



# Mudgrove

Petroleum Geology  
212 Main Street, Claflin KS

## GEOLOGIST'S REPORT

### DRILLING TIME AND SAMPLE LOG

COMPANY RF Hembree Oil  
 LEASE Schwartzkopf #3  
 FIELD McDonald Northeast  
 LOCATION SW-SE-NW-NW (1160' FNL & 735' FWL)  
 SEC 35 TWSP 18S RGE 24W  
 COUNTY Ness STATE Kansas

#### ELEVATIONS

KB 2297'  
 DF \_\_\_\_\_  
 GL 2290'  
 Measurements Are All  
 From KB

CONTRACTOR Pickrell Drilling (Rig # 10)  
 SPUD 03/27/2018 COMP 04/03/2018  
 RTD 4327' LTD None  
 MUD UP 3480' TYPE MUD Chemical

CASING  
 SURFACE 8 5/8" @ 216'  
 PRODUCTION 5 1/2" @ 4321'

#### ELECTRICAL SURVEYS

None

SAMPLES SAVED FROM 3600' TO RTD  
 DRILLING TIME KEPT FROM 3550' TO RTD  
 SAMPLES EXAMINED FROM 3600' TO RTD  
 GEOLOGICAL SUPERVISION FROM 3640' TO RTD  
 GEOLOGIST ON WELL Wyatt Urban

FORMATION TOPS	LOC	SAMPLES																					
Anhydrite	1550 (+747)	Miss. 4306 (-2009)	<table border="1"> <tr><td>X</td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>35</td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table>	X										35									
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		35																					
B. Anhydrite	1588 (+709)	RTD 4327 (-2030)																					
Heebner	3677 (-1380)																						
Toronto	3700 (-1403)																						
Lansing	3716 (-1419)																						
BKC	4013 (-1716)																						

Marmaton	4051	(-1754)		
Pawnee	4132	(-1835)		
Ft. Scott	4208	(-1911)		
Cherokee	4238	(-1941)		

**LEGEND**

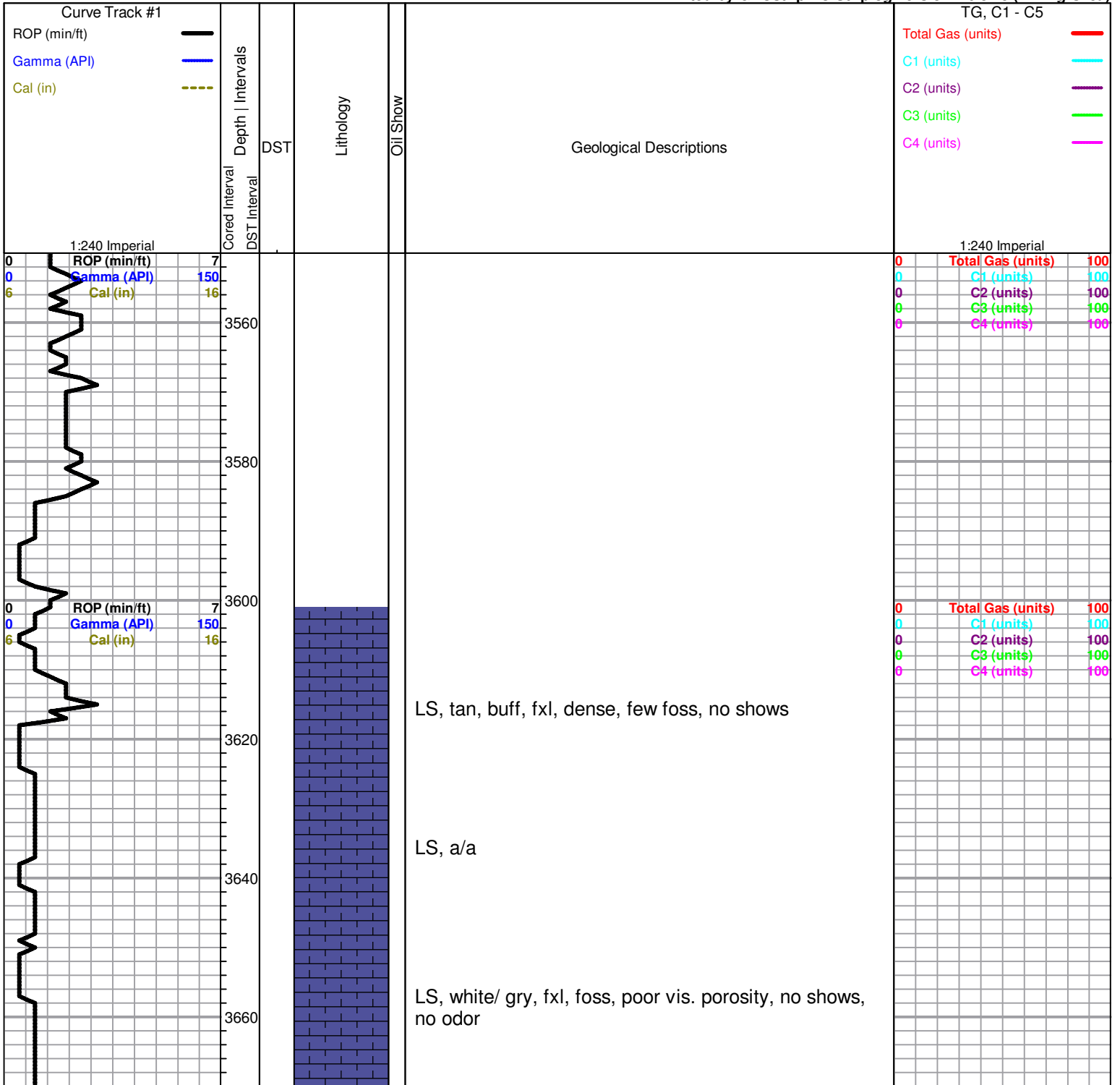
**Oil Show**

- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- Dead Oil Stn
- Fluorescence
- \* Gas

**DST**

- DST Int
- DST alt
- Core
- tail pipe

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3680  
3700  
3720  
3740  
3760  
3780  
3800  
3820  
3840  
3860  
3880

**Heebner 3677.0 (-1380.0)**

Sh, black carb  
LS, cream, tan, poor vis. porosity, few foss, no shows

**Toronto 3700.0 (-1403.0)**

LS, tan, buff, few foss, cherty, dense, poor vis. porosity, no shows

Sh, gry, greenish,

**Lansing 3716.0 (-1419.0)**

LS, tan, buff, fxl, few foss, scattered p.p. type porosity, no shows, sl. chalky

LS, tan, buff, dense, poor vis. porosity, no shows, no odor

LS, tan, buff, poor vis. porosity, chalky, no shows

LS, tan, buff, foss, sl. chalky, poor vis. porosity, scattered p.p. type porosity, no shows, no odor

Slug sh., maroon, green, blk/dk gry shale

LS, tan, brn, foss, ool, scattered vuggy type porosity, chalky, no shows

LS, white, cream, oom, good vuggy type porosity, sl. chalky, no shows

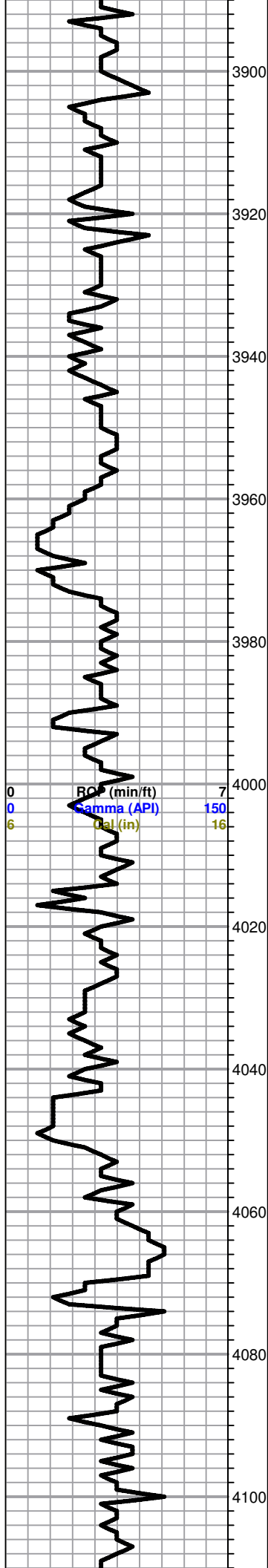
LS, tan, brn, fxl, foss, dense, cherty, no shows

LS, a/a, dense, poor vis. porosity

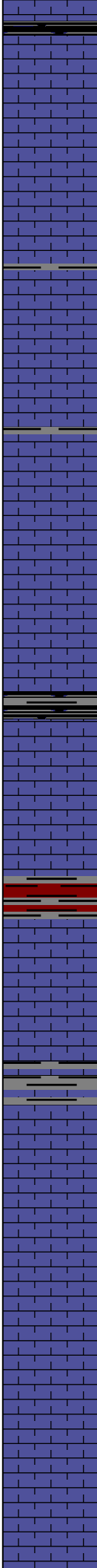
0 7  
0 150  
6 16

ROP (min/ft)  
Gamma (API)  
Cal (in)

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100



0 7  
 0 Gamma (API) 150  
 6 Cal (in) 16



Sh black carb

○ LS, cream, white, chalky, poor vis. porosity, tr. brn stain (sh stain??), no sfo, no odor, abd. white, opaque cherts

LS, a/a, gry dense, poor vis. porosity, no shows

LS, white, cream, foss/ool, poor dev. porosity, v. chalky, no shows

LS, cream, tan, fxl, few foss, v. dense, poor vis. porosity, no shows

Slug blk carb shale

LS, white, cream, fxl, poor vis. porosity, chalky, no shows

**BKC 4013.0 (-1716.0)**

Sh, maroon, blk, gry, waxey, few silty

LS, tan, white, dense, tr. white, opaque cherts, no shows, no odor

**Marmaton 4051.0 (-1754.0)**

○ LS, cream, tan, buff, foss, poor vis. porosity, v. chalky, tr. spty brn/blk stain, tr. spty sfo, no odor, tr. pyrite

LS, tan, buff, scattered vis. porosity, chalky, no shows, no odor

LS, gry, cream, fxl, few foss, poor scattered vis. porosity, no shows, no odor

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

4120  
4140  
4160  
4180  
4200  
4220  
4240  
4260  
4280  
4300  
4320

0  
0  
6  
ROF (min/ft)  
Gamma (API)  
Cal (in)

D  
S  
T  
#  
1

D  
S  
T  
#  
2

LS, gry, white, cream, fxl, dense, gran. in pts, poor vis. porosity, no shows

**Pawnee 4132.0 (-1835.0)**

LS, tan, cream, gry, gran. chalky, pr-fair scattered vis. porosity, chalky, no shows

LS, cream, tan, gry, fxl, dense, poor vis. porosity, chalky, no shows

LS, gry, tan, fxl, dense, a/a, tr. white, tan, chert, no shows

Slug black carb sh

**Ft. Scott 4208.0 (-1911.0)**

LS, cream, tan, poor vis. porosity, dense, tr. brn / blk stain, tr. sfo, faint odor

LS, tan, brn, pr. scattered p.p/vuggy type porosity, chalky, golden brn stain, sfo, few vis. gas bubbles

**Cherokee 4238.0 (-1941.0)**

Sh, black carb

LS, gry/dk gry, fxl, dense, poor scattered porosity, chalky, no shows, tr. pyrite

LS, tan, gry, poor scattered vis. porosity, v. chalky, nsfo, fair odor, tr. black stain (caving???)

Sh, gry, dk gry

LS, gry, dense, poor vis. porosity, cherty, & white/boney, opaque cherts

Tr. sd. white, med grain, calc. sub rounded, no shows, tr. v.c. yellow/mustard, maroon, yellow shales

**Miss. 4306.0 (-2009.0)**

Chert, white, boney, pr.scattered vuggy type porosity, tr. brn stain, tr. sfo, faint odor

Dol.tan, brn, fxl, suc. (dense) dk brn stain, dk brn sppty sfo, strong odor, tr. pyrite.

Dol. tan, brn, fxl, suc., scattered vuggy type porosity, good inxln porosity, dk brn stain, good sfo, strong odor

**DST #1 4192-4242**  
**30-30-45-45**

**1st Open:**  
Weak blow built to 1.5"

**2nd Open:**  
Weak built to .5"

**Recovery:**  
10' Mud w/ oil spots

**Pressures:**  
ISIP 303 psi  
FSIP 146 psi  
IFP 28-22 psi  
FFP 30-29 psi  
HSH 2119-2067 psi

**DST#2 4258-4327**  
**45-45-60-60**

**1st Open:**  
Weak blow built 5"

**2nd Open:**  
Weak blow built 2.5"

**Recovery:**  
60' GO  
(10%G, 90%O)

80' MCO  
(80%O, 20%M)

20' GSOCM  
(10%G, 3%O, 87%M)

**Pressures;**  
ISIP 1094 psi  
FSIP 1014 psi

tr. pyrite

**RTD 4327.0 (-2030.0)**

IFP 32-55 psi

FFP 1014 psi

HSH 2156-2085 psi

4340

4360

4380