

# GEOLOGIST'S REPORT

## DRILLING TIME AND SAMPLE LOG

### BACH OIL PRODUCTION

WELL: CHARLES UNIT#1

LOC.: 193' FNL & 2126' FEL  
SEC. 7-1-18W  
PHILLIPS COUNTY, KANSAS  
API: 15-147-20676-00-00

DRILLING CONTR.: MURFIN RIG #16  
SPUD: 05-01-12 COMP: 05-05-12  
MUD UP: 2900' TYPE MUD: CHEM.  
DRILL TIME: 2950' to RTD  
RTD: 3527' LTD: 3527'  
SAMPLES SAVED: 2950'-RTD  
GEOLOGIST: ROBERT J. PETERSEN

### ELEVATION

KB: 2036  
GL: 2031  
LOG MEASURED  
FROM: KB

### SURFACE CASING

20# 8 5/8" Casing set @ 232' w/165 SX

### PRODUCTION CASING

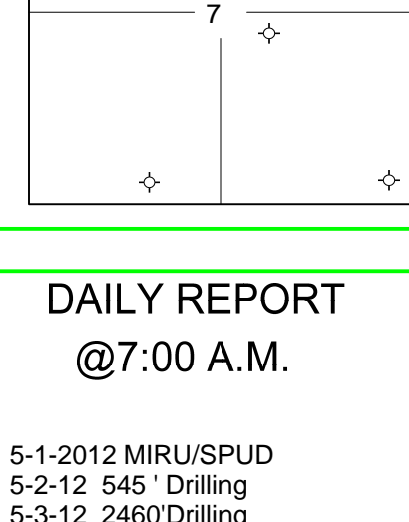
5 1/2" Casing set

### WELL LOG SURVEYS

DIL/CDL/MICRO

### ELECTRIC LOG TOPS

Formation	Depth	Datum	Pos.
Stone Corral	1672	+364	+2
Base Stone Corral	1690	+346	N/A
Topeka	3029	-993	N/A
Heebner	3229	-1193	+6
Toronto	3258	-1222	+5
Lansing	3276	-1240	+3
Base Kansas City	3494	-1458	N/A



### REFERENCE WELL:

HONAKER  
Gebhardt #1  
D&A  
2087 KB  
NW NE NW  
7-1-18W

### REMARKS AND RECOMMENDATIONS

Production casing has been run to further test this well.

Respectfully submitted,

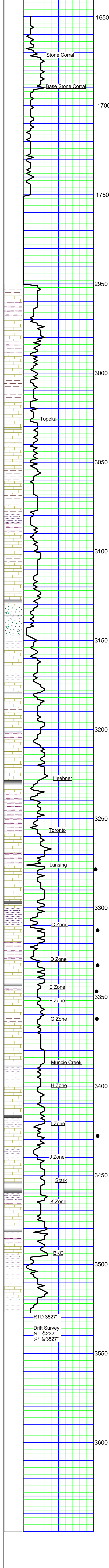
*Robert J. Petersen*

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### DAILY REPORT

@7:00 A.M.

5-1-2012 MIRU/SPUD  
5-2-12 545' Drilling  
5-3-12 2460' Drilling  
5-4-12 3210' Short trip  
5-5-12 3527' RTD



### SAMPLE DESCRIPTION

LS: Cream/gray, fine crystalline to dense + SH; Red, trace SH; Black (2960)

LS: Gray, dense + SH; Gray (2970)

SH; Gray + LS; Lt gray, dense, sl foss, chalky (2980)

LS: Cream/gray, fine crystalline to dense, fossil-mottled, chaly + SH; Red/gray (2990)

LS: Cream/gray, dense + SH; Gray, sandy (3000)

SD; Gray, silty, fine grained, calc (3010)

LS: Lt gray/gray + SH; Gray, sandy (3020)

LS: Tan/cream, fine crystalline, foss, trace stain (3030)

SH; Black (3030)

SH; Gray, silty-sandy (3040)

LS: Dark gray/gray, fine crystalline, fossil-mottled (3040)

LS: Cream/gray, dense, chalky-cherty (3050)

SH; Gray (3050)

LS: Cream/white, fine crystalline to dense, very cherty (blocky/foss/orange/tan), chalky (3060)

LS: Cream/gray, dense, chalky, trace stain (3070)

LS: Cream, fine crystalline to dense, foss, chalky/cherty, trace stain (3080-3090)

SH; Dark gray (3090)

SH; Red/gray + LS; Cream, fine crystalline, foss, sl dol, chalky (3100)

LS: Tan/cream, fine crystalline, chalky, sl dol (3110)

LS: Cream, fine crystalline to dense, chalky + SH; Gray (3120)

LS: Cream/lt gray, dense, cherty (3130-3140)

LS: Cream/gray, dense, cherty (3150)

SH; Black (3150)

LS: Cream, fine crystalline to dense, foss, chalky, mealy, stain (3160)

SD; Gray, silty, micaceous (3160)

SH; red, silty-sandy + SD; Gray, coarse, calc (3170)

SD; Gray, silty, micaceous + SH; Maroo/dark gray + LS; Cream/gray, dense, sl foss, chalky (3180)

LS: Cream/gray, fine crystalline to dense, foss, sl dol, very cherty (3190)

SH; Black (3190)

LS: Cream/gray/tan, fine crystalline to dense, foss, chalky, cherty (3200)

SH; Gray/maroon (3210)

LS: Cream/gray, fine crystalline, foss, granular in part dolomitic (3220)

LS: Cream/lt gray, dense, foss, chalky (3230)

Short Trip @ 3210' Strap 0.39 Short

LS: Cream/tan, dense, sl foss, trace moldic por (3240)

SH; Black (3250)

LS: Tan/brown, dense, foss (3250-3260)

SH; Red, silty-sandy, SD, Red, hard (3255)

SH; Red, silty + SD; Gray, fine grained, friable to well-cemented (3260-3265)

LS: Cream/white, fine crystalline, foss, chalky, cherty, dolomitic (3270-3280)

LS: Cream/gray, fine crystalline to dense, chalky (3285)

SH; Red, silty (3285)

LS: Cream, fine crystalline, foss, subgranular to granular, chalky w/fair intergran por, sfo (light brown) odor, medium to dark saturation on dry (3290)

LS: Cream/lt gray, dense, sl foss, chalky (3300-3310)

SH; Dark gray (trace 3310)

SH; Red/gray, silty-sandy + LS; Dark gray, dense (3320)

LS: Cream, fine crystalline, foss, granular, cherty, chalky w/poor to fair intergran por, ssfo, odor (3320/15')

LS: Cream/lt gray, dense, sl foss, cherty, sl dol (3320/30')

Vis 67 Wt 9

SH; Maroon/gray (3300)

LS: Cream/tan, fine crystalline to dense, foss, granular in part, dolomitic, cherty, trace stain, vsfso, fair moldic por, light gold stain on dry (3340)

LS: Cream, fine crystalline to dense, sl foss, blocky, cherty (3350)

SH; Black (3360)

LS: Cream, fine crystalline, foss, granular w/good intergran & moldic por, sfo, good odor, light brown saturation on dry (3360)

LS: Cream, fine crystalline to dense, mostly dense, chalky-cherty (3370)

SH; Red/gray (3380)

LS: Lt gray, fine crystalline, foss, granular w/good intergranular por, ssfo, odor (3380)

LS: Cream, fine crystalline to dense, sl foss, chalky (3380)

LS: Cream, fine crystalline, foss, chalky, cherty (gray/translucent, blocky) (3390)

+SH; Dark gray (3400)

SH; Black (trace 3400-3410)

SH; Maroon/gray, silty-sandy (3410)

LS: Cream, fine crystalline, foss, dolomitic, trace vug por, chalky (3420)

SH; Black (3440)

SH; Maroon/gray (3440)

LS: Cream, fine crystalline to dense, foss, granular, poorly sorted w/fair intergran & moldic por, gsfo, odor, medium to dark saturation on dry (3440)

LS: Cream/tan/lt gray, dense, foss, ppt moldic por, sfo, faint odor (3440/15')

SH; Maroon, silty (3440/15')

LS: Cream/white, fine crystalline to dense, trace fracture por, tr stain (3450-3460)

LS: Lt gray, fine crystalline to dense, chalky, cherty (3470)

SH; Black (trace 3470)

SH; Red, silty-sandy + Sand, Gray, fine grained, silty (3470-3480)

LS: Cream/tan, fine crystalline, foss, chalky, dolomitic (3480)

LS: Lt gray, med crystalline, foss, chalky, dolomitic (3490)

SH; Black (trace 3490-3500)

SH; Red/gray, silty-sandy (3500)

LS: Cream/gray, fine crystalline, dolomitic, chalky (3510-3520)

Vis 56 Wt 9.1

SH; Black/maroon/gray (3520)

SH; Maroon/gray/silty, sandy + LS; Cream/lt gray, fine crystalline, foss, chalky (3520-3527)