk, carb    Muncie Creek 4227 (-1082)  
 Ls lt gry, vfn xtl, chty, dnse  
 Sh red-gry, calc  
 Ls crm, fos, v chky, p-f int xtl & int frag por, NS  
 Ls crm-tan, vfn xtl, sli chty, dnse  
 Sh blk, carb  
 Ls crm-tan, vfn xtl, chty, dnse  
 Sh lt gry-gry  
 Ls crm-tan, vfn xtl, chty, dnse  
 Ls crm-lt gry, fn xtl, fos-ool, sli chky, p int xtl & int frag por, NS

4400    Ls tan-gry, vfn xtl, dnse  
 Sh grn-gry  
 Ls crm-tan, fn xtl, ool, chky, f-gd ooc por, NS  
 Ls crm-lt gry, vfn xtl, dnse  
 Sh blk, carb    Stark 4320 (-1175)  
 Sh gry-dk gry  
 Ls tan-gry, vfn xtl, dnse  
 Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl & int frag por, NS  
 Ls crm-gry, fn xtl, fos, v chky, p-f int xtl & int frag por, NS

4500    Sh blk, carb    Hushpuckney 4368 (-1223)  
 Ls tan, vfn xtl, dnse  
 Sh gry-dk gry  
 Ls crm-gry, fn xtl, sli dolo, p int xtl por, NS  
 Ls crm-lt gry, vfn xtl, dnse  
 Ls crm-lt gry, fn xtl, p-f int xtl-pp por, NS  
 Sh blk, carb  
 Ls crm, mic xtl, dnse  
 Sh gry-dk gry  
 Ls crm-tan, vfn xtl, arg in prt  
 Sh var col, silty, calc in prt  
 Sh var col, silty  
 Ls crm-tan, vfn xtl, dnse  
 Sh gry-dk gry, calc    Marmaton 4472 (-1327)

4500    Ls crm-lt gry, fn xtl, fos-ool, sli chky, p-f int frag por w/ few vugs, sptd-sli sat stn, SFO, sil-f odor, dull fluor  
 Ls crm-lt gry, fn xtl, fos-ool, sli chky, p-f int frag por, sptd-sli sat stn, SSFO, sil odor, dull fluor  
 Ls crm-lt gry, vfn xtl, dnse  
 Sh grn-gry  
 Ls crm-tan-gry, fn xtl, ool, p-f int ool por, sptd-sli sat stn on few pos, VSSFO, sil odor, dull fluor  
 Sh blk, carb  
 Ls tan-gry, vfn xtl, arg in prt  
 Sh gry  
 Ls crm-tan-gry, vfn xtl, dnse  
 Ls tan, vfn xtl, dnse  
 Sh blk, carb  
 Sh gry-dk gry, calc in prt  
 Ls tan, vfn xtl, fos, chty, dnse  
 Sh blk, carb  
 Ls crm-tan-gry, vfn xtl, sli ool in prt, dnse  
 Ls tan-gry, fn xtl, ool, p-f int ool por, sptd-sli sat stn, SSFO, sil odor, f-bri fluor  
 Ls crm-gry, vfn xtl, sli chty, dnse  
 Sh blk, carb  
 Ls tan, vfn xtl, arg in prt  
 Sh grn-gry-dk gry  
 Ls tan, mic xtl, dnse  
 Ls crm-lt gry, fn xtl, fos, chky, f-gd int xtl & int frag por, NS  
 Sh dk gry  
 Ls gry, mic xtl, dnse  
 Sh blk, carb  
 Ls tan-gry, mic xtl, chty, dnse  
 Sh blk, carb  
 Sh blk, carb  
 Sh grn-gry-dk gry  
 Ls tan, mic xtl, dnse  
 Ls crm, fn xtl, fos, sub chky, p-f int xtl-pp por, sptd-sli sat stn, SSFO, sil odor, dull fluor  
 Ls tan-gry, mic xtl, sli chty, dnse  
 Sh gry-blk  
 Ls crm-tan-gry, vfn xtl, sli chty, dnse  
 Ls crm-tan-lt gry, mic xtl, dnse  
 Ls crm-lt gry, fn xtl, fos, p-f int xtl-pp por w/ few vugs, sptd-sat dk stn, SSFO, f odor, dull fluor  
 Ls crm-tan-lt gry, mic xtl, dnse  
 Sh gry-dk gry  
 SS clear-lt gry, fn gm, sli fria, NS  
 Sh blk, carb  
 SS clear-lt gry, fn gm, sli fria, NS  
 ?  
 SS clear-lt gry, fn-med gm, sli fria, NS  
 SS lt gry, fn-med gm w/gry Sh  
 SS lt gry-lt gm, gluac, fn gm, fria, NS

4600    Ls crm-lt gry, vfn xtl, dnse, w/ fn-coarse gm SS inclus  
 Ls lt gry, vfn xtl, sandy, dnse  
 Ls crm-tan, mic xtl, dnse  
 Ls crm-lt gry, vfn xtl, v chky, dnse  
 Ls crm-lt gry, vfn xtl, chky, dnse

4890'    Total Depth 4890' (-1745)

**DST # 1 (4458'-4490')**  
 Rec: 245 GIP, 25 GCO, 150' GMQ/150' G. 50% O, 30% M, Total: 175'  
 Fps: 18-55#/60-85#  
 SIPs: 1317#/1302#  
 HSPs: 2218#/2151#  
 BHT: 114 deg F  
 Gravity: 51'

**DST # 2 (4490'-4540')**  
 Rec: 30'-30'-30'-30'  
 FF: No blow, no return  
 Rec: 1' OSM  
 Fps: 16-17#/16-18#  
 SIPs: 21#/22#  
 HSPs: 2244#/2150#  
 BHT: 112 deg F

**DST # 3 (4584'-4620')**  
 Rec: 5' Mud  
 FF: No blow, no return  
 Rec: 1' OSM  
 Fps: 14-23#/26-33#  
 SIPs: 1145#/1146#  
 HSPs: 2236#/2200#  
 BHT: 112 deg F

**DST # 4 (4669'-4745')**  
 Rec: 60' OSM w/return of oil  
 FF: Died in 10', no return  
 Rec: 21-3#/19-4#  
 SIPs: 2295#/2245#  
 HSPs: 2235#/2245#  
 BHT: 111 deg F