

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

BACH OIL PRODUCTION

WELL: BRANDS #1

LOC.: 160' FSL & 830' FEL
SEC. 4-2-19W
PHILLIPS COUNTY, KANSAS
API: 15-147-20668-00-00

DRILLING CONTR.: MURFIN RIG #16
SPUD: 03-06-12 COMP: 03-10-12
MUD UP: 2800' TYPE MUD: CHEM.
DRILL TIME: 3000 to' RTD
RTD: 3809' LTD:3809'
SAMPLES SAVED: 3050'-RTD
GEOLOGIST: ROBERT J. PETERSEN

ELEVATION

KB: 2208
GL: 2203
LOG MEASURED
FROM: KB

SURFACE CASING

20# 8 5/8 "
Casing set @ 224
w/150 SX

PRODUCTION CASING

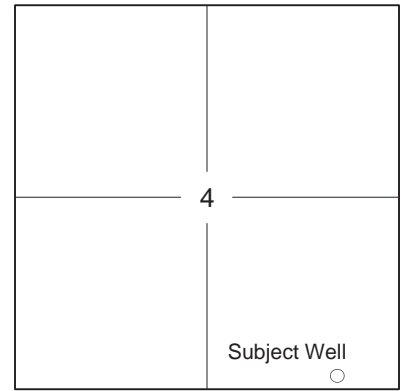
5 1/2"
Casing set @ 3807'
w/600 SX

WELL LOG SURVEYS

Compensated Density
Dual Induction
Micro/Sonic

ELECTRIC LOG TOPS

<u>FORMATION</u>	<u>DEPTH</u>	<u>DATUM</u>	<u>POSITION</u>
Stone Corral	1799	+409	+12
Base Stone Corral	1814	+394	+15
Topeka	3146	-938	+26
Heebner	3355	-1147	+25
Toronto	3384	-1176	+24
Lansing	3401	-1193	+24
Base Kansas City	3617	-1409	+25
Arbuckle	3742	-1534	+24



REFERENCE WELL:

Bach
 Delimont #1
 W/2 E/2 E/2 NE
 8-2S-19W

DAILY REPORT

@7:00 A.M.

03-06-12 MIRU/SPUD

03-07-12 620' Drilling

03-08-12 2120' Drilling

03-09-12 3301' Drilling

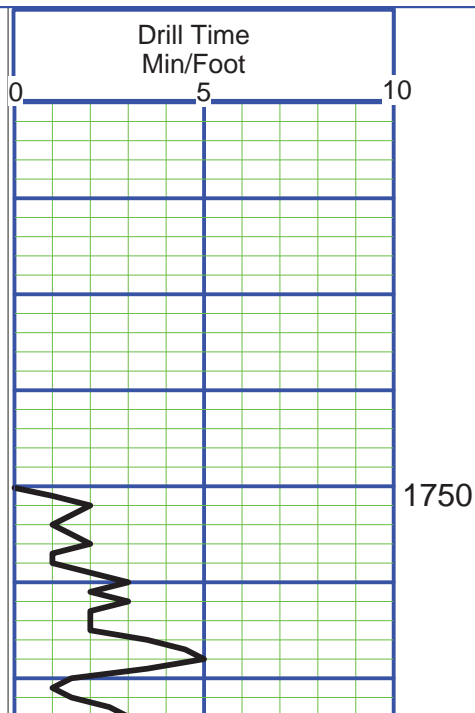
03-10-12 3809' RTD'

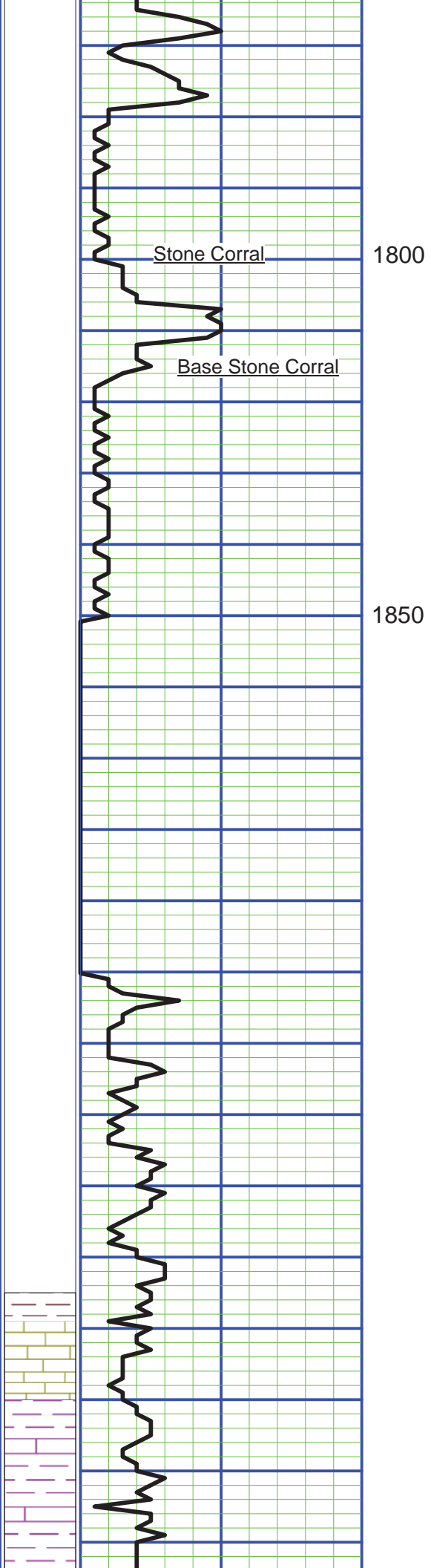
REMARKS AND RECOMMENDATIONS

Production casing has been run to further test this well.

Respectfully submitted,

Robert J. Petersen
 Robert J. Petersen





SAMPLE DESCRIPTION

LS; Gray/cream/tan, fine crystalline to dense + SH; Gray (3050)

LS; Cream, fine crystalline, foss, chalky (3060)

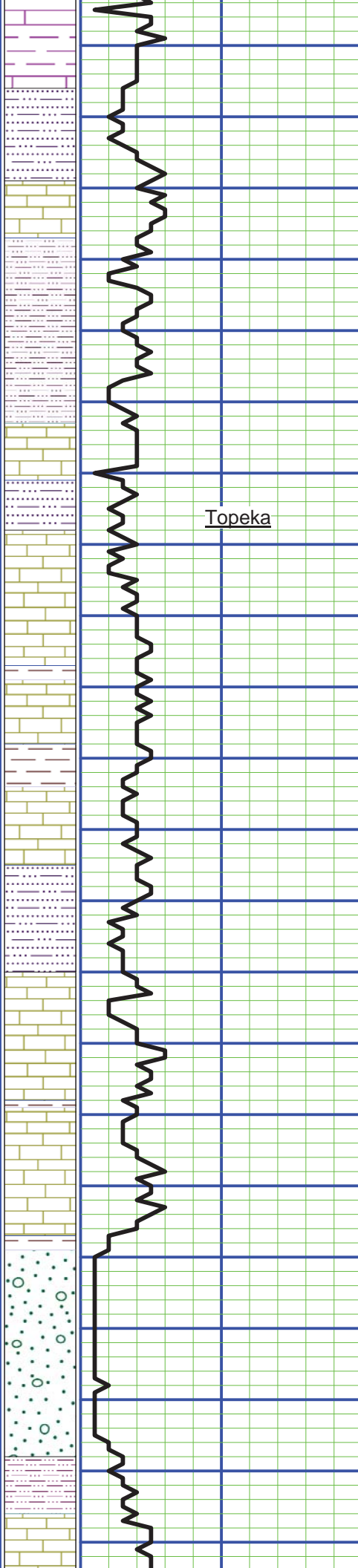
SH; Dark gray (3070)

LS; Cream/gray/tan, fine crystalline to dense, foss + SH; Gray (3080)

SH; Dark gray (3090)

LS; Cream/gray/brown, dense, foss, chalky (3090)

LS; Cream, fine crystalline to dense, foss + LS; Gray, dense, fossil mottled + SH; Dark gray (3100)



3100

3150

3200

3250

Topeka

LS; Cream, fine crystalline to dense, foss + LS; Gray, dense, fossil mottled + SH; Dark gray (3100)

SH; Gray (3110)

LS; Cream/gray, fine crystalline, foss, cherty (3110)

LS; Cream/gray, dense, foss (3120)

SH; Gray, silty (3130)

LS; Cream/tan, fine crystalline to dense, foss (3130)

LS; Cream/gray, dense, foss + SH; Gray/trace dark gray SH (3140)

SH; Gray (3150)

LS; Cream/gray, dense, foss, chalky trace LS; Dark gray, mottled + SH; Gray, silty (3160)

LS; Cream, fine to medium crystalline, foss, chalky (3170)

LS; Gray/dark gray, dense, foss, mottld (3180)

SH; Black (3180)

SH; Gray (3190)

LS; Cream, fine crystalline, foss, chalky (3190)

SH; Gray (3200)

LS; Cream/lt gray/tan, fine crystalline, foss, chalky (3200)

LS; Gray, dense, foss, blocky (3210)

SH; Red/gray, silty-sandy (3210)

SH; Gray; w/trace SD; Brown, fine to medium, well-cem (3220)

SH; Black (3230)

SH; Black (3230)

LS; Tan, fine crystalline-granular, cherty, chalky, trace stain+ LS; Gray, fine crystalline to dense (3230)

LS; Cream/gray, fine crystalline, foss, granular, chalky (3240)

LS; Cream/tan, fine crystalline, foss, chalky, cherty (3250)

LS; Cream/lt gray, fine crystalline, foss, chalky, sl dolo (3260)

LS; Gray, dense, foss, chalky, cherty-blocky/white (3270)

SH; Dark gray (3280)

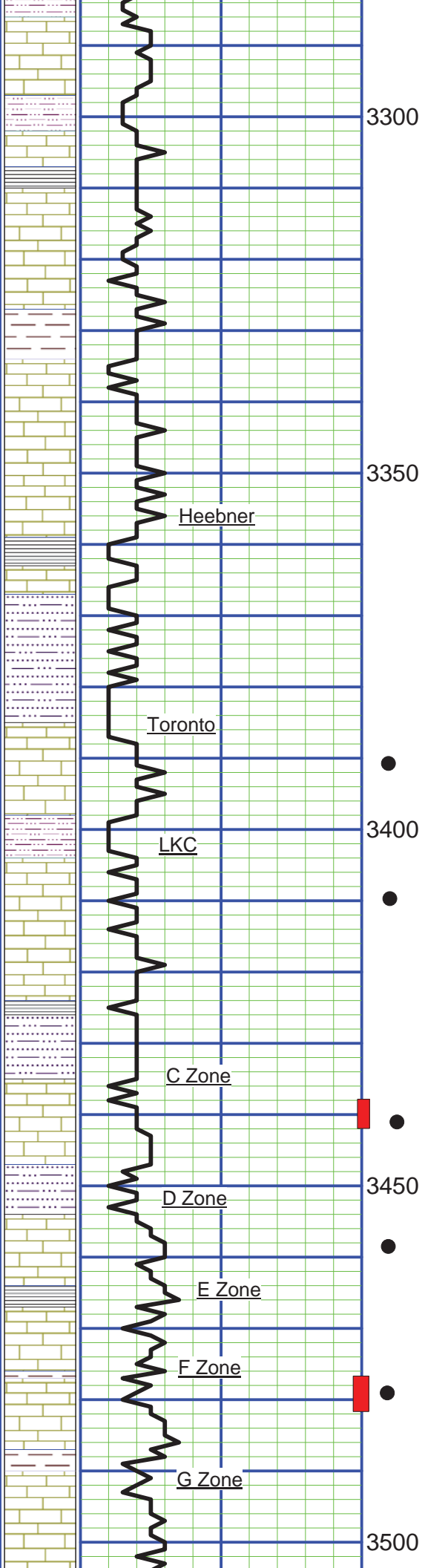
SD; Gray, fine grained, subangular to subrounded, friable (3280)

SD; Tan, very fine grained, silty + SD; Gray, fine to med, friable (3290)

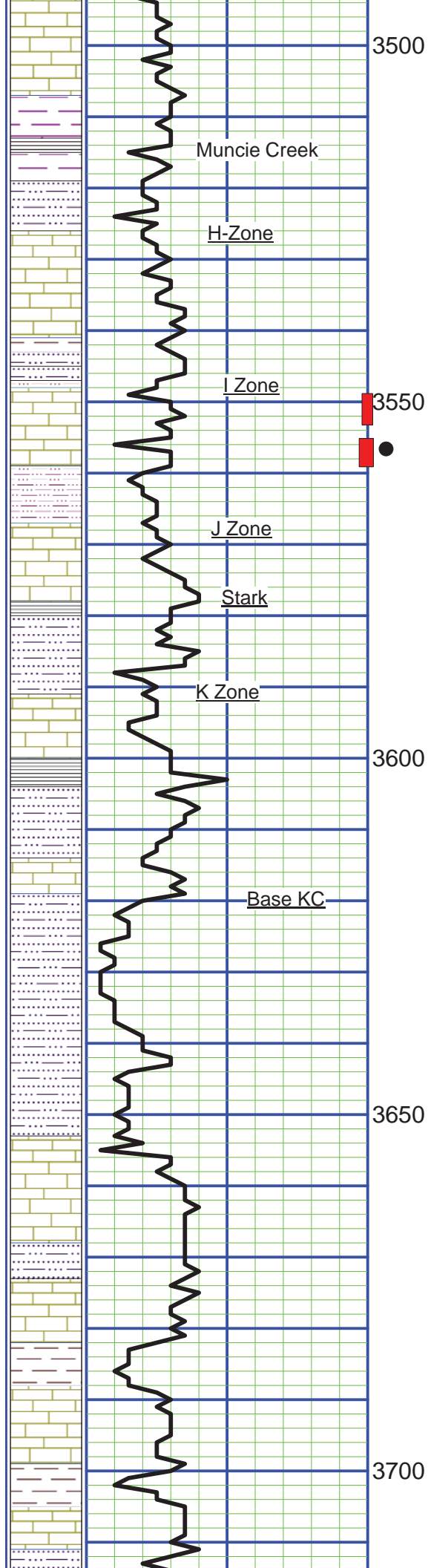
SH; Red, silty (3290)

SH; Dark gray (3290)

LS; Cream/lt gray, fine crystalline to dense, sl foss, chalky (3300)



- LS; Cream/lt gray, fine crystalline to dense, sl foss, chalky (3300)
- LS; Cream, fine crystalline, foss, chalky, cherty, sl dolo + SH; Gray (3310)
- LS; Tan, fine crystalline, foss-granular, light stain (3320)
SH; Black (trace 3320)
- LS; Cream/tan, fine crystalline to dense, foss, chalky, cherty (3330)
- LS; Tan, dense, foss, trace stain + LS: Gray, fine crystalline, chalky/cherty (3340)
SH; Red, silty (3340)
- LS ;Cream, fine to coarse crystalline, w/calc regrowth, foss, cherty, trace stain(3350)
- LS; Lt gray/cream, fine crystalline, foss, chalky (3360)
- LS; Cream/lt gray, fine crystalline, chalky + SH; Gray (3370)
SH; Black (flood 3380)
LS; Tan, dense, foss (3380)
SH; Red/brown silty, very sandy (3390)
SS; Brown, fine grained, silty (3400)
LS; White, fine crystalline, ool-granular, w/good moldic por, cherty, cherty inclusions, dolomitic, sfo, odor, lt stain to full sat, on dry (3400)
- LS; Cream, fine crystalline, foss, sl chalky (3410)
- 3400 SH; Red, silty-sandy (3410)
● LS; Cream, fine crystalline, foss-granular w/good moldic/intergran por, sfo, odor (3410) increase odor (3420) full light saturation on dry
LS; Cream/light gray, fine crystalline to dense, sl dol (3430)
- LS; Gray, fine crystalline to dense, dolo, cherty (3440)
SH; Black (trace 3450)
SH; Red/gray, silty (3450)
- LS; Cream/white, fine crystalline, fos, cherty (angular-sharp-orange/gray) w/fair intercrystalline por, por , sfo, odor(3450)
- 3450 SH; Red/gray, silty (3460)
● LS; Cream,/white, foss, cherty (chert w/vug por) w/ppt moldic por, sfo, oil bleeding from chert, odor, (3460)
LS; Cream, fine crystalline foss, chalky, sl cherty, trace moldic por, ssfo (3470)
- LS; Cream/lt gray, fine crystalline to dense, chalky, cherty (3480)
SH; Black (trace 3480)
- LS; Cream/gray, fine crystalline, chalky (3490)
SH; Gray (3490)
LS; Lt gray, fine crystalline, ool-granualr w/fair intergran por, sfo, odor, gold-brown stain, on dry , tr vug por (3490)
- LS; Cream, fine crystalline, chalky (3500)
SH; Gray (3500)
- LS; Cream, fine crystalline, sl foss, chalky (3510)
- 3500 LS; Tan/cream, fine crystalline, foss, w/fair moldic/vug por, sl dolo, sfo, odor, fair sat on dry



- LS; Cream, fine crystalline, sl foss, chalky (3510)
- LS; Tan/cream, fine crystalline, foss, w/fair moldic/vug por, sl dolo, sfo, odor, fair sat on dry (3520)
- LS; Gray/tan, fine crystalline to dense, foss (3520)
- SH; Black (3530)
- SH; Red/gray, silty-sandy (3530)
- LS; Cream/white, fine crystalline, foss, chalky-cherty (3540)
- LS; Cream/white, dense, chalky, cherty (3550)
- LS; Gray, dense, sl foss (3560)
- SH; Red, silty (3560)
- LS; Cream, dense, w/trace vug por, lt stain sfo (3560)
- LS; Cream, fine crystalline to dense, foss-granular in part w/fair to good vug por, trace ppt moldic por, odor, sfo, med sat on dry (3560/15")
- LS; Cream/lt gray, dense, decrease stain, sfo (3560/30")
- LS; Cream, fine crystalline, foss, moldic por, sfo, good sat, increase odor (3570)
- SH; Red/gray, silty (3570)
- LS; Gray/cream, fine crystalline, foss, sl dolo, chalky-soft, trace ppt por, vssfo(3580)
- LS; Cream, fine crystalline to dense, foss, chalky (3590)
- SH; Black (3600)
- SH; Red/gray, silty, sandt (3600)
- LS; Cream, fine crystalline, dense, foss, subgran, sl dolo, trace intergran por, stain (3600)
- LS; Cream/lt gray, fine crystalline to dense, sl foss, dolo, chalky (3610)
- SH; Black (3620)
- SH; Red/gray, (3620)
- LS; Cream, fine crystalline, ool-granular, lt stain, trace yellow mineral stain (3630-3640)
- SH; Red/gray, silty (3640)
- SD; Maroon/brown, silty, calcareous, trace SD; Clear, medium to coarse, subangular, friable, lt yellow mineral stain (3650)
- LS; Gray, dense, sl foss, cherty (3660)
- SD; Gray, calc, fine grained w/maroon shale stain (3670)
- LS; Cream, fine to medium crystalline, ool-gran + SH; Maroon/gray, sandy, trace SD; cluster -well-cem + SH; Black (3680)
- LS; Cream/w yellow min stain, ool-granular w/red shale stain, cherty + SH; Gray (3690)
- SH; Maroon silty-sandy (3700)
- LS; Cream, fine crystalline, chalky-soft (3710)
- LS; Cream/lt gray, fine crystalline to dense, ool w/trace stain, no vis por(3720)

LS; Cream/lt gray, fine crystalline to dense, bor w/trace stain, no vis por (3720)

SH; Red, silty-sandy + SH; Gray (3730)

SH; Maroon/gray, silty-sandy + LS; Gray, fine crystalline to dense, sl dolo, chalky (3740)

SD; Amber/clear, calc, fine to med grained, well-rounded, loose +SH; Red, gummy (3750)

Dolo; Cream/lt gray, fine crystalline to dense w/ yellow/maroon, mineral stain, chalky in part (3760)

Arbuckle

3750

Dolo; Cream/white, med to coarse crystalline, chalky (3770)

Dolo; Cream/yellow, med to coarse crystalline, vug por (barren) chalky (3780)

Dolo; Cream/lt gray coarse crystalline, sucrosic, chalky, tr barren vug por (3800)

Dolo; Cream, coarse crystalline, suc, tr barren vug por, chalky+ SH; Black/red (3790)

3800

Dolo; Lt gray, coarse crystalline, sucrosic chalky (3809)

Dolo; Cream/gray, coarse crystalline, suc chalky, cherty (3809/30")

RTD 3809
DRIFT SURVEY
1/2 Degree @229
3/4 Degree @3809

3850

