



PHIL ASKEY
PETROLEUM GEOLOGIST



GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY Mull Drilling Company, Inc.

LEASE Schmitt-County Unit #1-11

FIELD Wildcat

LOCATION 2616' FWL & 168' FWL

SEC 11 TWPSP 17 S RGE 32 W

COUNTY Scott STATE Kansas

CONTRACTOR WW Drilling Rig #10

SPUD 11/12/12 COMP 11/20/12

RTD 4710' LTD 4711'

MUD UP 3371' TYPE MUD Chemical-Mud Co

SAMPLES SAVED FROM 3900'

DRILLING TIME KEPT FROM 2200'-2400'; 3800'

SAMPLES EXAMINED FROM 3900' TO RTD

GEOLOGICAL SUPERVISION FROM 3750' TO RTD

GEOLOGIST ON WELL Phil Askey, L.G.

ELEVATIONS

KB 2992'

DF 2990'

GL 2987'

Measurements Are All From KB

CASING SURFACE 858' @ 224' w/ 1655x5

PRODUCTION _____

ELECTRICAL SURVEYS

Notes: CNL/COI w/ PE
Micro, Sonic, DIL

FORMATION TOPS

LOG

SAMPLES

Anhydrite 2354 +638 2353 -5

Hedberg 3949 -957 3947 +2

Lawrence 3986 -994 3984 +7

Stokesdale 4270 -1278 4268 flat

B/KC 4361 -1369 4360 flat

Norman 4392 -1400 4390 flat

Et Scott 4524 -1532 4522 +1

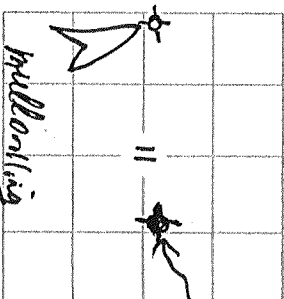
Cherokee Shale 4550 -1558 4548 flat

Tobacco Zone 4590 -1598 4588 flat

Missouri 4653 -1661 4650 flat

ETD/RTD 4711 -1719 4710 flat

Refrerence Well:
Mull Drilling Schmitt #1-11



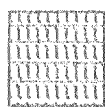
REMARKS

All formations/zones with sample shows were DST'd with negative results. After review and evaluation of the E-logs, it was decided to plug and abandon the Schmitt-County Unit #1-11.

Phil Askey, L.G.

Well API # 15-171-20919

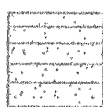
LEGEND



Anhydrite



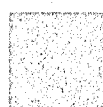
Salt



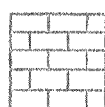
Sandstone



Shale



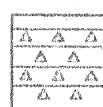
Carb. sh



Limestone



Ool. Lime



Chert



Dolomite

SCALE " = 100'

DRILLING TIME IN MINUTES

LOG 7763

PER FOOT
Rate of Penetration Increases

DEPTH

5" 10" 15" 20" 25"

LITHOLOGY

SAMPLE DESCRIPTIONS

REMARKS

2300

50

Anhydrite 2353 (+639)

E-log 2354 (+638)

B/Anhy 2374 (+618)

E-log 2373 (+619)

3800

50

Samples: 10' wet & dry

3900' - RTD v. good samples

Rig data:

WOB 38 K RPM 85

SPM 60 PP 1000 #

Bit data:

Smith F-27 7 7/8" 46.6 ft/hr

224' - 4710' 96 1/4 hrs

Dev Surveys:

1 1/2" @ 224'

1 1/2" @ 4295'

1 1/2" @ 4710'

LS, offsh-wh Hqy con, firm
VF-fid, smth-dky, drump.
sent yds. vuggy ppt @ NS
SH, rd-down. 99

Pipe Strap @ 4295'

Board: 4317.30'

strap: 4315.57'

3900

Pipe short 1.73' (no core made)

LS, com. tan. Hgybrn, firm-fels, some wh-chky, some foss, xls-ppt-ph, NS, 3pc chrt, tan foss

Mud-co data @ 3920'

LS, com, firm-soft, v.f.f./a-gran, much wh-chky, fine-grained, ppt-ph

WT 8.9 VLS 51 WL 6.4 Solids 4.9% pH 11.0 CL 2,000ppm LCM 1# YP-18

SH, gy-gyp, rd-vdbrn, v.f.f., calc, s.lyc. f.f., v.f.f./a-gran, NS
LS, tan offsh gy-gybrn, firm-dns, micro-fx/a, fine foss, sm chky, NS
SH, blk, fs, carb

DSTs: 4 by Trilobite testing

LS, tan gy-gybrn, firm-dns, micro-fx/a, some foss, NS

SH, H-mgy, some stly-vlgran, p-gran, calc, NS
some rd-vdbrn, some stly, kdkq-blk

LS, offsh firm, firm, much wh-chky, micro-v.f.f., fine foss, some xls-ppt-ph, NS, 5pc chrt, gy, NS

LS, com tan, firm-dns, v.f.f./a, kdkq, some wh-chky, ool-enc. p, fr. blk, spid 'add' sh, some blk edge str, NS, no dol

much wh-chky
LS, com offsh, firm, much wh-chky, v.f.f./a, some xls-ppt-ph, ool-enc. p, NS
CFS: LS, com, offsh, firm, v.f.f./a, kdkq, some wh-chky, NS
SH, dkq-blk, gy, rdbrn

LS, gy-gybrn, firm-dns, micro-fx/a, some foss, blk, slaty, v.f.f./a, NS
some Hgy on rdbrn slaty, firm, v.f.f./a, NS

LS, offsh com-tan, firm, much wh-chky, v.f.f./a, some xls-ppt-ph, NS

LS, a/a, some tan Hgy, firm-dns, foss, NS

LS, tan com, firm-dns, micro-fx/a, some wh-chky, fine chky, f.f./a, NS, some xls-ppt-ph, NS, fine dkq, dns, micro-fx/a
30-40% LS, wh-chky

SH, dkq, blk

LS, tan Hbrn, mostly dns, micro-v.f.f./a, v.f.f./a, NS, 3pc tan LS, fine dns, v.f.f./a, NS

CFS: LS, com, firm-dns, firm, some foss, fine gy-gybrn, dns

LS, a/a, much wh-chky, NS

LS, tan com, firm-dns, fine foss, NS

Heelmer 3947 (-955)

E-log 3949 (-957)

Lansing 3984 (-992)

E-log 3986 (-994)

50

4000

50

4100

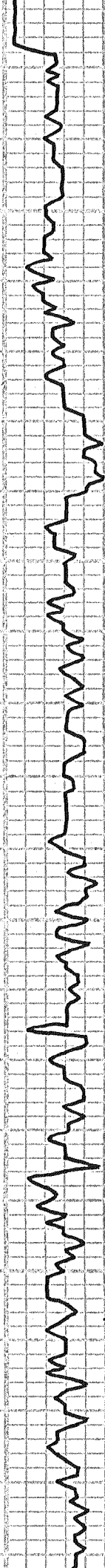


50

4200

50

4300



Spark Sh. 4268 (-1276)
E-log 4270 (-1278)

Hushpuckney Sh. 4307
E-log 4309 (-1317)



LS, con tan, das, micro-xtls, some wh-ctky, chky, N.V.S. φ, NS

LS, con tan lthy, mostly das, brittle, micro-cut xtls, some c-p xtls, ferrug, scat. wh. p. der. v. ugg. φ, NS, 20-25% wh-ctky

SH, blk, st. carb. carb. some med. qtz. qtz. LS, tan. H. qtz. - qtz. from das, micro-xtls, some ferr. - dk. f. ss. / med. p. x. φ, NS

LS, con tan offsh, fm. das-ctky, c-p. x. f. ss., scat. wh-ctky, blk. ctky, chky, tr. ss., dk. f. ss. - arg. - rd., p. ss. LS, con offsh. tan, fm. das, v. x. f. micro-xtls, some wh-ctky, top lg. blk. 3 pc. ooc. φ, p. x. - ooc. φ, dk. f. ss. / med.

SH, blk, ls, carb

LS, tan qtz. con. fm. das, micro-xtls, scat. wh-ctky, + das. col. var, N.V.S. φ, NS, 4% wh-ct

LS, tan. H. qtz. offsh, das, micro-xtls, some f. ss., 3 pc. ooc. φ, das, NS SH, rd. blk, col. 449m

LS, tan. con. lthy offsh, mostly das, v. x. f. ss., c-p. x. f. ss., some wh-ctky, tr. v. ugg. x. φ, NS

OFF-LS lthy. con. tan offsh, fm. das, v. x. f. ss. - micro-xtls, scat. f. ss., ferrug, qtz. scat. p. der. v. ugg. - rd. ooc. φ, NS, wh-ctky SH, blk, ls, carb

4270-80, LS offsh lthy tan, fm. das, v. x. f. ss., ferrug, 3 pc. x. f. ss., fm. - ctky, a. scat. dk. x. f. ss. w/ f. ss. fine 2 pc. blk. sp. st. in f. ss. LS, fm. f. ss. / med. 2 pc. ss., soft. w/ dk. ad. sh. f. ss., fine tan, ooc. das w/ f. ss., tan odor, some wh-ctky, scat. wh-ctky LS, con. offsh. lthy, fm. v. x. f. ss., much wh-ctky, tr. ooc. ooc. das, scat. x. f. ss., 1-3 pc. brn. edge sh. of f. ss. / med. CFS: LS, a. f. ss. much wh-ctky, scat. f. ss., 3 pc. edge sh. / NP, redox

LS, offsh. lthy. H. tan, fm. some wh-ctky-ctky, ferrug, scat. x. f. ss., tr. v. ugg., 2 pc. blk. sp. st. in f. ss., 1 pc. dk. brn. f. ss. / med. SH, blk, ls, carb

LS, tan. qtz. qtz. con., mostly das, micro-xtls, some wh-ctky, p. x. φ, f. ss., p. x. φ, NS scat. ct, wh. spk., f. ss., NS

LS, con. lthy offsh, 3% qtz. tan, mostly das, micro-xtls, some f. ss.

DST #1 4263'-4295'

Times: 5"-30"-90"-60"

1st open: wk surface blow died in 3 1/2"

2nd open: No blow

Rec: 1' mud w/ oil spots

IFP 15-16 # ISIP 1142 #

FFP 18-26 # FSIP 1107 #

BHT 115°F

Mud-Ca data @ 4295'

WT 9.3 U/S 52 WL 6.4 Slide 6.5%

pH 10.5 CL 2,500ppm LCM 1# YP 16

50

B/KC 4360 (-1368)

E-log 4361 (-1369)

some wh-chky, arg imp, to blk-6m, p. xlv of, NS 2 pc. white. surlustor NS

LS tan gy-offsh, gy-gubon, fm-dns, sm shchky, arg imp, to ss, pth, NS micro-fish

SH, tan gy qygru rd, col, tr van sm shchky

DST #2 4362' - 4490'

Times: 5"-30"-30"-60"

1st open: wk surface blow

2nd open: No blow

Rec: 1' mud w/ oil spots

IFP 65-65# 15IP 274#

FPP 67-68# FSIP 276#

AHT -

4400

Marathon 4390 (-1398)

E-log 4392 (-1400)

LS, tan gy-offsh, qybrn fm-dns, sm shchky, arg imp, to ss, pth, NS micro-fish

SH, tan gy qygru rd, col, tr van sm shchky

LS, tan gy-offsh, dns, micro-fish, tr fcr, sm shchky, 2 pc. dk brn sptd str, IN, p. dev. vuggy sh, dk brn FO & IF, fcr, med oil

LS, tan com gy-gubon dns, micro-fish, sm shchky, arg, nvis sh, pth

SH, qy rabon-br scat shchky-blk kshy-edy NS

LS, tan com, fm-dns, micro-fish, sm ool-vuggy, tr br ool-vuggy sh, brn sptd str, dk brn FO, HFO, dull sh, sl-tr odor

LS, com H-tan, fm-dns, micro-fish

some wh/com shchky-chky, fcr, fm, wh com coral, fcr-dns, fcr sh, fcr? tr gy, qy, vfg, arg, gubon, gubon, gubon, much chky, wh com tan (fcr, fresh, NS) CFS: LS, tan gy-offsh, dns, micro-fish, sm coral, fcr, shchky, scat chky, nvis sh

LS, tan H-gubon offsh-wh, micro-fish, sm shchky-chky, 2 pc brn sptd, NFO, in dns LS sh, blk, FS, carb. dkgy

LS, tan gubon offsh gy, fm-dns, micro-fish, sm arg, 3 pc wh coral, fcr, 3 pc. brn ool-ool, 1 p. sh 4 pc py, NS

CFS: LS, offsh H-gubon, fm-dns, micro-fish, some wh-chky, tr wh-vuggy, 3 pc dk brn sptd str, NFO, tr odor, sm m-dkgy, tan chky, fresh to fcr, NS

LS, tan gubon, dns, pth, micro-fish, dk fcr, fresh, 3 pc py, nvis sh, NS

SH, blk, fis, carb

LS, com H-tan, H-gubon, fm-dns, vfg, some wh, shchky-chky, tr wh-vuggy, 2 pc coral, 1 pc brn sptd str, HFO, med oil, tr gy sptd chky

SH, blk, fis, carb

LS, tan gy mott offsh, dns, fcr, tr ool, brn fcr-mitt, tr pye, tr ool-shchky, H brn str, HFO, tr odor, tr brn-tan chky

LS, tan gy offsh, fm-dns, sm offsh, wh shchky-chky, micro-fish, fcr, tr dk brn ool, nvis sh, NS 2 pc chky

SH, blk, fis, carb

LS, tan offsh H-gy, fm-dns, tan/brn-chky, wh chky-shchky, tr fcr, nvis sh, NS

mud Co data @ 4490'

WT 9.3 VIS 52 WL 7.4 Solids 6.4%

pth 10.5 CL 3,400ppm LCM 1# YP 19

DST #3 4513' - 4565'

Times: 5"-30"-30"-60"

1st open: wk surface blow

2nd open: No blow

Rec: 1' mud w/ oil spots

IFP 23-26# 15IP 64#

FPP 25-26# FSIP 74#

AHT 1180'

50

Pawnee 4474 (-1482)

E-log 4475 (-1483)

4500

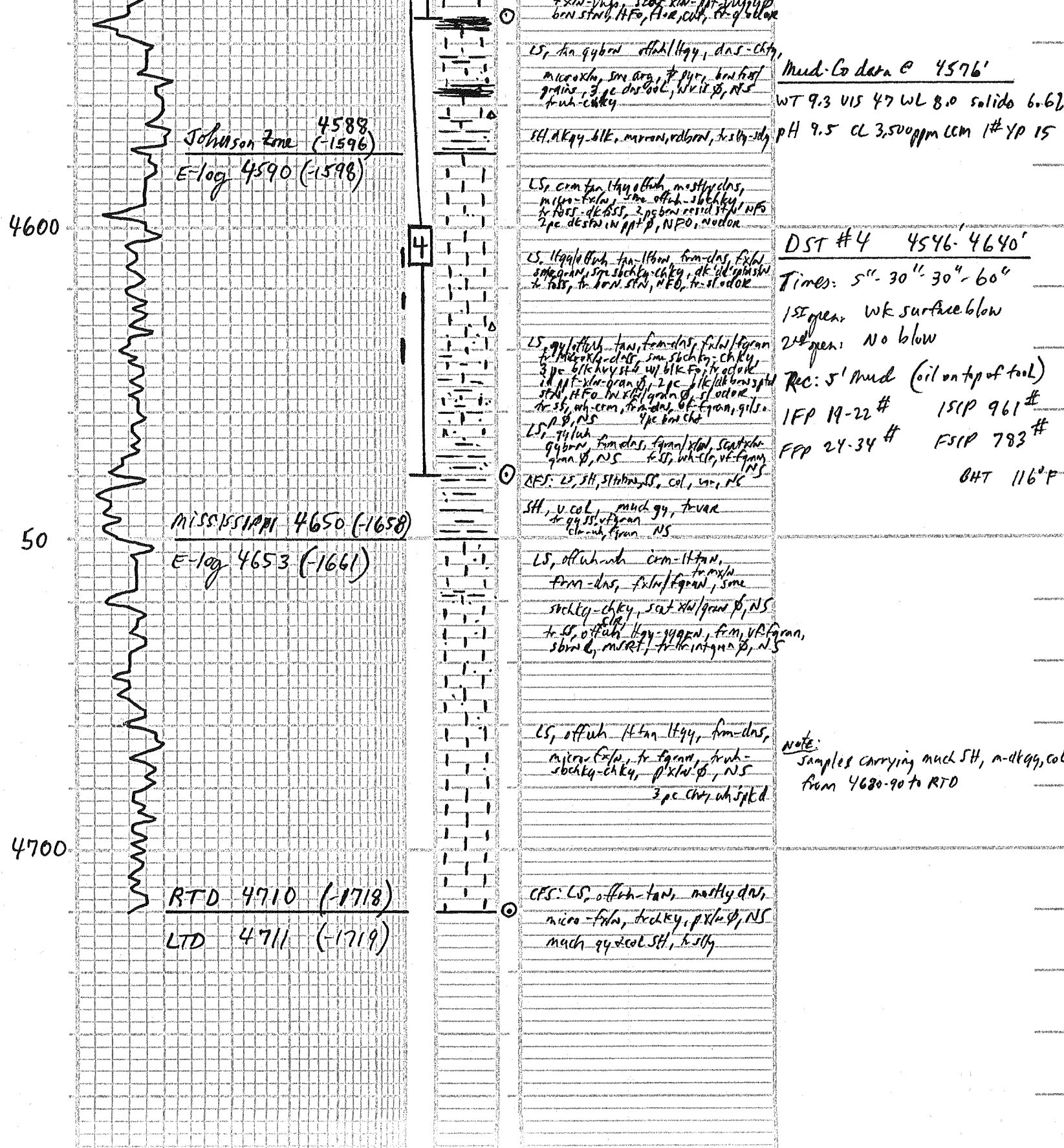
Ft. Scott 4522 (-1530)

E-log 4524 (-1532)

50

Cher. Sh. 4548 (-1556)

E-log 4550 (-1558)



DEPTH	DRILLING TIME Minutes/Foot	LITHOLOGY	SAMPLE DESCRIPTIONS	REMARKS
	5" 10" 15" 20" 25"			
	Rate of Penetration Increases			

LOCATION 2616' ENL & 168' FWL
SEC 11 TWP 17S RNG 32W

COUNTY Scott STATE Kansas