

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

BACH OIL PRODUCTION

WELL: BILLY #2

LOC.: 1650' FNL & 1000' FWL
 SEC. 3-2-19W
 PHILLIPS COUNTY, KANSAS
 API: 15-147-20712-00-00

ELEVATION

KB: 2246
 GL: 2241
 LOG MEASURED
 FROM: KB

SURFACE CASING

20# 8 5/8" Casing set @ 217 w/175 SX

PRODUCTION CASING

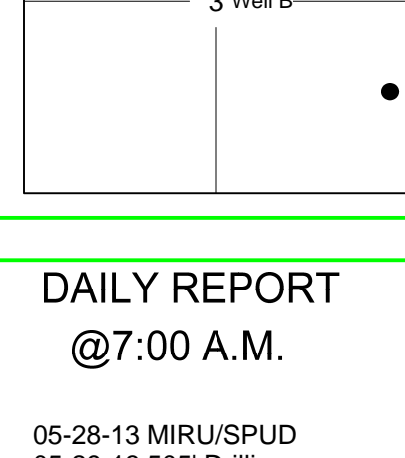
5 1/2" Casing set

WELL LOG SURVEYS

Compensated Density
 Dual Induction
 Micro

ELECTRIC LOG TOPS

FORMATION	DEPTH	DATUM	POS. A	POS. B
Stone Corral	1835	+411	+10	-12
Base Stone Corral	1857	+389	+16	-14
Topeka	3187	-941	0	-21
Heebner	3395	-1149	+2	-20
Toronto	3425	-1179	0	-22
Lansing	3443	-1197	+2	-20
Muncie Creek	3545	-1299	+2	-20
Stark	3617	-1371	+1	-20
Base Kansas City	3657	-1411	+2	-18



REFERENCE WELL:

Billy#1 400' FSL & 2190' FWL 3-1-19W
 Lucy#1 2100' FNL & 1750' FEL 3-2-19W

REMARKS AND RECOMMENDATIONS

Production casing has been run to further test this well.

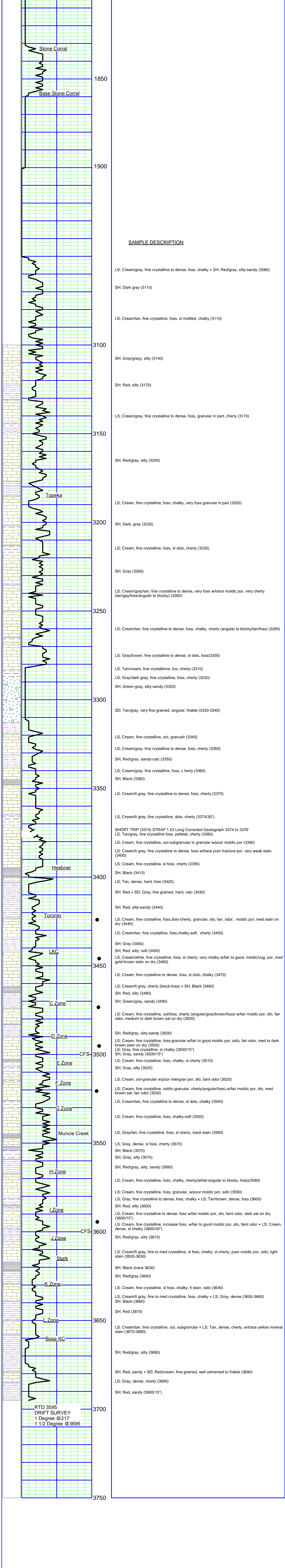
Respectfully submitted,

Robert J. Petersen
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DAILY REPORT

@7:00 A.M.

05-28-13 MIRU/SPUD
 05-29-13 505' Drilling
 05-30-13 2510' Drilling
 05-31-13 3320' Drilling
 06-01-13 3695' RTD



SAMPLE DESCRIPTION

LS: Cream/gray, fine crystalline to dense, foss, chalky + SH: Red/gray, silty-sandy (3080)
 SH: Dark gray (3110)
 LS: Cream/tan, fine crystalline, foss, sl mottled, chalky (3110)
 SH: Gray/gray, silty (3140)
 SH: Red, silty (3170)
 LS: Cream/gray, fine crystalline to dense, foss, granular in part, cherty (3170)
 SH: Red/gray, silty (3200)
 LS: Cream, fine crystalline, foss, chalky, very foss granular in part (3200)
 SH: Dark, gray (3230)
 LS: Cream, fine crystalline, foss, sl dolo, cherty (3230)
 SH: Gray (3260)
 LS: Cream/gray/tan, fine crystalline to dense, very foss w/trace moldic por, very cherty (tan/gray/foss/angular to blocky) (3260)
 LS: Cream/tan, fine crystalline to dense, foss, chalky, cherty (angular to blocky/tan/foss) (3290)
 LS: Gray/brown, fine crystalline to dense, sl dolo, foss(3300)
 LS: Tan/cream, fine crystalline, fos, cherty (3310)
 LS: Gray/dark gray, fine crystalline, foss, cherty (3320)
 SH: Green-gray, silty-sandy (3320)
 SD: Tan/gray, very fine grained, angular, friable (3330-3340)
 LS: Cream, fine crystalline, ool, granular (3340)
 LS: Cream/gray, fine crystalline to dense, foss, cherty (3350)
 SH: Red/gray, sandy-calc (3350)
 LS: Cream/gray, fine crystalline, foss, c cherty (3360)
 SH: Black (3360)
 LS: Cream/lt gray, fine crystalline to dense, foss, cherty (3370)
 LS: Cream/lt gray, fine crystalline, dolo, cherty (3374/30')
 SHORT TRIP (3374) STRAP 1.53 Long Corrected Geolograph 3374 to 3376'
 LS: Tan/gray, fine crystalline foss, pelletal, cherty (3380)
 LS: Cream, fine crystalline, ool-subgranular to granular w/poor moldic por (3390)
 LS: Cream/lt gray, fine crystalline to dense, foss w/trace poor fracture por, very weak stain (3400)
 LS: Cream, fine crystalline, sl foss, cherty (3395)
 SH: Black (3410)
 LS: Tan, dense, hard, foss (3420)
 SH: Red + SD; Gray, fine grained, hard, calc (3430)
 SH: Red, silty-sandy (3440)
 LS: Cream, fine crystalline, foss, dolo-cherty, granular, sfo, fair, odor, moldic por, med stain on dry (3440)
 LS: Cream/tan, fine crystalline, foss, chalky-soft, cherty (3450)
 SH: Gray (3450)
 SH: Red, silty, soft (3450)
 LS: Cream/white, fine crystalline, foss, sl cherty, very chalky w/fair to good, moldic/vug, por, med gold-brown stain on dry (3460)
 LS: Cream, fine crystalline to dense, foss, sl dolo, chalky (3470)
 LS: Cream/lt gray, cherty (black-foss) + SH: Black (3480)
 SH: Red, silty (3480)
 SH: Green/gray, sandy (3490)
 LS: Cream, fine crystalline, ool/foss, cherty (angular/gray/brown/foss) w/fair moldic por, sfo, fair odor, medium to dark brown sat on dry (3500)
 SH: Red/gray, silty-sandy (3500)
 LS: Cream, fine crystalline, foss-granular w/fair to good moldic por, sso, fair odor, med to dark brown stain on dry (3500)
 LS: Gray, fine crystalline, sl chalky (3500/15')
 SH: Gray, sandy (3500/30')
 LS: Cream, fine crystalline, foss, chalky, sl cherty (3510)
 SH: Gray, silty (3520)
 LS: Cream, ool-granular w/poor intergran por, sfo, faint odor (3520)
 LS: Cream, fine crystalline, oolitic-granular, cherty(angular/foss) w/fair moldic por, sfo, med brown sat, fair odor (3530)
 LS: Cream/tan, fine crystalline to dense, sl dolo, chalky (3540)
 LS: Cream, fine crystalline, foss, chalky-soft (3550)
 LS: Gray/tan, fine crystalline, foss, sl cherty, trace stain (3560)
 SH: Gray, dense, sl foss, cherty (3570)
 SH: Black (3570)
 SH: Gray, silty (3570)
 SH: Red/gray, silty, sandy (3580)
 LS: Cream, fine crystalline, foss, chalky, cherty(white-angular to blocky, foss)(3580)
 LS: Cream, fine crystalline, foss, granular, w/poor moldic por, sso (3590)
 LS: Gray, fine crystalline to dense, foss, chalky + LS; Tan/brown, dense, foss (3600)
 SH: Red, silty (3600)
 LS: Cream, fine crystalline to dense, foss w/fair moldic por, sfo, faint odor, dark sat on dry (3600/15')
 LS: Cream, fine crystalline, increase foss, w/fair to good moldic por, sfo, faint odor + LS; Cream, dense, sl chalky (3600/30')
 SH: Red/gray, silty (3610)
 LS: Cream/lt gray, fine to med crystalline, sl foss, chalky, sl cherty, poor moldic por, sso, light stain (3620-3630)
 SH: Black (trace 3630)
 SH: Red/gray (3640)
 LS: Cream, fine crystalline, sl foss, chalky, lt stain, sso (3640)
 LS: Cream/lt gray, fine to med crystalline, foss, chalky + LS; Gray, dense (3650-3660)
 SH: Black (3660)
 SH: Red (3670)
 LS: Cream/tan, fine crystalline, ool, subgranular + LS; Tan, dense, cherty, w/trace yellow mineral stain (3670-3680)
 SH: Red/gray, silty (3680)
 SH: Red, sandy + SD; Red/cream, fine grained, well cemented to friable (3690)
 LS: Gray, dense, cherty (3695)
 SH: Red, sandy (3695/15')

RTD 3595
 DRIFT SURVEY
 1 Degree @217
 1 1/2 Degree @3695