

ROBERT STOLZLE

CONSULTING PETROLEUM GEOLOGIST

AAPO Cont. # 3244

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DRILLING TIME AND SAMPLE LOG

OPERATOR: **Murfin Drilling Co., Inc.**

LEASE: **Urban** WELL NO.: **1-3**

FIELD: **Wildcat**

LOCATION: **1850'FSL, 1650'FWL (W/2 SW 1/4, SW)**

SEC.: **3** TWP: **2S** RANGE: **29W**

COUNTY: **Dacatur** STATE: **KS**

API NO.: **15-039-21179-00-00**

CONTRACTOR: **Murfin Drilling Co., Rig #8**

COMPLETED: **May 31, 2013** CORRECTED: **6/6/13**

ROTARY TOTAL DEPTH: **4100'** LOG TOTAL DEPTH: **4101'**

GEOLOGICAL SUPERVISION FROM: **3100'** to: **T.D.**

MADE-UP DEPTH: **2982'** MUD TYPE: **Chemical Polymer**

FORMATION

| FORMATION | SINGLE | | LOG | | STRUCTURAL DEVIATION |
|-----------------------|--------|---------|------|---------|----------------------|
| | TOP | SECTA | TOP | SECTA | |
| Stone Corral Anhy. | 2528 | (+278) | 2529 | (+277) | +24' |
| Base of Anhydrite | 2560 | (+246) | 2560 | (+246) | +27' |
| Nava Ls. | 3205 | (-399) | 3206 | (-400) | +19' |
| Foraker Ls. | 3323 | (-517) | 3324 | (-518) | +22' |
| Stotlar Ls. | 3479 | (-673) | 3479 | (-673) | +20' |
| Toraka Fm. | 3589 | (-783) | 3593 | (-787) | +16' |
| Dead Ls. | 3131 | (-931) | 3137 | (-931) | +22' |
| Heabner Shale | 3753 | (-947) | 3750 | (-944) | +21' |
| Lansing Group | 3796 | (-990) | 3796 | (-990) | +18' |
| Stark Shale | 3963 | (-1157) | 3963 | (-1157) | +14' |
| Base of Ks. (Cty Sp.) | 4063 | (-1207) | 4016 | (-1210) | +12' |
| Total Depth | 4100 | | 4101 | | |

ELEVATIONS

KB **2806'**
GL **2801'**

Measurements are all from KB

CASING RECORD

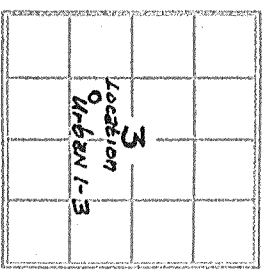
SIZE: **8 5/8", 23#**
@ **263', 2255XRX**

PRODUCTION: **None-R/A**

WIRE LINE SURVEYS

Blount Energy Services: Dual Comp. Porosity Dual Induction, BHC Sonic and Micro Resistivity Logs Well Full.

LOCATION MAP



Reference Well for Structural Comparison: **Murfin Erma Inc. #1-5, SE5725-R29W**

Comments and Recommendations: **Recommended Well be plugged & abandoned.**

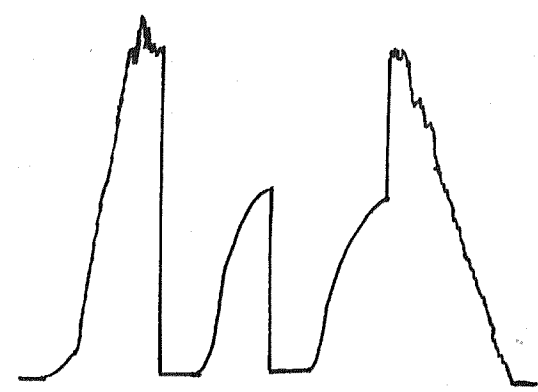
DST # 1 ZONE: Lansing A' and D' Zones
INTERVAL: 3752'-3860'

| Pressures: | Time | Press. | RECOVERY |
|-------------------------|------|----------|---------------------------|
| 1. Initial Hydrostatic | | 1830 psi | 30' Oil spotted Mud |
| 2. Initial Flow: Start | 0 | 21 psi | (100%) Mud |
| 3. Initial Flow: End | 30 | 34 psi | |
| 4. Initial Shut-in: End | 60 | 1051 psi | Blow Desc. |
| 5. Final Flow: Start | 0 | 37 psi | I.F. - 1/4" built to 3/4" |
| 6. Final Flow: End | 30 | 48 psi | TSI - No blow |
| 7. Final Shut-in: End | 60 | 999 psi | F.F. - No blow |
| 8. Final Hydrostatic | | 1783 psi | F.S.I. - No blow |

BHT: 109°F

Rv: _____

DST # 1 8520 Chert
Interval: 3752'-3860' Depth: 3753'

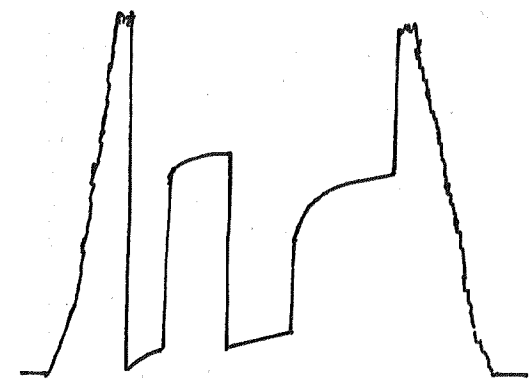


DST # 2 ZONE: L-KC 'H', 'J' & 'K' Zones
INTERVAL: 3896'-4,000'

Pressures: Time Press. RECOVERY

DST # 2 8520 Chert
Interval: 3896'-4,000' Depth: 3897'

| | | | |
|-------------------------|------|------|-------------------------------|
| 1. Initial Hydrostatic | 1992 | psi | 40' Oil Spilled Water Cut Mud |
| 2. Initial Flow: Start | 0 | 25 | psi (50% water) |
| 3. Initial Flow: End | 30 | 114 | psi 126' Muddy Water |
| 4. Initial Shut-in: End | 60 | 1236 | psi (70% water) |
| 5. Final Flow: Start | 0 | 119 | psi 243' Muddy Water |
| 6. Final Flow: End | 60 | 220 | psi (80% water) |
| 7. Final Shut-in: End | 90 | 1123 | psi |
| 8. Final Hydrostatic | 1900 | psi | Blow Desc. |



BHT: 115°F
 Rv: .214 @ 58°F
 Chl. 42,000 ppm.

I.F. - 1" to 7/4"
 I.S.I. - No blow
 F.F. - BOB 45 min.
 F.S.I. - No blow

ABBREVIATIONS USED

ROCK TYPES:

- Lo - Limestone
- Sh - Shale
- So - Sandstone
- Silt - Siltstone
- Co - Conglomerate
- Chrt - Chert
- Qtz - Quartzite
- Gron - Granite
- Dol - Dolomite
- Chlk - chalky

COLOR:

- Vh - White
- Crm - Cream
- Clr - Clear
- Rd - Red
- Gnn - Green
- Gry - Gray
- Blk - Black
- Mot - Mottled

HARDNESS:

- Sft - Soft
- M.sft - Moderately soft
- Hrd - Hard
- V.Hrd - Very hard

FABRIC:

- Fn.grn - Finegrained
- VFG - Very fine grained
- Med - Medium
- Co - Coarse
- Det - Detrital
- Foss - Fossiliferous
- Cr - Crystalline
- Micr - Microcrystalline
- Dol - Dolitic
- Op - Opaloid
- Mat - Matrix

OTHER TERMS:

- Fl - Fluorescence (of oil)
- min fl - mineral fluorescence
- pyr - pyritic
- oleu - oleonitic
- carb - carbonaceous
- stn - stain (of oil)
- cut - oil cut
- AA - as above
- pr - porosity
- NSFOC - no stain, fluorescence, odor, or cut (of oil)
- smpl - sample
- perm - permeability
- F.O. - free oil
- vug - vugular
- tr - trace
- w/ - with

MODIFIERS:

- gd - Good
- fr - Fair
- pr - Poor
- ex - excellent
- v - very
- w - well
- tr - trace
- occ - occasional
- vis - visible
- N - no
- gran - granular
- intergran - intergranular
- pp - pinpoint
- dd - dead
- ggy - gassy

TEXTURE:

- Dns - Dense
- Cly - Clayey
- Frl - Friable
- Earth - Earthy
- Hack - Hackly
- Fiss - Fissile
- Vit - Vitreous
- Vug - Vugular
- Mic - Micritic

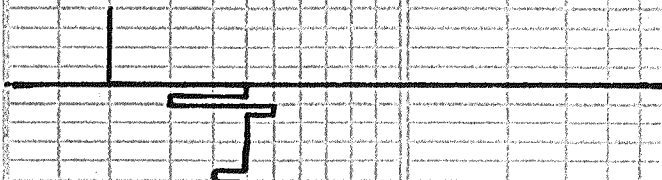
OIL SHOWS

- Weak Oil Show
- ⊙ Fair Oil Show
- ⊕ Good Oil Show
- ⊗ Excellent Oil Show

Rate of Penetration
 in Minutes per Foot

1/2 1 2 3 4 5 6 7 8 9 10

2500



Stone Corral
 Ahhydrec (4778)

2550

Base of
Anhydrite
(+246')

2600

3100

3150

3200

Sh. rd brn. - ft. gry. v. sft. clayey,
occ. sft. + slty. - sandy

Sh. A.A., more sft. - sandy
fr. ss. gry. m. hrd. - hrd. dns., fn.
grnd., pr. sftd., w. cmtd.
No vis. ϕ NSFDC

Sh. rd. brn., sft. clayey - earthy
sandy - v. sandy - slts., tr. blu.
grn. sh.

Sh. A.A.
fr. ls. gry., hrd., dns., v. fg,
rare foss, sandy N ϕ NSFDC

Ss. crm. - tan, m. sft. + fri. - hrd.,
dns., mod. - fn. grnd., mod.
pr. sftd., v. w. cmtd., calc. cmtd.
to v. sandy ls. No vis. ϕ NSFDC
calc. ss. A.A. No vis. ϕ NSFDC

Sh. rd. brn., v. sft. + clayey - sft.,
earthy - sandy

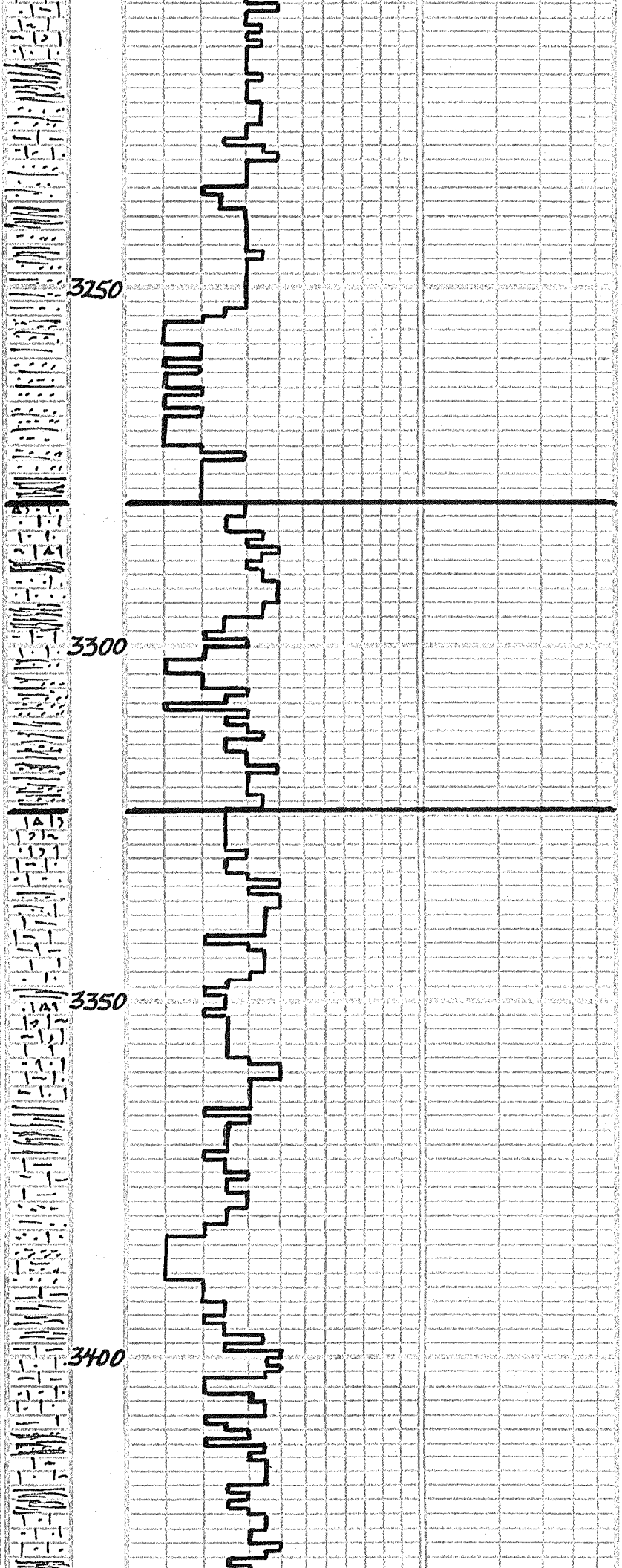
Sh. A.A.
ss. crm. - gry., hrd. - m. hrd., fn. grnd.,
calc. - v. calc. - sandy ls., v. w.
cmtd., mod. sftd. N ϕ NSFDC

Ss. A.A. N ϕ NSFDC
sft. rd. brn., sft. + clayey - m. hrd.,
earthy, sandy - v. sandy.

Sh. A.A., fr. blu. gry. hack, pyr,
fr. ss. tan, hrd., dns., fn. grnd.,
v. w. cmtd. N ϕ NSFDC

Ls. crm. - gry. hrd. dns., tr. foss.,
sandy - v. sandy - calc. ss. hrd.,
dns., v. w. cmtd., mod. sftd., sftd.
r. n. fn. grnd., No vis. ϕ NSFDC

Nov. ls



Calc. Ss: A.A. NΦ NSFOC
 Ls: gry.-dk. gry., hrd., dns., VFG-mxln.
 tr. foss., shly-dk. gry. sh. 10pp.
 NΦ NSFOC
 Ls: crm.-dk. gry., hrd., dns., VFG,
 mxln., sndy.-v. sndy., sh. sndy.-
 v. shly. NΦ NSFOC
 tr. sh. gry., m. hrd., dns., earthy
 Ls: A.A. NΦ NSFOC
 sh. rd. brn., sft. clay-m. sft.,
 earthy., occ. sndy.-v. sndy

3250

Sh: rd. brn., sft. clayey-m. sft.,
 earthy, sndy.-v. sndy
 Ls: crm., hrd., dns., VFG-mxln.,
 sndy.-v. sndy. NΦ NSFOC
 tr. Ls: A.A. NΦ NSFOC
 Sh: rd. brn., v. sft. clay.-sft.,
 earthy, sndy.-v. sndy.

Sh: A.A., v. sndy.
 tr. Ss: tan, hrd., dns., v. w. contd.
 tr. grnd., mod-w. sftd. NΦ NSFOC
 tr. Ss: A.A. NΦ NSFOC
 sh: rd. brn.-lt. gry., v. sft.-sft.,
 clayey, earthy., occ. sndy.-
 v. sndy.

3300

Ls: crm., hrd., dns., VFG-mxln., tr.
 ch. 1, sndy.-v. sndy.-calc. ss.
 tr. blk. ch. NΦ NSFOC
 occ. sh. dk. gry., m. hrd., harkly
 Ls: gry.-dk. gry., hrd., dns., VFG-
 mxln., mic. 1 to ss., 1 apun.
 sh. sndy. NΦ NSFOC

Red Eagle Ls. (-474')

Ls: AA, tr. crm., foss. w/ pr. pp. Φ
 NSFOC
 tr. Ss: crm. hrd.-m. hrd., tr. grnd.
 mod. sftd., v. w. contd. NΦ NSFOC
 Ss: gry.-dk. gry., hrd.-m. hrd., dns.,
 VFG, shly.-shly., NΦ NSFOC
 Sh: rd. brn.-mar.-gr. sft., clayey-
 m. hrd., dns., harkly., sndy.
 Sh: A.A.

Fotakar Ls. (-517')

Ls: crm.-tan, hrd., dns., VFG-mxln.,
 tr. rd. ch., foss. NΦ NSFOC
 occ. rexlcd.
 Ls: A.A. w/ Ls: gry.-dk. gry., hrd.,
 dns., VFG-mxln., foss., 1 apun. sh.
 sndy., tr. sndy. NΦ NSFOC

3350

Ls: dk. gry.-crm., hrd., dns., VFG-
 mxln., occ. mic., tr. ch., occ. foss.
 apun. sh. sndy., tr. sndy.
 NΦ NSFOC

Mud Check @ 3430
 M. wt. 8.7 lb/gal.
 Vis. 69 sec/1qt.
 W.L. 5.2 cc/30min.
 Chl. 1/100 P.P.M.
 Solids 2.9%
 LCM 6 lbs./bbl.

Ls: crm.-gry., hrd., dns., VFG-mxln.
 mic., tr. ch., tr. sndy., occ.
 foss., tr. sft. chiky, occ. sh.
 sndy. NΦ NSFOC
 Ls: gry.-dk. gry.-tr. crm., hrd., dns.
 VFG-mxln., sh. sndy., sndy.-
 shly., tr. foss. NΦ NSFOC

Ls: A.A. NΦ NSFOC
 Sh: rd. brn., v. sft., clayey

3400

Sh: A.A.
 Ls: crm.-gry., hrd., dns., VFG-
 mxln., mic., sndy.-v. sndy.,
 tr. foss. NΦ NSFOC
 Ls: A.A., occ. sft. chiky.
 NΦ NSFOC
 Sh: rd. brn., sft.-m. sft., clayey-
 earthy., occ. v. sndy.
 Ls: crm.-lt. gry., hrd., dns., VFG-
 mxln., tr. rd-w. ch., sndy.-
 v. sndy.-VFG. calc. ss.
 NΦ NSFOC

Ls: A.A., tr. rd. sh. sndy. NΦ NSFOC
 Sh: rd. brn., sft.-m. sft., clayey-
 earthy., tr. sndy.
 Ls: crm., hrd., dns., VFG-mxln., mic.,
 occ. sndy., occ. ylw-rd. sh.
 sndy. NΦ NSFOC

3450

Ls: crm, gry, hrd, dns, VFG, VFG
 - mxln, tr. sandy, tr. sh. stnd.
 var. & foss. NΦ NSFDC
 tr. sh. rd. brn, sft. clay - earthy
 Ls: A.A. rd. ylw. sh. stnd. NΦ NSFDC
 Sh: A.A. tr. dk. gry.
 tr. ss. gry, hrd, dns, fn-VFG, wl
 cmtd, w. sft. NΦ NSFDC
 Ls: crm-gry, hrd, dns, VFG-mxln,
 mic. tr. ch, foss. NΦ NSFDC
 Sh: rd. brn-lt. gry. sft. - 1 sft. &
 clayey, earthy, stly. - sandy
 Sh: rd. brn-lt. gry, v. sft., clayey
 - m. sft. earthy, tr. dk. gry sh.

3500

Sh: A.A. occ. maroon.
 Ls: crm-lt. gry, hrd, dns, mxln,
 mic. tr. foss. & sandy.
 NΦ NSFDC
 Sh: gry-dk. gry, m. sft. - m. hrd.,
 earthy - hackly
 Ls: crm-lt. gry, hrd, dns, VFG-
 mxln, occ. sandy NΦ NSFDC
 Ls: crm, hrd, dns, VFG-mxln,
 sandy - v. sandy. NΦ NSFDC
 Sh: rd. brn-lt. sft., clayey - earthy
 occ. sandy.
 Sh: A.A., tr. dk. gry, hack.
 Ls: crm, hrd - m. sft., dns, VFG, occ.
 ylw-rd. stnd., occ. foss., sandy
 - v. sandy. NΦ NSFDC
 Ls: A.A., occ. lt. gry. NΦ NSFDC
 Sh: rd. brn, sft., clayey - m. sft.,
 earthy, occ. sandy - slty.
 Ls: crm-lt. gry, hrd, dns, VFG-mxln,
 occ. foss., sandy, ylw-rd.
 sh. stnd. NΦ NSFDC
 Sh: A.A.
 Ls: A.A. NΦ NSFDC

Stotler Ls.
(-673')

3550

Sh: rd. brn, sft. & clayey - m. sft.
 earthy, sandy.
 Ls: crm-lt. gry, hrd - sft. chky,
 VFG-mxln, mic. sandy. NΦ NSFDC
 Sh: rd. brn, sft., clayey - earthy
 tr. Sh: A.A.
 Ls: crm, hrd, dns - sft. chky,
 VFG-mxln, mic. foss., sandy.
 tr. sh. stnd. NΦ NSFDC
 Ls: A.A. NΦ NSFDC

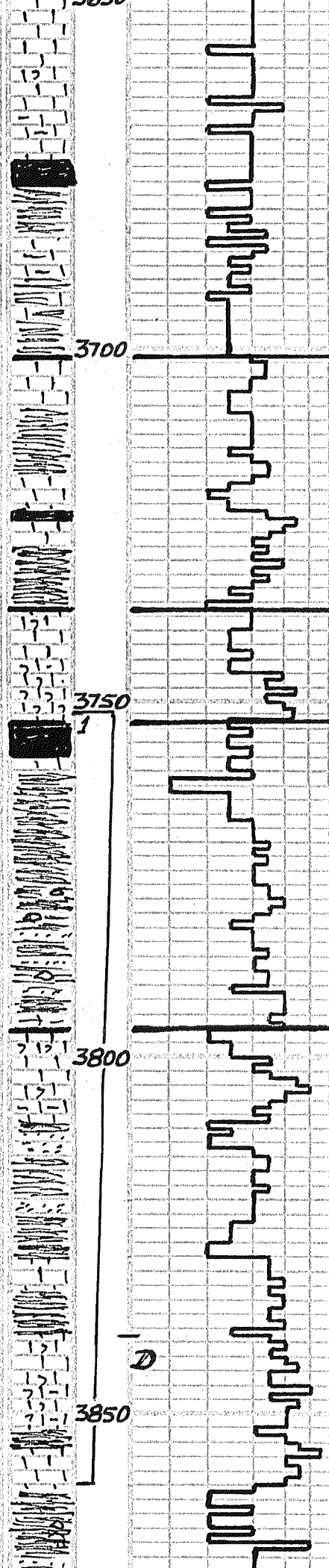
3600

Sh: rd. brn, sft., clayey, occ.
 m. sft., earthy, sandy.
 Sh: A.A. occ. ls. & ch. pebb.
 Ls: crm, hrd, dns, VFG-mxln,
 mic. rd. sh. stnd., rare foss.
 tr. ch. NΦ NSFDC
 Ls: A.A. NΦ NSFDC
 Sh: rd. brn, sft. & clayey - m. sft.,
 dns, sandy - slty, earthy, occ.
 ls. pebb.
 Ls: crm - lt. gry, hrd, dns, VFG-
 mxln, mic., abun. rd. sh. stnd.,
 occ. foss., tr. sandy. NΦ NSFDC

Topock Fm.
(-783')

3650

Ls: crm, hrd, dns, occ. sft. chky,
 VFG-mxln, tr. mic., abun. rd.
 sh. stnd., occ. foss. NΦ NSFDC
 Ls: A.A. NΦ NSFDC
 Sh: rd. brn, sft., earthy - clayey
 tr. ss. crm, hrd - m. sft. & chky,
 fn-VFG, mod-w. sft., w. cmtd NΦ
 Sh: rd. brn, sft., clay - earthy,
 occ. sandy - v. sandy - slty.
 Sh: A.A.
 Ls: crm-lt. gry, hrd, dns,
 VFG-mxln, mic., occ. sft.
 & chky. NΦ NSFDC
 Ls: crm, lt. gry, hrd - sft. &
 chky, VFG-mxln, mic., occ.
 foss. NΦ NSFDC



Ls: crm., hrd., dns., VEG-mxln.,
occ. sft. & chiky., occ. foss.,
tr. pr. p.p. Vug. in part. Φ
occ. sandy-v. sandy NSFDC

Ls: crm., hrd. sft. & chiky., VEG-mxln.
mic. rare foss. N Φ NSFDC
tr. red.

Ls: crm. - lt. gry. A.A. occ. sh. stand.

Sh: gry., sft. - m. sft., clayey -
earthy

Sh: rd. brn. - gry., tr. blk carb.,
sft. clayey - m. sft., earthy

Ls: crm., hrd., dns., VEG-mxln. mic.
sh. stand., rare foss. N Φ NSFDC

Sh: rd. brn., v. sft., clayey, tr.
earthy, tr. dk. gry.

Ls: crm., hrd., dns., - sft. & chiky.,
VEG-mxln., occ. foss., occ. sandy,
N Φ NSFDC

Ls: crm., hrd. - sft. & chiky., VEG-
mxln., mic. occ. foss., tr. sandy,
occ. sh. stand., N Φ NSFDC

Sh: rd. brn., sft., clayey - earthy

Sh: rd. brn., v. sft., clayey - dk. gry.,
m. sft., earthy, occ. sandy.

Sh: A.A.

Ls: crm. wh., sft. chiky. - clayey, -
hrd., dns., VEG-mxln., mic.
rare foss. N Φ NSFDC

Ls: crm., sft. & chiky. - hrd., dns.,
VEG-mxln., occ. v. foss., tr. l. pr.
p.p. Φ NSFDC

Lacombe Ls.
(-895')

Orad Ls.
(-931')

Ls: A.A., tr. sandy N Φ NSFDC

Sh: dk. gry. - blk., m. hrd. - m. sft.
dns., earthy, tr. carb.

Sh: rd. brn. - par. v. sft., clayey,
occ. m. sft., earthy

Sh: rd. brn., v. sft., clayey, tr. blk
gry., m. sft., earthy, occ. ls.
pebble.

Sh: rd. brn., v. sft., clayey, occ.
m. sft., earthy, sandy, tr. gry.
grn., tr. pebb.

**Heebner
Shale**
(-947')

**DST #1 3752'-
3860'**
Rec: 30' OSM
Deviation 1°

Ls: crm. wh., sft. & chiky. - hrd., dns. VEG
- mxln., occ. foss. w/ s. gpc. pr. fr.
tr. in part. Vug. Φ w/ brn. blk. stn. tr.
F.O., No odor, tr. cut. fl., 7 perm.

Ls: crm. - tan - occ. sh. stand. maroon,
hrd., dns., VEG-mxln. tr. foss.,
sh. stand. N Φ NSFDC

Sh: rd. brn. - gry. grn. sft. clayey -
m. sft., earthy, sandy.

tr. ss: tan, m. hrd., dns., occ. f. p.a.
mod. setd., w. cm to Nol's. Φ NSFDC

Sh: rd. - rd. brn., sft. & clayey - m. sft.
earthy, sandy, tr. gry. sh.

Lansing Group
Weak Show
(-990')

Ls: wh. - crm. - hrd., dns., VEG-mxln.,
mic. occ. pr. - gd. Vug. Φ - lg. open
Vugs - tr. brn. stn., 1-2 dr. opst. O.
wk. cut. fl. w/ k. odor

Ls: wh., hrd., dns., mxln., mic.
rare foss. tr. sh. stand.
N Φ NSFDC

Ls: wh. - crm., hrd., dns., VEG-mxln.,
mic. tr. chiky., tr. foss. tr.
sh. stand. N Φ NSFDC

tr. Sh: gry. - dk. gry., m. sft., earthy

Sh: rd. brn. - blk. grn., m. sft., dns.,
sandy, earthy, occ. pebbles

Sh: P.A. - abn. pyr.

Weak Show

Mud Check @ 3860'
M.w. 9.2 lb/gal.
Vis. 72 sec/1qt.
w.l. 5.2 cc/30min
at 1,500 RPM



G
H
I
J
K
L

2
3900
3950
4000
4050

tr. ss: wh-tan, hrd, dns, med. grain.
sub. ang. w. contd., w. sand. ipr.
vis. ϕ NSFOC

○ Ls: wh-lt. gry, hrd, dns, VEG-mxln.
mic. occ. fr-VEG vug, ϕ , moldic?
wl. tr. lgr. vugs, 1 lb. brn. stn, wk odor
wk cut & fl., No F.O.

Weak Show

CF5 Ls: crm-lt. gry, hrd, dns, VEG-mxln.
rare foss. N ϕ NSFOC

○ Sh: rd. brn.-dk. gry, m. sft., earthy.
-hackly, tr. sandy, pyr.

○ Ls: crm-lt. gry, m. sft., chky - hrd,
dns, mic, VEG-mxln, tr. foss +ool.
w/ ph. fr. vug, ϕ , some moldic?, lt. brn.
stn., v. wk odor, No F.O., fr. cut & fl.

Weak Show

Ls: crm-gry, hrd, dns, VEG-mxln,
mic, occ. m. sft., sli. chky, occ.
foss. + sh. std. N ϕ NSFOC

Ls: A.A. N ϕ NSFOC

CF5 Sh: rd. brn.-gry, sft. + clayey - m. sft.
earthy, pyr.

○ Sh: A.A.

○ Ls: crm-wh, hrd - m. sft, dns, VEG
-mxln, mic, occ. ool. w/ fr. -pp. int
par. ϕ , lt. stn., wk odor, No F.O.

○ Ls: A.A., occ. fr, vug. Int part ϕ
dk-lt. brn stn., wk. odor, No
F.O., fr. cut & fl., poss. perm.

Fair Show

Ls: A.A. N ϕ NSFOC

CF5 Sh: rd. brn., tr. dk. gry - blk, sft.,
earthy, carb.

○ Sh: A.A.

○ Ls: exp, hrd, VEG, xln, ool. w/ pr. -gd.
int ool. ϕ + tr. lgr. vug, ϕ , unyf. brn. stn.
gd. cut & fl., No F.O., No odor

Fair Show

○ Ls: crm-lt. gry, hrd, dns, VEG-mxln.
mic, occ. sft. + chky, 1 pp. + foss.
+ool., Abun. rd. sh. stn. N ϕ NSFOC

Ls: crm-tan-lt. gry, hrd, dns, VEG-
mxln, mic, tr. chky, tr. sh. std.,
rare foss. N ϕ NSFOC

CF5 tr. Sh: rd. brn., m. sft., earthy

Mud Check @ 4,000'
M.W. 9.3 lb./gal.
Vis. 62 sec./ft.
W.L. 6.4 cc/30min.
chl. 1,700ppm
solids 7.1%
LCM. 5 #/bbl.

Base of Kansas
City Group
(-1207')

Sh: rd. brn.-gry, m. sft., dns,
earthy, occ. ls. pebble, sandy

Sh: A.A.

Ls: crm-tan-gry, hrd, dns, VEG xln,
foss. v. foss., occ. sh. std.
N ϕ NSFOC

Sh: rd. brn.-gry - man, sft. + clay.
-m. sft., earthy, sandy.

Sh: lt. gry-rd. brn., sft., clayey - m. sft.
dns, earthy, occ. sandy - sly

Ls: crm-gry, hrd, dns, VEG-mxln, mc.
rare foss., sh. std. N ϕ NSFOC

Ls: A.A., occ. sandy. N ϕ NSFOC

Marmaton Gp.
(-1239')

Sh: rd. brn.-lt. dk. gry, sft. + clayey -
m. sft., earthy, occ. sandy.

Sh: rd. brn., v. sft., clay, m. sft.,
dns, occ. dk. gry, hackly

Sh: rd. brn., v. sft., clayey - earthy,
tr. dk. gry, hackly

Sh: rd. brn.-gry - man, sft. + clayey -
m. sft., earthy, silt, occ.
pebble

Sh: A.A.

DST #2
3896-4000'
REC. 40' 05" SWM
369' M.W.
Strap 3.05' long
(No Correction)
Weak Show

Stark Shale
(-1157')

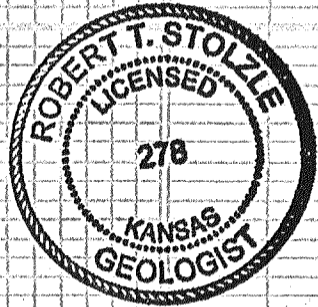
Fair Show

Mud Check @ 4,000'
M.W. 9.3 lb./gal.
Vis. 62 sec./ft.
W.L. 6.4 cc/30min.
chl. 1,700ppm
solids 7.1%
LCM. 5 #/bbl.

**Base of Kansas
City Group**
(-1207')

Marmaton Gp.
(-1239')

4100



CFS

LS: CRM-gry. - MAP. stnd. (pred. idns.)
VFG-mxln. tr. sh. stnd.
NΦNSFOC

D.T.D. 4100'
L.T.D. 4101'

Deviation 1 1/4°

Robert Stolze
6/6/13