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DRILLING TIME AND SAMPLE LOG

OPERATOR: Mull Drilling Co., Inc.
LEASE: Becker WELL NO.: 1-27
FIELD: Whitney, West
LOCATION: 990'FNL, 579'FEL (approx. W½, SE, NE, NE)
SEC.: 27 TWP: 15S RANGE: 27W
COUNTY: Gove STATE: KS
API NO.: 15-063-21901-00-00

CONTRACTOR: Duke Drilling Co., Inc., Rig#2
COMMENCED: June 23, 2011 COMPLETED: July 1, 2011
ROTARY TOTAL DEPTH: 4450' LOG TOTAL DEPTH: 4451'
GEOLOGICAL SUPERVISION FROM: 3400 to: T.D.
MUD-UP DEPTH: 3387' MUD TYPE: Chemical Polymer

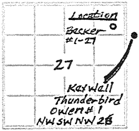
ELEVATIONS
KB 2496'
GL 2488'
Measurements are all from KB

CASING RECORD
SURFACE: New 8⅝" 20#@225', circ
PRODUCTION: None- P&A.

WIRELINE SURVEYS
Superior Well Services Dual Induction, Comp. Neutron & Density Porosity, Microelectric log and Sonic logs were run.

FORMATION	SAMPLE TOP	SAMPLE SUBSEA	LOG TOP	LOG SUBSEA	STRUCTURAL COMPARISON
Stone Corral Anhy	1937	(+559)	1938	(+558)	+2'
Base of Anhydrite	1975	+521)	1974	(+522)	+2'
Topeka Fm.	3433	(-937)	3433	(-937)	+1'
Heebner Shale	3714	(-1218)	3714	(-1218)	+6'
Lansing Group	3753	(-1257)	3752	(-1256)	+5'
'G' Zone Porosity	3869	(-1373)	3869	(-1373)	+1'
Stark Shale	4001	(-1505)	4000	(-1504)	-0-
Base KS. City Gp.	4058	(-1562)	4055	(-1559)	+3'
Marmaton Group	4108	(-1612)	4109	(-1613)	+3'
Pawnee Ls.	4194	(-1698)	4194	(-1698)	-9'
Ft. Scott Ls.	4245	(-1749)	4246	(-1750)	-1'
Cherokee Sh.	4271	(-1775)	4274	(-1778)	-2'
Miss. Warsaw Fm.	4336	(-1840)	4338	(-1842)	-2'
Miss. Porosity	4346	(-1850)	4350	(-1854)	+6'
Total Depth	4450		4451		

LOCATION MAP



Reference Well For Structural Comparison: Thunderbird Owens #1 NWSWNW 26
Comments and Recommendations: Recommended that well be plugged and abandoned.

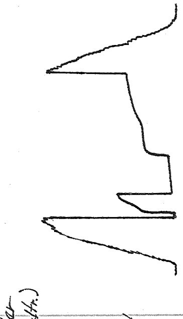
DST # 1 ZONE: Kansas City 'K' and 'L' Zones
INTERVAL: 3997'-4060'

Pressures:	Time	Press.	RECOVERY
1. Initial Hydrostatic		1975 psi	3' Free Oil
2. Initial Flow: Start	0	34 psi	(36° gravity @ 60°F)
3. Initial Flow: End	5	51 psi	182' Muddy Water
4. Initial Shut-in: End	30	882 psi	(15% Mud, 85% wtr.)
5. Final Flow: Start	0	59 psi	
6. Final Flow: End	60	115 psi	I.F.-1" in 5 Min.
7. Final Shut-in: End	120	745 psi	F.F.-11" in 60 min.
8. Final Hydrostatic		1944 psi	ISI+FSI-No blow

Strap .15' long
Deviation ¾°

BHT: 123°F
Rw: 0.5@70°F
Chl. 50,000ppm (Mud filtrate 3,700ppm. Chl.)

DST # 1
Interval: 3997'-4060'
30046 Chart
Depth: 4000'



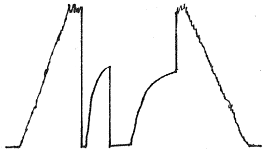
DST # 2 ZONE: Ft. Scott + Miss. Warsaw
INTERVAL: 4252'-4356'

DST # 2
Interval: 4252-4356
30046 Chart
Depth: 4255'

Pressures:	Time	Press.	RECOVERY
1. Initial Hydrostatic		2071 psi	15' Drilling Mud
2. Initial Flow: Start	0	34 psi	
3. Initial Flow: End	5	35 psi	
4. Initial Shut-in: End	30	1232 psi	
5. Final Flow: Start	0	36 psi	
6. Final Flow: End	30	43 psi	I.F.-¼" blow
7. Final Shut-in: End	60	1145 psi	F.F.-½" blow
8. Final Hydrostatic		2056 psi	ISI+FSI-No blow

BHT: 120°F

Rw: ______



DST #______ ZONE: ______

INTERVAL: ______

Pressures:	Time	Press.	RECOVERY
1. Initial Hydrostatic		psi	
2. Initial Flow: Start		psi	
3. Initial Flow: End		psi	
4. Initial Shut-in: End		psi	
5. Final Flow: Start		psi	
6. Final Flow: End		psi	
7. Final Shut-in: End		psi	
8. Final Hydrostatic		psi	

BHT: ______

Rw: ______

DST #______ Chart

Interval: ______ Depth: ______

ABBREVIATIONS USED

ROCK TYPES:

Ls - Limestone
Sh - Shale
Ss - Sandstone
Slts - Siltstone
Cg - Conglomerate
Cht - Chert
Qtz - Quartzite
Gran - Granite
Dol - Dolomite
Chlk - chalky

COLOR:

Wh - White
Crm - Cream
Clr - Clear
Rd - Red
Grn - 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
Crs - Coarse
Dtl - Detrital
Foss - Fossiliferous
Xln - Crystalline
Mxln - Microcrystalline
Ool - Oolitic
Oom - Oomoldic
Mat - Matrix

OTHER TERMS:

fl - fluorescence (of oil)
min fl - mineral fluorescence
pyr - pyritic
glau - glauconitic
carb - carbonaceous
stn - stain (of oil)
cut - oil cut
AA - as above
Ø - 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
intgran - intergranular
pp - pinpoint
dd - dead
gsy - gassy

TEXTURE:

Dns - Dense
Cly - Clayey
Fri - Friable
Earth - Earthy
Blck - Blocky
Fiss - Fissile
Vit - Vitreous
Vug - Vugular
Mic - Micritic

OIL SHOWS

○ Weak Oil Show
○ Fair Oil Show
○ Good Oil Show
○ Excellent Oil Show

ROCK TYPE SYMBOLS

SHALE

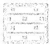
CARBONACEOUS SHALE

QUARTZITE

SANDSTONE

LIMESTONE

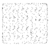
SALT



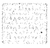
OOLITIC LIMESTONE

DOLOMITE

ANHYDRITE

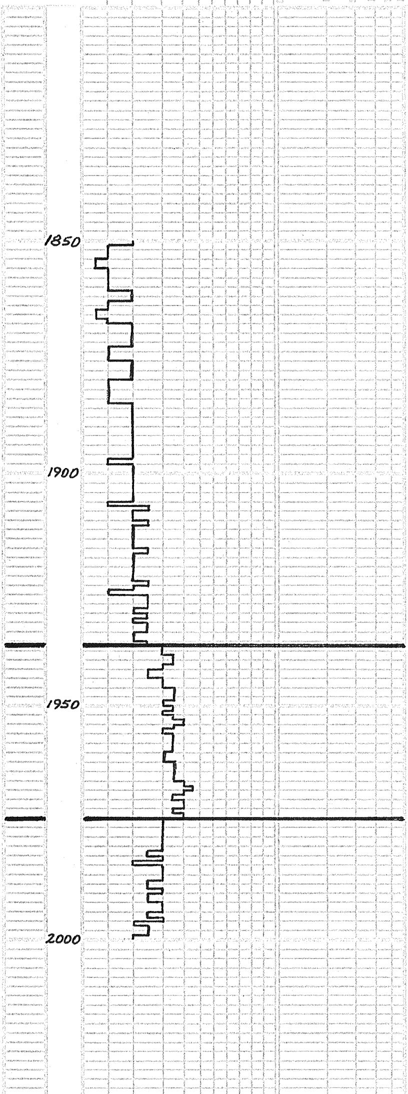


CHERT



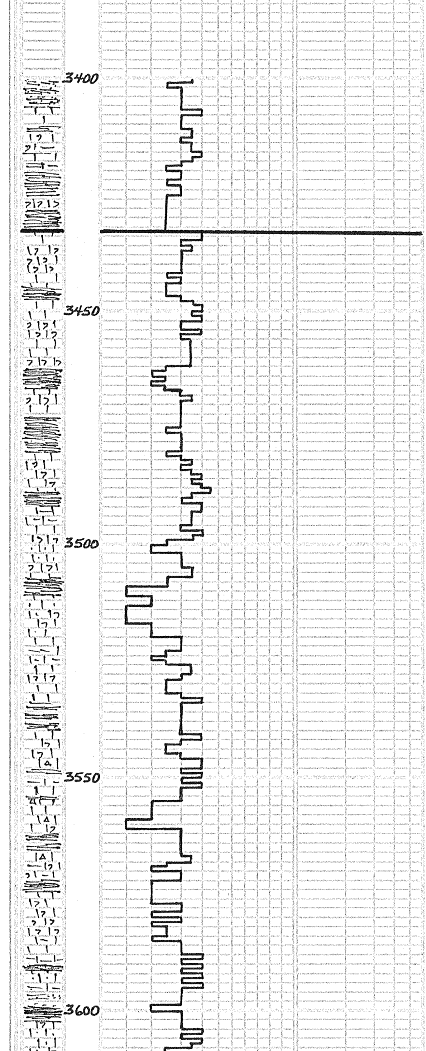
GRANITE

LITHOLOGY	DRILLING TIME	GAS SHOWS TOTAL GAS UNITS CHROMATOGRAPH UNITS	Oil Shows	SAMPLE DESCRIPTIONS	REMARKS



Stone Corral
Anhydrite
(+559')

Base of Anhydrite
(+522')



Displace Mud
System at
3387'

Sh: lt.-dk.gry., sft.-m.sft., occ.
sndy.-slty., earthy-hackly

Sh: A.A.
Ls: crm., m.sft. dns, VFG-mxln.
occ. V. foss. NØNSFOC

Ls: A.A. sft.-hrd., NØNSFOC
Sh: gry.-dk.gry., m.sft., dns. hackly

Sh: A.A.
Ls: crm.-tan., hrd.-m.sft., dns.,
VFG-mxln., foss.-V. foss.
NØNSFOC

Topeka Fm.
(-937')

Ls: crm.-tan, sft.-m.hrd., dns, VFG-
mxln., occ. foss.-V. foss. NØNSFOC
Sh: gry.-dk.gry., m.sft., dns.,
hackly, occ. slty.
Sh: A.A., more sft., slty.-sndy
Ls: Gry.-Crm.-tan., m.sft.-m.hrd.,
dns., VFG-mxln., occ. foss-V. foss.
sh. stnd. NØNSFOC
Ls: A.A. NØNSFOC

Sh: gry.-dk.gry., dns., m.sft.-m.hrd.
dns., hackly

Sh: gry.grn.-dk.gry., m.sft.-m.hrd.
dns., earthy-hackly

Sh: A.A.

Ls: crm., m.sft.-m.hrd., dns., VFG-
mxln., occ. foss. NØNSFOC
Ls: A.A., tr. VFG pp. ØNSFOC

Sh: lt.-dk.gry., m.sft.-m.hrd., dns
hackly
Sh: A.A.

Ls: crm.-tan, m.sft.-m.hrd., dns.,
occ. foss., tr. sndy. NØNSFOC

Ls: crm., sft., chlk., mxln., tr.
foss., tr. sndy. NØNSFOC

Ls: crm., m.sft., dns., VFG-mxln.
occ. chlk., foss.-V. foss., tr.
cht. NØNSFOC
Sh: dk.gry., m.hrd., dns., hackly

Sh: A.A.
Ls: crm, hrd.-m.sft., dns., VFG.-
mxln., foss. NØNSFOC
Sh: dk.gry.-blk., m.sft.-m.hrd.,
dns., hackly
Ls: crm.-gry., hrd.-m.sft., dns.,
foss., tr. cht. NØNSFOC
Ls: A.A. NØNSFOC

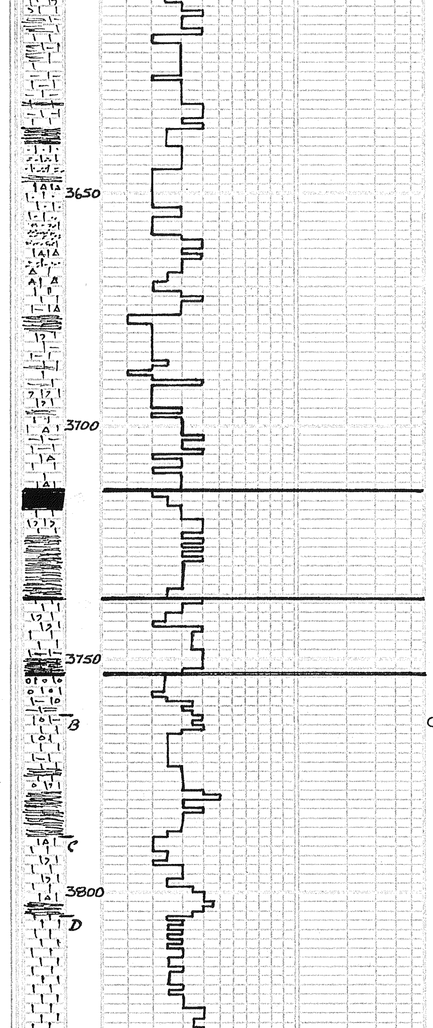
Sh: dk.gry., m.sft., dns., earthy-
fissile
Sh: A.A.

Ls: crm-gry., sft.-hrd., dns., VFG-
mxln., foss., tr. cht. NØNSFOC

Ls: A.A., occ. V. foss. NØNSFOC

Sh: dk.gry. m.sft.-m.hrd., dns., hack.

Sh: gry.-dk.gry., sft.-m.hrd., occ.
slty., earthy-hackly
Ls: crm.-gry., m.sft., foss. NØNSFOC
Ls: crm.-tan-gry., sft. & chlk.-
m.hrd., dns., VFG-mxln., occ.
foss., occ. sh. stnd. NØNSFOC
Sh: A.A.
Ls: crm.-lt.gry., m.hrd.-sft., dns.,
VFG-mxln., occ. sft. & chlk.,
foss., occ. sndy. NØNSFOC



Ls: crm.-lt.gry., sft.+chlk-hrd., dns., VFG-mxln., foss., sh.stnd. tr.sndy. NØNSFOC

Ls: crm-tan, hrd., dns.-sft.+ chlky., VFG-mxln., occ.foss., occ. V.sndy-calc.Ss. NØNSFOC
Sh: gry.-dk.gry., m.sft., dns., earthy

Ls: crm-tan, hrd., dns., VFG-mxln., occ. cht., tr.chlky., occ.foss. +sli.stnd., tr.sndy NØNSFOC
Ls: A.A., occ. V.sndy.-calc.Ss., abun.sh.stn. NØNSFOC
Sh: dk.gry., m.sft.-m.hrd., dns., occ.slty-sndy., earth-hack.
Ls: crm-lt.gry., m.sft., dns., VFG-mxln., occ.chty., sh.stn., occ. foss., tr.sndy NØNSFOC

Ls: A.A., chty. NØNSFOC
tr. Ss. wh., sft., VFG, calc. NØNSFOC
Sh: dk.gry., m.sft., dns., hack.

Ls: crm., hrd., dns., VFG-mxln., abun.cht., tr.chlk. NØNSFOC
Sh: lt.-dk.gry., sft., slty., earthy

Mud Check @ 3690'
M.W. 9.0 lb./gal.
Vis. 48 sec./qt.
W.L. 10.4 ml./30min.

Ls: crm., sft., mxln., chlk., tr.foss. NØNSFOC
Sh: gry., sft., slty., earthy

Chl. 2,700ppm
Solids 4.8%
LCM. 2 lbs./bbl.

Sh: A.A.
Ls: crm., sft.-m.hrd., dns., VFG xln., foss., tr. pr. pp.Vug Ø NSFOC
Ls: crm.-tan, hrd.-sft.+chlky., foss., VFG-mxln., occ.cht. NØNSFOC

Ls: A.A. sh.stnd. NØNSFOC
Sh: dk.gry.-blk., m.sft., dns., occ. carb., earthy

Heebner Shale
(-1218')

Sh: A.A., occ. lt.gry., sft., clayey
Ls: tan, hrd., dns., VFG xln., foss. NØNSFOC

Sh: A.A
Ls: tan-brn., hrd.-m.hrd., dns., VFG-mxln., mic., foss.-V. foss. NØNSFOC
Ls: A.A., occ. sft.+chlk. NØNSFOC

Toronto Ls.
(-1241)

Sh: gry.-gry.grn., m.sft., sndy. earthy

Lansing Group
(-1257')

○ Ls: crm.-wh., sft.+chlk.-hrd., dns. VFGxln, occ. ool. w/ fr.-pr. intpart. Ø, dk.brn. stn., fr.-gd. cut+fl., wk odor, No F.O.,

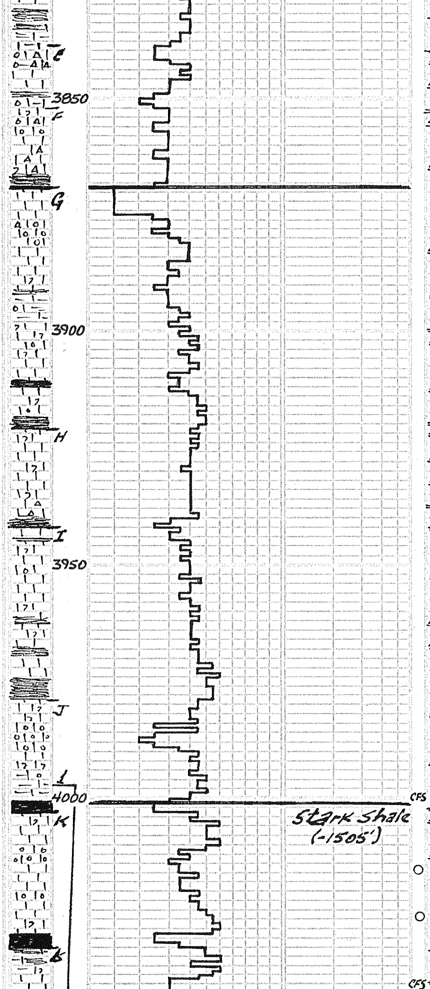
Weak Show

Ls: wh.-crm., sft.+chlk.-hrd., dns., VFG-mxln., occ. ool. A.A. w/dk. stn., ft.cut+fl., some barren Ø
Very Weak Show
Ls: wh.-crm., sft.+chlk.-hrd., dns. tr. foss.+ool. NØNSFOC
Sh: dk.gry., m.hrd., dns., hack.

Sh: A.A. w/ Sh: lt.gry., V. sft., clayey

Ls: crm., hrd.-m.sft.+chlk., tr. foss., tr. pyr. NØNSFOC
Ls: crm., hrd., dns., mxln., mic. +chty., tr. foss. NØNSFOC
Sh: gry., sft., clayey

Sh: A.A. w/ Sh: dk.gry., m.hrd., hack.
Ls: crm., hrd., dns., VFG-mxln., mic., occ.foss., occ. cht., tr. pyr. NØNSFOC
Ls: crm.-tan, sft.+chlky-hrd., dns., chty., occ. VFG, tr. rexlzd, tr. foss.+pyr. NØNSFOC



Ls: A.A., tr. ool. w/pr. int part.
Φ, dk. oilstn., fr. cut+fl., v.? perm
No. F.O., No odor. Very Weak Show
Sh: gry., v.sft., clayey
Sh: gry.-gry.grn., sndy., earthy,
occ. clayey, A.A.
Ls: crm., hrd., dns., VFG-mxln.,
mic., Abun. cht. NØ NSFOC
Sh: gry.grn-dk.gry., m.sft., dns., hack.
Ls: crm., hrd., dns. A.A., 1-2pc.
ool. w/pr. int. ool. Φ., dk. stn., wk.
cut+fl., v.? perm. Very Weak Show

Ls: crm., hrd., dns., VFG-mxln., mic.
Abun. cht., occ. foss.
NØ NSFOC

'G' Zone Porosity
(-1373')

Ls: wh., sft., chlk., mxln., No
Vis. Φ NSFOC

Ls: wh.-crm., sft+chlk.-m.hrd.
dns., occ. ool. w/ occ. fr.-pr
int. ool. Φ NSFOC

Ls: wh-crm., hrd.-sft.+chlk., VFG
-mxln., mic., chty., occ. foss.,
tr. ool. NØ NSFOC
Sh: dk. gry., m.hrd., dns., hackly
Sh: A.A.
Ls: crm.-wh., sft.+chlk.-hrd.,
dns., VFG xln., occ. foss+ool.
NØ NSFOC
Ls: crm.-tan, hrd., dns., VFG.
xln., occ. foss.+ool. w/ tr.
pr. int. ool. Φ NSFOC
Sh: blk., hrd., dns., carb., earthy
Sh: blk-gry.grn., hrd.-m.sft.,
dns., hack.-earthy
Ls: crm., hrd.-sft.+chlk., VFG-mxln.
occ. rexlzd., tr. foss. NØ NSFOC
Ls: crm-tan, hrd., dns., fnxln., occ.
mxln., sft.+chlk., tr. foss. NØ NSFOC
Sh: gry.-dk.gry., m.hrd.-m.sft., dns.,
earthy-hackly
Sh: A.A.
Ls: crm.-tan, hrd., dns., fnxln-mxln.
mic., tr. rexlzd., rare foss., tr.
chlky NØ NSFOC
Ls: crm.-tan, hrd., dns., fnxln-mxln.
mic., tr. chlky., 2-3pc. w/ VFG p.p.
vug. Φ, dk. brn. stn., wk. cut+fl.,
No perm., wk. odor Very Weak show
Ls: crm.-tan, hrd., dns., fn-VFG xln.,
tr. chlk., tr. foss. NØ NSFOC
Sh: gry.grn.-dk.gry., m.hrd., dns.
hackly-fissile
Sh: gry.-dk.gry., sft.+clayey-
m.hrd., dns., hackly
tr. Ls: A.A. NØ NSFOC

Sh: blk., m.hrd., dns., carb., earthy
Ls: crm.-wh., hrd.-sft+chlk.,
VFG.xln., occ. ool. w/ pr.-gd.
oomoldic Φ NSFOC
Ls: crm.-lt.gry., hrd., dns., VFG xln.
occ. foss.+ool. w/ occ. fr.-pr.
moldic Φ NSFOC

DST #1 3997'-4060'
Rec. 3' C.O.
182' M.W.
Strap. 1.5 long
Deviation 3/4°

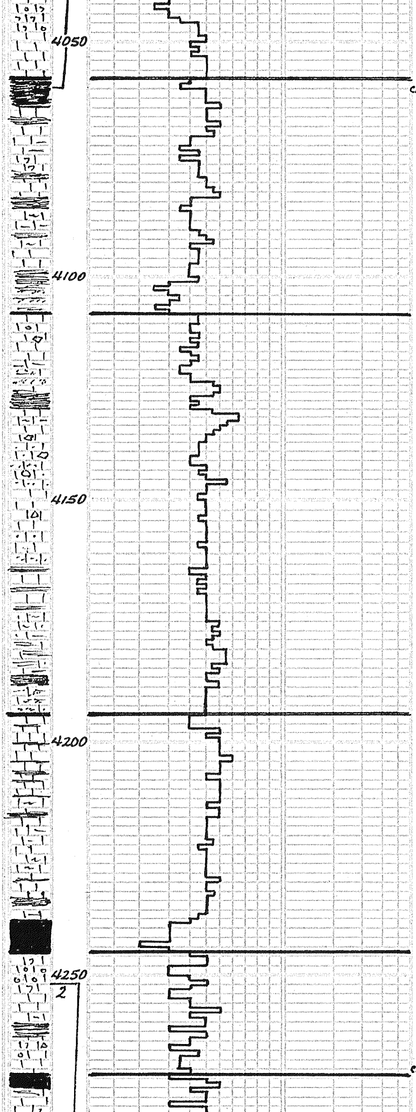
Sh: blk., m.hrd., dns., carb., earthy
Ls: crm.-brn., hrd., dns., fn-VFG
xln., tr. chlk., tr. foss.
NØ NSFOC
○ Ls: crm.-brn., hrd.-sft.+chlk., fn.
xln.-mxln., rare VFG. ool. w/ pr-
fr. int. ool. Φ, some rexlzd., lt. stn.
wk. odor, fr. cut+fl., No F.O., ?perm.

Weak Show

○ Ls: A.A., occ. ool. w/ pr. int. part. Φ
tr. oom. Φ, 2pc. gd. rexlzd. vug. Φ
brn. oilstn., tr.-gd. cut+fl., wk.
odor, No F.O., thin zone, ?perm.

Weak Show

Ls: crm.-brn., hrd., dns., fnxln.-
mxln., tr. chlky., rare foss.
NØ NSFOC
Sh: blk., m.hrd., dns., carb., earthy



Sh: A.A.
Ls: crm-tan-lt.gry., sft.+chik-hrd,
dns. fnxln-mxln., occ. pr. oom. φ tr.
foss. moldic φ w/. lt brn. stn., wk.
odor, fr-wk. cut+fl., No F.O., V.? perm
Ls: A.A., Abun. cht., NØ NSFOC
Sh: gry.-blk-rd. brn., hrd-m. sft.
dns., tr. carb., earthy

Very Weak Show

CFS
Cg: Sh: gry. grn-dk. gry.-rd. brn., m.
sft., dns., sndy., tr. pebbles, earthy
Ls: gry., hrd., dns., VFG-mxln., mic.
NØNSFOC

Base of Kansas City Group
(-1562')

Sh: A.A., less rd. brn.
Ls: gry.-crm., hrd., dns., VFG-mxln.
occ. foss., tr. m. sft., chik.,
tr. pyr., tr. cht. NØNSFOC
Ls: A.A., tr. pr. oom. φ NSFOC
Sh: gry. grn.-dk. gry., m. hrd., dns.,
hackly
Ls: crm.-gry., hrd., dns., VFG-mxln.,
mic., tr. foss., tr. sh. stnd. NØNSFOC
Sh: gry. grn.-dk. gry., m. sft.-m. hrd.,
dns., occ. sndy., earthy-hackly

Mud Chack @ 4060'
M.W. 9.2
Vis. 49
W.L. 10
Chl. 3100
Solids 6.2%
LCM 2#

Sh: gry.-dk. gry., m. hrd.-sft., dns.
sndy., earthy
Ls: crm.-gry., sft.+chik-hrd., dns.
VFG-mxln., mic., occ sndy. NØNSFOC
Ls: gry.-crm., hrd., dns., VFG-mxln.
sh. stnd., occ. pebb. NØNSFOC
Sh: dk. gry.-rd. brn., m. sft.-m. hrd.
dns., sndy., earthy-hackly
Ls: gry.-crm., hrd., dns. fn-VFGxln.
tr. foss., tr. chik. NØNSFOC
Sh: dk. gry.-tr. rd. brn., m. hrd., dns
occ. sndy., tr. pebb., hackly
Ls: crm-tan-gry., hrd., dns., fnxln.
-mxln., mic., tr. chiky., occ. sh.
stnd., tr. pebble surf. NØNSFOC
Sh: A.A., occ. sft., earthy, hackly
Ls: A.A., abun. pebble surfaces.,
occ. sndy NØNSFOC
Sh: A.A., sli. more rd. brn, earthy

Marmaton Group
(-1612')

Ls: crm.-tan-tr. gry., hrd., dns.,
fn-VFGxln., rare foss., tr. chiky
tr. pebb.+sh. stn. NØNSFOC
tr. Sh: dk. gry., m. sft., earthy-hackly
Ls: crm.-tan, hrd., dns., VFG xln.,
tr. mxln., mic, tr. chik., tr.
sndy, tr. sh. stnd NØNSFOC
Sh: tr. dk. gry., hackly
Sh: dk. gry.-blk., m. hrd., dns., occ.
carb., hackly-earthy
Ls: crm-tan-gry., hrd., dns., VFG-
mxln., occ. sndy NØNSFOC
Sh: A.A., tr. maroon, sndy., hackly
Ls: crm-tan-gry., hrd., dns., VFG-
mxln., occ. chik., occ. sndy., sh.
stnd., tr. foss. NØNSFOC
Ls: A.A., more sndy., occ. V. sft.+
chiky NØNSFOC
Sh: gry. grn.-dk. gry., m. hrd., dns.,
sndy., hackly
Ls: crm-tan-gry., hrd., dns., VFG-
mxln. occ. sndy. tr. sh. stnd. pebb
surf. NØNSFOC
Sh: dk. gry., m. hrd., occ. sndy., hackly
Ls: A.A., occ. mxln., mic, tr.
sft.+chik., sh. stnd. NØNSFOC
Sh: dk. gry., m. sft.-m. hrd., dns.,
occ. sndy., earthy-hackly
Ls: gry-crm.-tan, hrd., dns., VFG-
mxln., occ. chik. NØNSFOC
Sh: dk. gry., m. sft.-m. hrd., dns.,
earthy-hackly
Ls: gry.-crm.-tan, hrd., dns, VFG-
mxln., occ. foss.+ool., tr. chik., tr.
sh. stnd. pebb., tr. sndy. NØNSFOC
Sh: dk. gry.-blk., m. sft.-m. hrd. earthy
Sh: dk. gry.-blk., sft.+clayey-m. hrd.
dns., hackly. tr. carb.

Pawnee Ls.
(-1698')

Ls: brn., m. hrd., dns., ool., tr. foss.
chiky matrix NØ NSFOC
Ls: wh.-brn., hrd.-sft.+chik., VFG-mxln.
occ. ool., 1-2 pc. gd. intool. vug. φ,
most. chik. w/dd blk. stn., vug w/ brn
stn. fr-wk. cut+fl., No F.O., No odor, ? perm
Ls: A.A., 2-3 pc. fr. vug φ w/ blk. oil
stn., 2-3 pc. w/ pr. intool. φ + brn
stn., fr. cut+fl., No odor, No F.O.
occ. chik. w/ dd stn. A.A. ? perm.

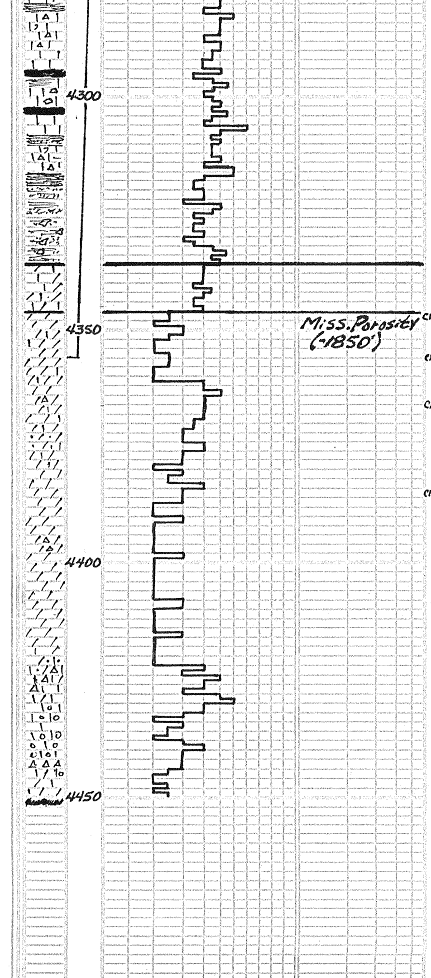
Ft. Scott Ls.
(-1749')

Very Weak Show

Very Weak Show

ers
Sh: blk., m. hrd., dns., carb. earthy
Ls: crm-brn., hrd., dns. VFG-mxln.,
mic., tr. cht., tr. chik., rare foss.
NØNSFOC

Cherokee Shale
(-1775')



Ls: crm.-brn., hrd., dns., VFG-mxln. mic., occ. cht., rare foss., tr. chik. NØ NSFOC
Sh: gry-blk., m.hrd.-m.sft., hackly
Sh: gry.grn-dk.gry., m.sf-m.hd., hack.
Ls: crm-tan, hrd., dns., VFG-mxln. mic., occ. cht., tr. pyr., tr. sli. stnd., tr. ool. + foss. NØ NSFOC
Ls: A.A., occ. pebb. surf. NØ NSFOC
Sh: gry.-dk.gry., occ rd. brn, mott, m.sft.-m.hrd., tr. sndy., earthy - hackly
Sh: A.A.
Ls: crm.-tan, hrd., dns., VFG-mxln. mic., tr. cht., occ. foss. + ool., tr. chik., occ. pebb. surf. NØ NSFOC
Cg: Cht: wh.-ylw., hrd., dns., vit.
Sh: dk.gry-mar., m.hrd., earthy tr. Ss: hrd., dns. v.wl. cmtd. NØ
Ls: crm-tan, hrd., dns., VFG-mxln. mic., occ. foss. + ool. NØ NSFOC
Cg: Ls: + Cht: A.A., tr. dd. stn. in fracs.
Sh: gry-mar.-ylw., m.sft.-m.hrd. dns., sndy, tr. Ss. NØ NSFOC
Cg: AA., tr. Ss-qtzitic, clr., tr. blk oil stn., v.w. cmtd., fr. Ø. V.? perm.
tr. Ls: dolo., crm., m.sft., spicular. moldic Ø w/ dd. blk. stn., No perm
Dol: wh.-crm., hrd-sft., VFG xln, abun. wh. chik. Ls:, occ. pr. vug.-moldic Ø w/ tr. blk. dd. stn., much barren Ø, wk-fr. cut. + fl., v. wk. odor
Dol: wh.-crm., m.sft.-hrd., VFG xln., occ. pr.-fr. moldic vug. Ø, 1-2 pc. dd. blk. stn. A.A., 99% barren Ø
Dol: crm., hrd. VFG, calc., tr. cht. NØ NSFOC
Dol: crm.-lt.gry., hrd., dns., VFG xln., occ. sli. calc. NØ NSFOC
Dol: crm., m.hrd-m.sft., dns., VFG xln., calc., occ. sndy. NØ NSFOC
Dol: calc., occ. v.sft. + chiky. Ls. V.F.G. xln., occ. sndy NØ NSFOC
Dol: crm., m.sft., dns., VFG xln., occ. chiky Ls: AA NØ NSFOC
Dol: crm., m.sft., dns., VFG xln. occ. sft. wh. chik. Ls., occ. wh. hrd., dns., vit. cht. NØ NSFOC

Dol: crm., sli. calc., sft., fri A., VFG xln., occ. Cht: wh., hrd., dns., vit. No Vis Ø pyr. NSFOC
Dol: crm.-tan, m.sft., dns., VFG xln. sli. calc., tr. sft chiky Ls. tr. sndy dol. No Vis. Ø NSFOC

Dol: tan, hrd., dns., VFG xln., occ. sndy., abun. Cht: gry.-wh., hrd., dns., vit. NØ NSFOC tr. sft. chik. Ls:
Dol: A.A., Cht: A.A. NØ NSFOC
Ls: brn., hrd., dns., VFG xln., ool. NØ NSFOC

Ls: brn., hrd., dns., VFG-mxln., ool.
Cht: gry-wh., hrd., dns., vit.
Dol: crm, m.sft.-hrd., dns., VFG., sli. calc. NØ NSFOC

Mud Check @ 4270'
M.W. 9.35
Vis. 45
W.L. 10.4
Chl. 2,600 ppm
Solids 7.7%
L.C.M. 1#

DST #2
4252-4356'
Rec. 15' Mud

Mississippian
Warsaw Fm.
(-1840')
Very week show

Very Weak Show

Mud Check @ 4408'
M.W. 9.3
Vis. 45
W.L. 12.4
Chl. 2,800 ppm
Solids 7.0%
LCM 1#

D.T.D. 4450'
L.T.D. 4451'
Deviation ½°

Robert Stalzle
6/30/11