**ELEVATION** KB: 2252 **BACH OIL PRODUCTION** GL: 2247 LOG MEASURED WELL: KAUK-KATS UNIT #1 FROM: KB LOC.: 200' FSL & 800' FEL SEC. 3-2-19W **SURFACE CASING** PHILLIPS COUNTY, KANSAS 20# 8 5/8 " API: 15-147-20719-00-00 Casing set @ 265 w/175 SX PRODUCTION CASING DRILLING CONTR.: MURFIN RIG #24 5 1/2" SPUD: 09-03-13 COMP: 09-07-13 Casing set MUD UP: 2800' TYPE MUD: CHEM. DRILL TIME: 3100 to' RTD WELL LOG SURVEYS RTD: 3800' LTD:3798' SAMPLES SAVED: 3100'-RTD CDL/DIL/MICRO GEOLOGIST: ROBERT J. PETERSEN **ELECTRIC LOG TOPS FORMATION** <u>DEPTH</u> <u>DATUM</u> **POSITION** +445 Stone Corral 1807 +3 Base Stone Corral 1825 +427 +6 Topeka 3152 -900 +4 Heebner +4 3365 -1113 Toronto -1143 +15 3395 Lansing 3413 -1161 +7 Reference Welf1 Muncie Creek 3521 -1269 +6 Stark 3585 -1333 +6 Base Kansas City 3625 -1373 +8 Subject Wello Arbuckle 3760 -1508 +18 **REFERENCE WELL:** DAILY REPORT Bach @7:00 A.M. **KVK #1** SE SE NE SE 3-2-19W 09-03-13 MIRU/SPUD REMARKS AND RECOMMENDATIONS 09-04-13 315' Drilling 09-05-13 2280' Drilling Production casing has been run to further test this well. 09-06-13 3305' Drilling Respectfully submitted, 09-07-13 3800' RTD Robert of Return Robert J. Petersen **Drill Time** Min/Foot 10 1750 1800 Stone Corral Base Stone Corral 1850 **SAMPLE DESCRIPTION** 3100 LS; Cream/gray mottled, dense, foss, cherty + SH; Gray, silty (3130) LS; Cream/gray, fine crystalline to dense, foss + SH; Gray (3160) Topeka Properties SH; Gray (3190) 3150 LS; Cream, fine crystalline, foss, cherty + LS; Dark gray, fine crystalline to dense, cherty (3190) SH; Black (3190) LS; Cream, fine crystalline, foss, sl dolo + SH; Dark gray (3220) 3200 SH; Red, silty-sandy (3250) LS; Cream, fine crystalline, foss, chalky-soft (3250) LS; Cream/tan, fine crystalline to dense, oolitic-granular, cherty (3280) 3250 SD; Gray, very fine grained, loose to well-cemented (3310) SD; White, fine to medium (3320) SH; Red, sandy (3320) 3300 LS; Cream w/yellow mineral stain, fine to medium crystalline, ool-granular, sl dolo (3320-3330) LS; Cream/tan, fine to medium crystalline, foss, cherty (3330) LS; Cream/lt gray, fine to medium crystalline, foss, sl dolo, chalky (3340) LS; Cream/gray, fine crystalline to dense, chalky, dolo + SH; Gray, silty (3345/15") Wiper trip@3345' LS; Cream/gray, fines crystalline, foss, dolo-chalky, trace dead stain (3350) LS; Cream/tan, fine crystalline, foss, sub-granular, with moldic por + LS: Cream/tan, dense, 3350 cherty (3370) LS; Cream/gray, fine crystalline to dense, foss, chalky (3380) <u>Heebner</u> SH; Black (3380) LS; Gray, fine crystalline to dense, foss, cherty (3390) SH; Red/gray, silty, sandy + SD; Gray, fine grained, well cemented (3400\_ <u>Toronto</u> LS; Cream/white, fine crystalline, foss, chalky, cherty, vssfo, faint odor (3410) 3400 LS; Cream/gray, fine to medium crystalline, foss, cherty(angular-blocky) moldic por, light stain, odor, nsfo, light stain to full sat on dry(3420)SH; Red, silty (3420) LKC LS; Cream/lt gray, fine crystalline, foss-granular, chalky, soft (3430) LS; Cream, fine crystalline, foss, chalky, cherty(brown/very foss) + LS; Lt gray, dense (3440) LS; Gray/black, dense, cherty (3450) SH; Black (3450) SH; Red, silty (3460) C Zone LS; Gray, fine crystalline, foss, very cherty (orange) with good moldic por, dark sat, gsfo, odor, 3450 dark sat dry (3460) LS; Cream/white, fine crystalline, foss (bry frag)dolo, cherty w/fair moldic por, vssfo (3460/20") LS; Cream/lt gray, fine crystalline, foss in part, dolo, cherty, fair moldic por, sfo, odor (3470) SH; Red, silty-sandy (3470) D Zone LS; Cream, fine crystalline, foss, granular in part, dolo, cherty w/good moldic/intercrystalline por, gsfo, odor, dark full sat on dry (3475)LS; Cream, fine crystalline, foss-subgranular, trace moldic por, sfo (3475/20") LS; Cream/lt gray, fine crystalline, foss, chalky + LS; Cream/pale green, argillaceous, dense(3480) E Zone SH; Black/red (3490) LS; Cream, medium to coarse crystalline, foss-granular w/fair to good intergranular por, sfo, sat w/gas bubbles, medium brown sat on dry (3490) F Zone LS; Cream/tan, dense, chalky (3500) SH; Red/gray (3510) 3500 LS; Cream, fine crystalline, oolitic granular, sfo (3510) G Zone LS; Cream, fine crystalline, chalky-cherty (3520) LS; Tan/gray mottled, fine crystalline, foss, chalky, cherty (3530) Muncie Creek LS; Cream, fine crystalline, foss-granular in part, vssfo (3540) SH; Black (3540) SH; Red/gray, sandy (3540) H-Zone LS; Cream/tan, fine crystalline, dolo, cherty (3550) LS; Cream/gray, fine crystalline, dolo, chalky (3560) 3550 Zone SH; Red/gray, silt-sandy (3570) LS; Cream, fine crystalline to dense, foss-granular in part, cherty (tan) w/good moldic por, gsfo, odor, dark sat dry (3570) LS; Cream/It gray, fine crystalline to dense, foss, fair moldic w/trac vug por, gsfo, odor, full sat on dry(3575) LS; Cream, fine crystalline to dense, foss-granular (variegated fossil fragments) w/good, moldic + trace vug por, gsfo, odor (3575/20") SH; Red, silty (3575/20") J Zone LS; Cream/tan, fine crystalline to dense, foss, cherty, trace poor moldic por , ssfo (3590)  $\,$ LS; Cream/lt gray, fine crystalline to dense, foss, chalky, cherty (tan) (3600) <u>Stark</u> SH; Black (trace 3600) SH; Red/gray, silty-sandy (3610) K Zone 3600 LS; Cream/It gray, fine crystalline, foss-granular w/poor to fair, moldic pr, tarry sfo (trace) + LS; Cream, fine crystalline to dense (flood) (3610) LS; Cream, fine crystalline, sl dolo, chalky (3620) SH; Black (trace 3620/increase 3630) SH; Gray (3630) LS; Cream/tan, fine crystalline to dense, foss, chalky (3650) Base KC LS; Cream, fine to medium crystalline, foss (3658) SD; Gray, fine grained, well-cemented, gsfo (black) + SH; Red/gray, silty (3658) SD; Maroon, fine grained, well cemented, hard + SH; Red/maroon (3658/15") 3650 LS; Cream/tan, fine to medium crystalline, foss, chalky, trace stain (3658/15") SD; Maroon, fine grained, well-cemented, silty + LS; Cream, fine crystalline to dense, chalky SH; Red, silty + SD; Cream/white, fine grained (3680) LS; Cream, fine crystalline to dense, foss-granular, w/fair to good moldic por, gsfo, odor, dark sat on dry (3680) SH; Maroon/gray, sandy + SD; White, fine grained, hard + SH; Green w/hematite nod (3690) LS; Cream, fine crystalline, chalky + Chert; White, angular w/trace edge stain +SH; Maroon, silty (3700) LS; White, fine crystalline, chalky, sandy, cherty + SH; Maroon (3710) 3700 LS; Cream/lt gray, fine crystalline, chalky, cherty (tan/gray) + SD; Lt gray (3720) LS; Tan/lt gray, fine crystalline, sl dolo, sub-chalky, cherty, w/trace light stain, trace dead oil flakes (3730) SH; Red/gray, waxy in part (3740) LS; Cream, fine crystalline, chalky, sandy, cherty (3750) trace SH; Red, sandy (coarse sd grains )+ Chert; Gray, foss(3760-3770) SH; Red, Chert; Red, oolitic/oomoldic +Dolo, Red, Doloweathered, few loose Sd grains(3780) 3750 <u>Arbuckle</u> Dolo; Light gray, medium to coarse crystalline, chalky, slighty glauconitic (3790) Dolo; Light gray/cream, coarse crystalline w/trace black shale (3800) Dolo; Light gray, coarse crystalline, chalky + SH; Red (3800/15") 3800 RTD 3800' LTD 3798' SURVEY: ½° @264' 1º @3800' 3850

**GEOLOGIST'S REPORT** 

DRILLING TIME AND SAMPLE LOG