

**TIM PRIEST**  
**Petroleum Geologist**  
 (316)-213-6115

**GEOLOGIST'S REPORT**  
**DRILLING TIME AND SAMPLE LOG**

COMPANY SHAKESPEARE OIL CO.

LEASE JANZEN 2-36

FIELD Wildcat

LOCATION 442' FSL, 2295' FEL

SEC 36 TWSP 16S RGE 34W

COUNTY Scott STATE Kansas

CONTRACTOR HD Rig #2

SPUD 12-30-13 COMP \_\_\_\_\_

RTD 4870' LTD 4872'

MUD UP 3500' TYPE MUD Chemical

SAMPLES SAVED FROM 3800' to RTD

DRILLING TIME KEPT FROM 3800' to RTD

SAMPLES EXAMINED FROM 3800' to RTD

GEOLOGICAL SUPERVISION FROM 3950' to RTD

GEOLOGIST ON WELL Tim Priest

**ELEVATIONS**

KB 3108'

DF \_\_\_\_\_

GL 3098'

Measurements Are All From KB

**CASING**

CONDUCTOR N/A

SURFACE 8-5/8" @ 264'

PRODUCTION 5 1/2" @ 4870'

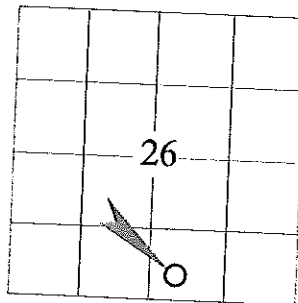
**ELECTRICAL SURVEYS**

CND;D/SP;P.E.

Micro

By: Weatherford

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	2429 (+679)	2429 (+679)
Heebner Shale	3981 (-873)	3980 (-872)
Lansing	4025 (-917)	4022 (-914)
Stark	4304 (-1196)	4304 (-1196)
BKC	4402 (-1294)	4402 (-1294)
Fort Scott	4581 (-1473)	4580 (-1472)
Cherokee Shale	4607 (-1499)	4605 (-1497)
Mississippian	4790 (-1682)	4789 (-1681)



REMARKS Due to the positive drill stem tests, it was decided to set production casing to further test the well.

Respectfully Submitted,

Tim Priest

API #15-171-21006-00-00

Petroleum Geologist

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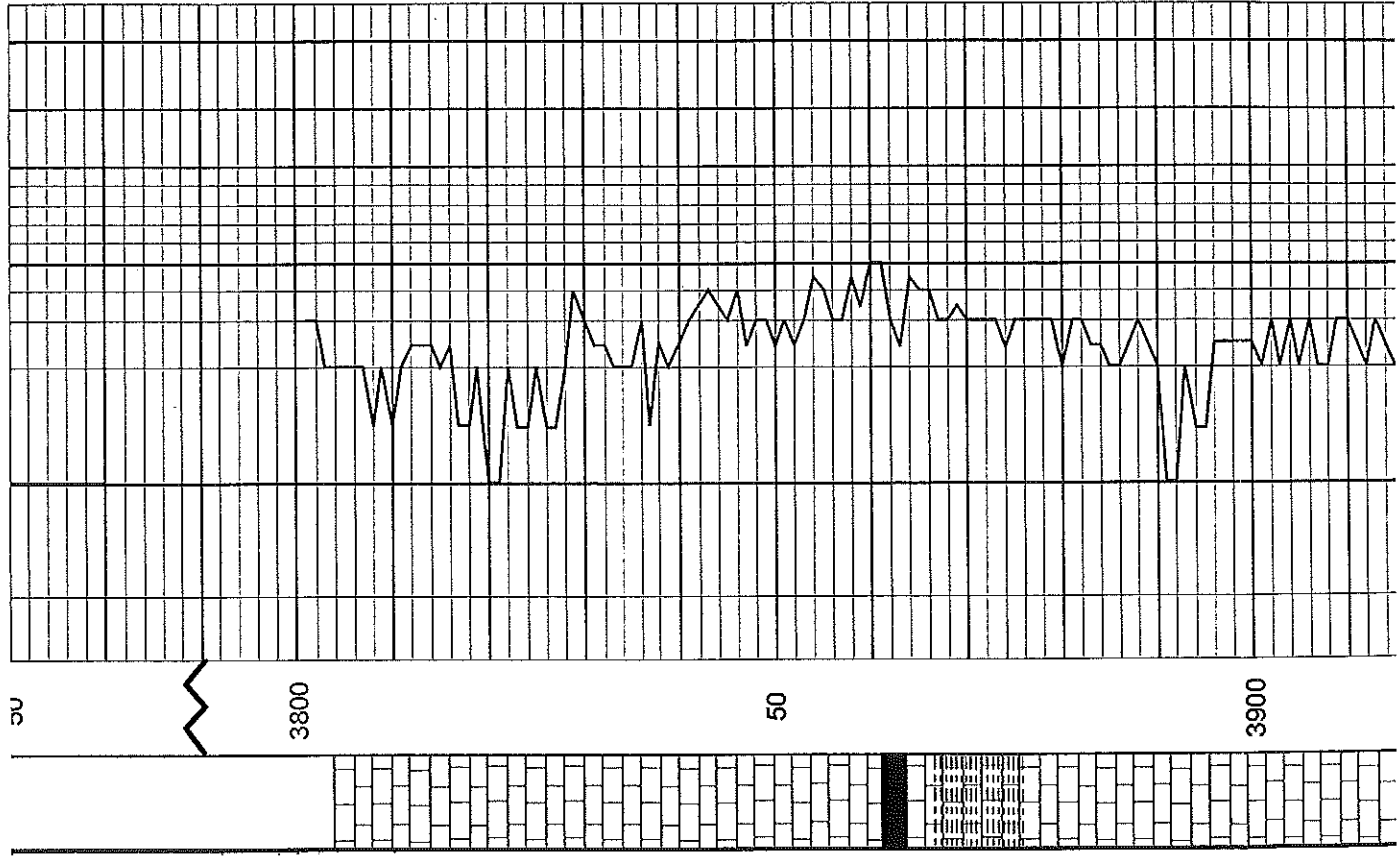
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LITHOLOGY	DEPTH	DRILLING TIME IN MINUTES PER FOOT Rate of Penetration Decreases	SAMPLE DESCRIPTION	REMARKS
<p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>Anhydrite</li> <li>Sandstone</li> <li>Limestone</li> <li>Shale</li> <li>Carb Sh</li> <li>Cherty LS</li> <li>Chert</li> <li>Dolomite</li> </ul>	<p>50</p> <p>3800</p>		<p>Anhydrite 2429(+679)</p> <p>Base/ Anhydrite 2448(+660)</p>	<p>In case for use for anal. only</p>

1111111111



Ls crm, fn xtl, fos-fn ool, chky,  
f int xtl & int frag por, NS

Ls crm, fn xtl, fos, v chky, f int  
xtl & int frag por, NS

Ls crm-tan, fn xtl, fos, p-f int  
xtl-pp por, NS

Ls crm-lt gry, fn xtl, fos, p-f int  
xtl-pp por, NS

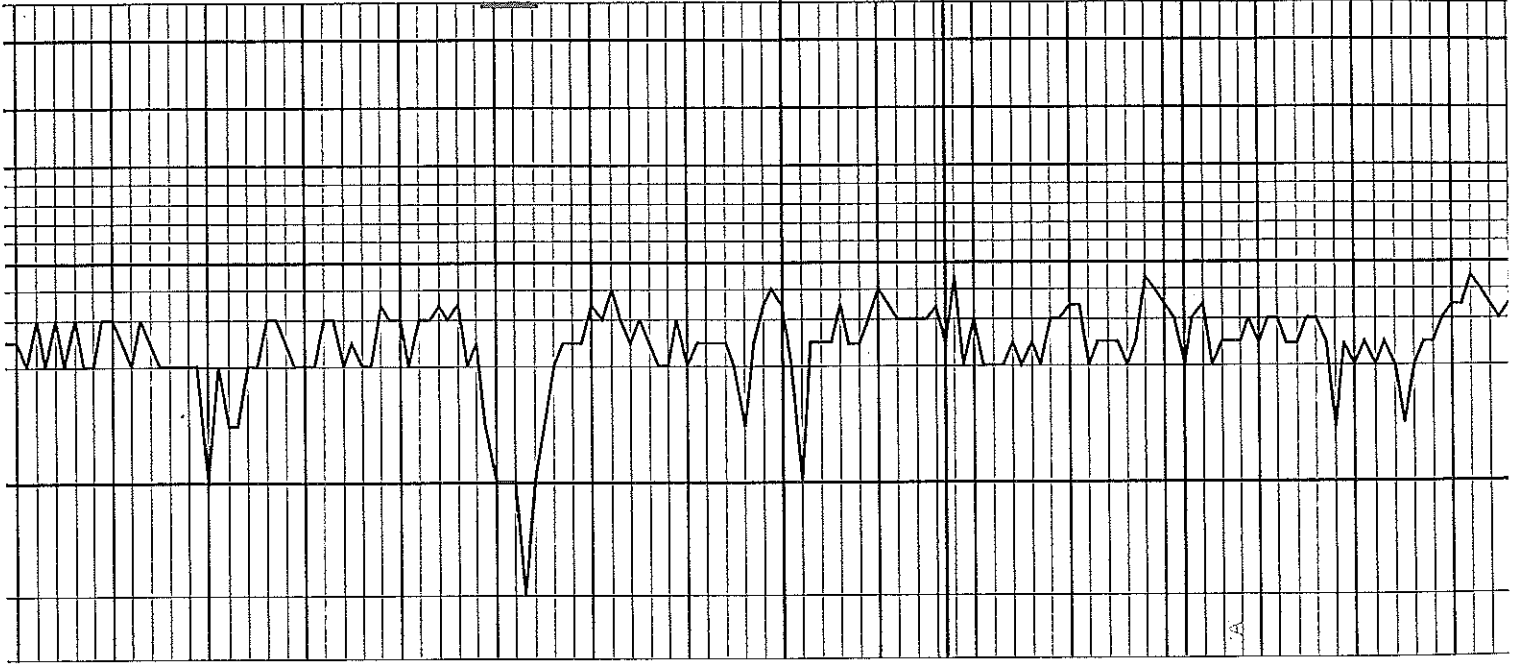
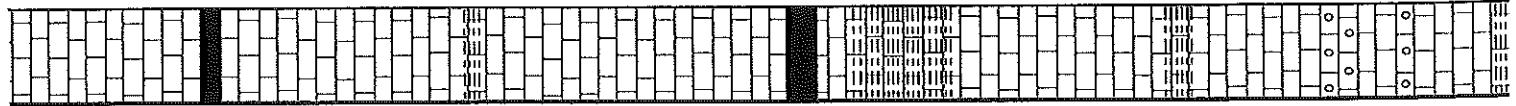
Sh gry-blk

Ls crm-tan, fn xtl, arg in prt

Ls gry, vfn xtl, dnse

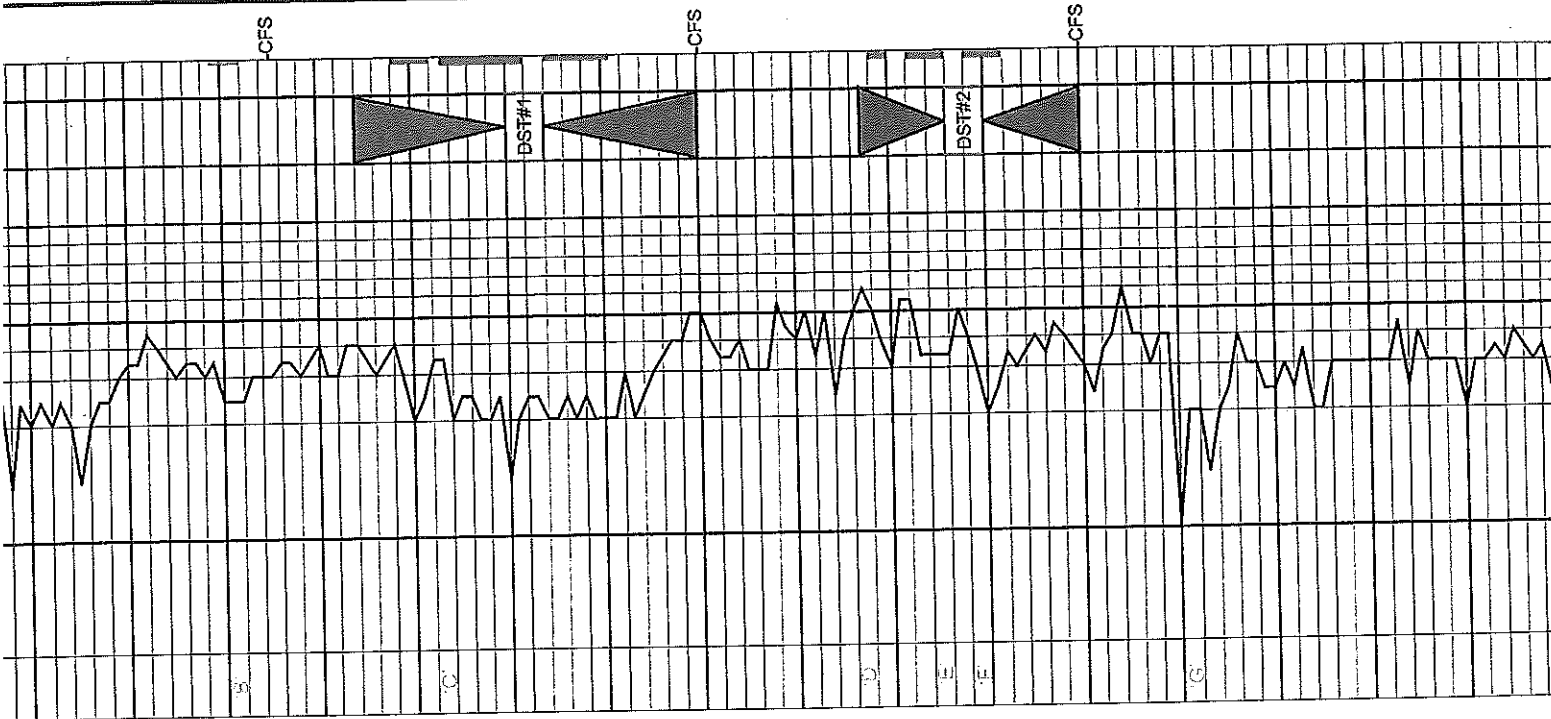
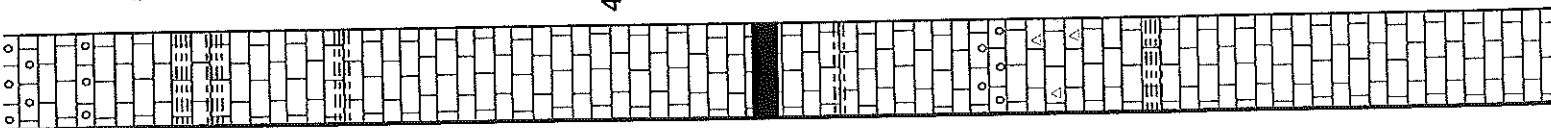
Sh gry-dk gry

Ls crm, fn xtl, fos, chky, p int  
xtl-pp por, NS



3900 50 4000 50

Ls crm, fn xtl, fos, chky, p int xtl-pp por, NS	Sh blk	Heebner 3980 (-872)
Ls crm, fn xtl, fos, chky, p-f int xtl-pp por, NS	Sh gry-blk	Toronto 3997 (-889)
Ls crm-lt gry, fn xtl, fos, chky, f int xtl-pp por w/few vugs, sptd-sli sat blk stn, SSFO, no odor, dull fluor	Ls crm-tan, fn xtl, fos, chky, p-f int xtl-pp por, NS	
Sh blk, carb	Sh gry-dk gry, calc	
Ls crm-lt gry, fn xtl, fos, chky, f int xtl-pp por, NS	Sh gry-dk gry, calc	Lansing 4022 (-914)
Ls crm, fn xtl, fos, chky, p int xtl-pp por, NS	Ls crm, fn xtl, fos-ool, chky, p-f int frag por, NS	
Ls crm-lt gry, vfn xtl, chty, dnse	Sh arm-grv, calc	



Ls crm, fn xtl, tos-ool, cnky, p-f int frag por, NS

Ls crm-lt gry, vfn xtl, chty, dnse

Sh grn-gry, calc

Ls crm-lt gry, fn xtl, fos, sli chky, sptd dk stn, VSSFO, sli odor, dull fluor

Sh gry-dk gry

Ls crm-lt gry, fn xtl, fos, sli chky, p-f int xtl-pp por w/few few vugs, sptd-sli sat dk stn, SFO, sli odor, dull-fluor

Ls crm-lt gry, fn xtl, fos, sli chky, p-f int xtl-pp por, sptd dk stn, SSFO, v sli odor, dull fluor

Ls crm-lt gry, vfn xtl, dnse

Sh blk carb

Ls crm-tan, vfn xtl, arg in prt

Ls crm-tan, fn xtl, fos-ool, sli chky, p-f int xtl-pp por, sptd-sat lt stn, SFO, f-strong odor, f-brn fluor

Ls crm-lt gry, vfn xtl, sli chty, dnse

Sh grn-gry

Ls crm, fn xtl, fos-fn ool, chky, chty in prt, p-f int xtl & int frag por, NS

Ls crm, fn xtl, sli chty, dnse

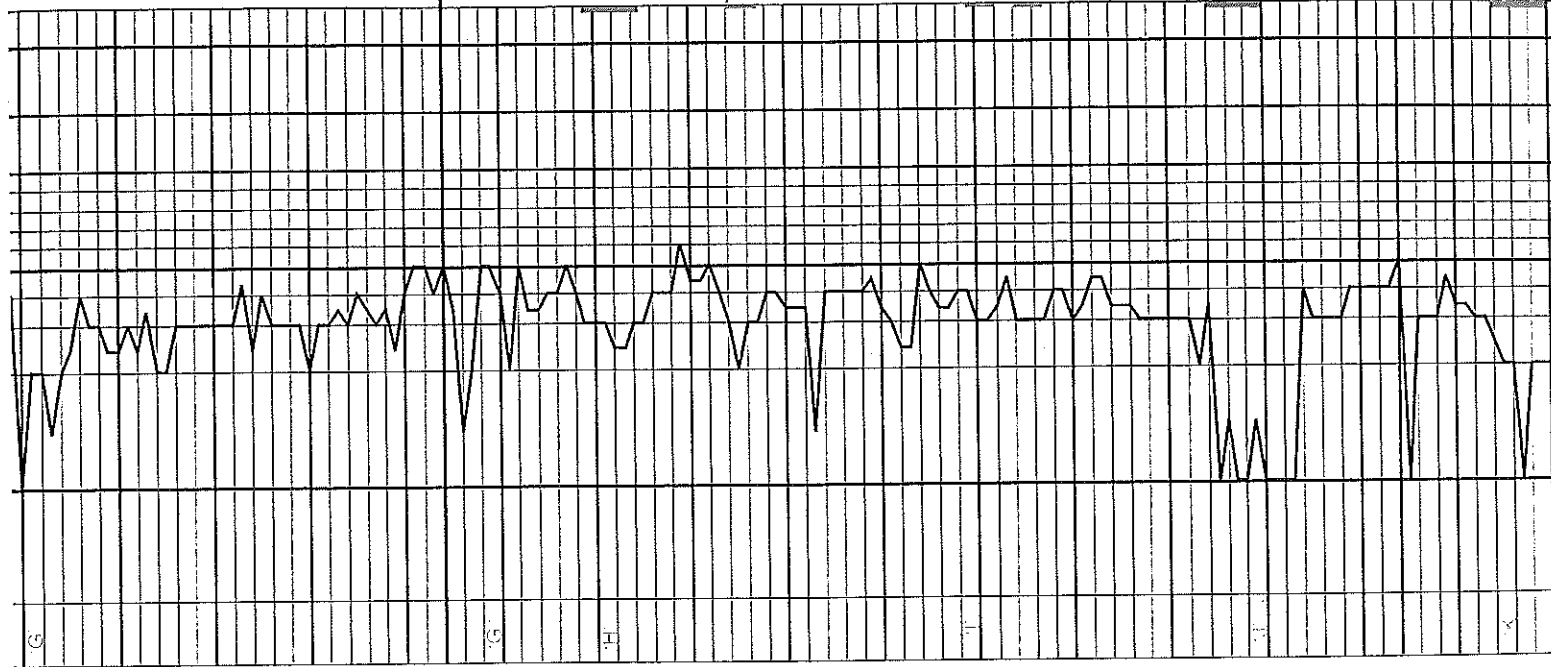
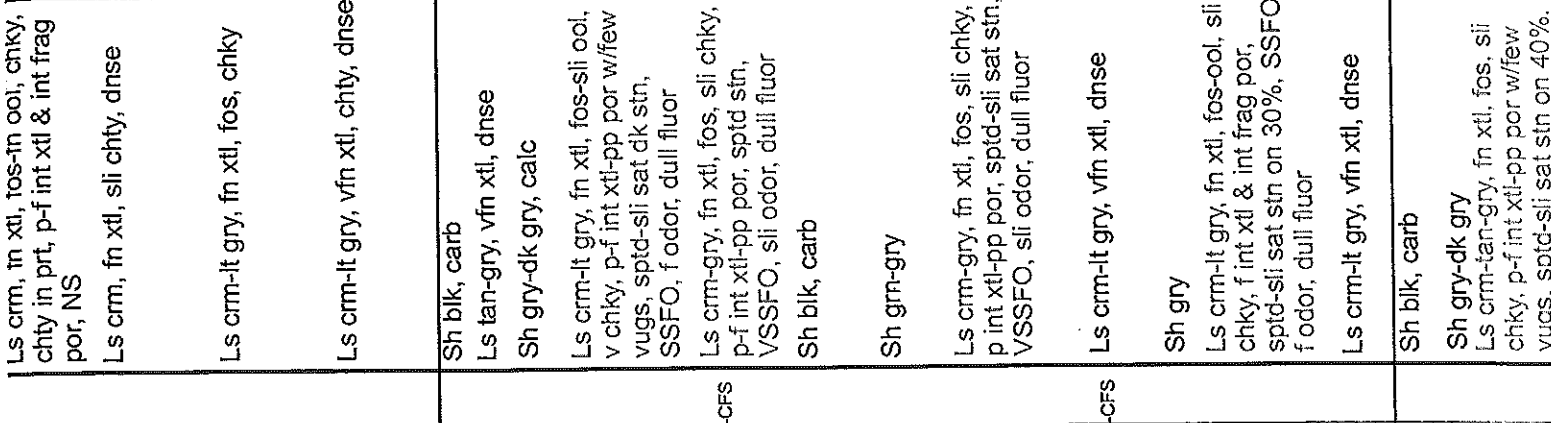
Ls crm-lt gry, fn xtl, fos, chky

Ls crm-lt gry, vfn xtl, chty, dnse

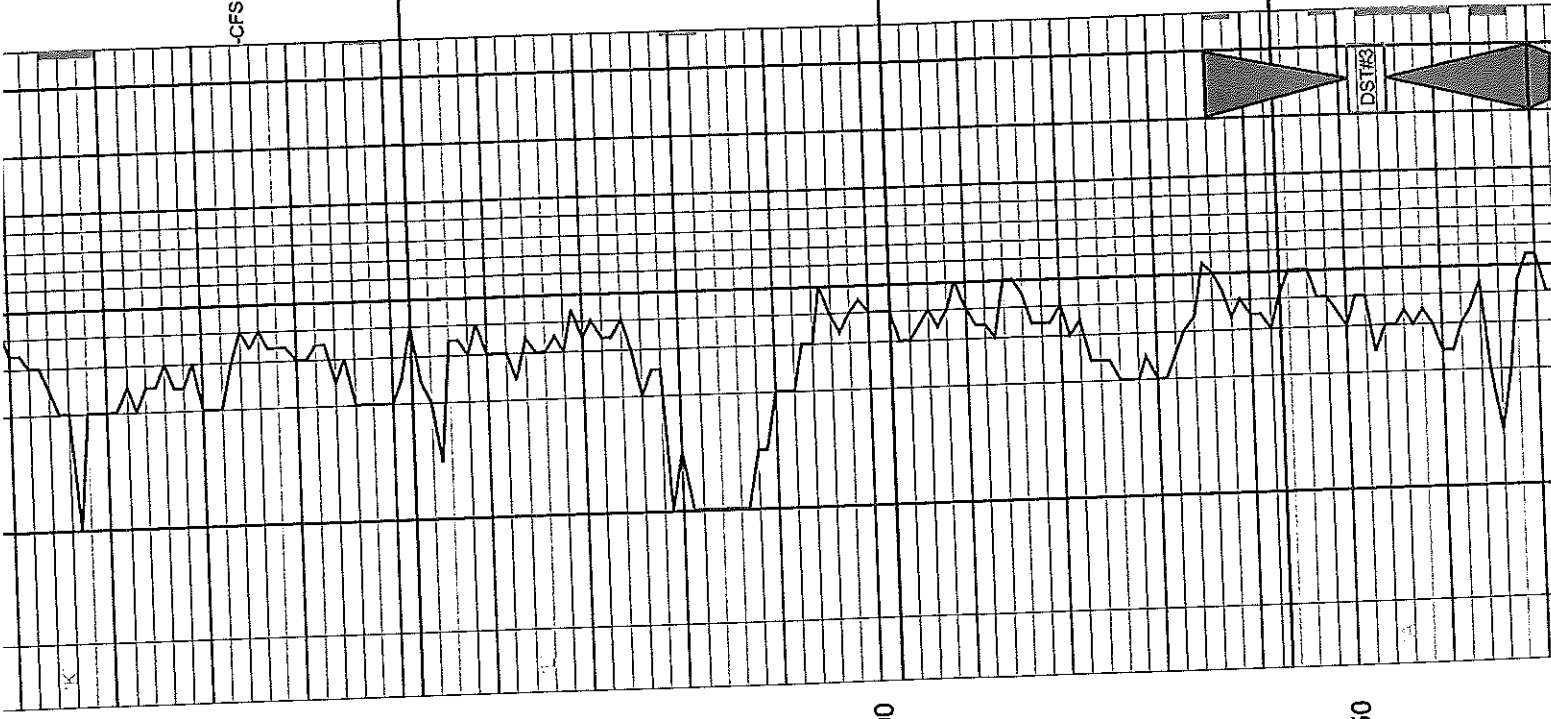
**DST # 1**  
 (4074-4110')  
 15°-30°-45°-60°  
 IF: BOB in 8", no return  
 FF: BOB in 10", no return  
 Rec: 210' MCW(30%W,30% M), 1080' SW, Total fluid: 1290'  
 Fps: 72-252#/271-583#  
 SIPS: 1069#/1068#  
 HSPs: 1982#/1926#  
 BHT: 114 deg F  
 Chlor: 27,000ppm (system-3,500ppm)  
 Pipe strap @ 4110' was 0.37' short to board

**DST # 2**  
 (4127-4150')  
 30°-30°-60°-90°  
 IF: Surface blow, no return  
 FF: Surface blow, no return  
 Rec: 120' MW  
 Fps: 30-38#/63-70#  
 SIPS: 1070#/1079#  
 HSPs: 2016#/1921#  
 BHT: 107 deg F

Ls crm, fn xtl, tos-m ool, chky, chty in prt, p-f int xtl & int frag por, NS  
 Ls crm, fn xtl, sli chty, dnse  
 Ls crm-lt gry, fn xtl, fos, chky  
 Ls crm-lt gry, vfn xtl, chty, dnse  
 Muncie Creek  
 4206 (-1087)  
 Sh blk, carb  
 Ls tan-gry, vfn xtl, dnse  
 Sh gry-dk gry, calc  
 Ls crm-lt gry, fn xtl, fos-sli ool, v chky, p-f int xtl-pp por w/few vugs, sptd-sli sat dk stn, SSFO, f odor, dull fluor  
 Ls crm-gry, fn xtl, fos, sli chky, p-f int xtl-pp por, sptd stn, VSSFO, sli odor, dull fluor  
 Sh blk, carb  
 Sh grn-gry  
 Ls crm-gry, fn xtl, fos, sli chky, p int xtl-pp por, sptd-sli sat stn, VSSFO, sli odor, dull fluor  
 Ls crm-lt gry, vfn xtl, dnse  
 Sh gry  
 Ls crm-lt gry, fn xtl, fos-ool, sli chky, f int xtl & int frag por, sptd-sli sat stn on 30%, SSFO, f odor, dull fluor  
 Ls crm-lt gry, vfn xtl, dnse  
 Stark Shale  
 4304 (-1196)  
 Sh blk, carb  
 Sh gry-dk gry  
 Ls crm-tan-gry, fn xtl, fos, sli chky, p-f int xtl-pp por w/few vugs, sptd-sli sat stn on 40%.



4200  
 50  
 4300



Ls crm-tan-gry, fn xtl, fos, sli  
 chky, p-f int xtl-pp por w/few  
 vugs, sptd-sli sat stn on 40%,  
 SFO, f odor, no fluor  
 Sh red-grm-gry  
 Ls crm-tan-gry, fn xtl, fos, chky  
 arg in prt  
 Ls crm-gry motld, fn xtl, fos, sli  
 chky, f int xtl & int frag por,  
 sptd stn on few pcs, VSSFO,  
 sli odor, dull fluor  
 Sh blk, carb

Ls crm-tan, vfn xtl, sli chty,  
 dnse  
 Sh gm-gry-dk gry  
 Ls crm-lt gry, fn xtl, fos-ool in  
 prt, p-f int xtl & int frag por,  
 sptd stn on few pcs, VSSFO,  
 no odor, no fluor  
 Ls gry, vfn xtl, dnse  
 Sh gry-blk

Sh var col  
 Ls lt gry, vfn xtl, dnse  
 Sh var col, silty, calc in prt  
 Sh var col, silty, sandy  
 Ls crm-tan, fn-vfn xtl, fos, pp-  
 vug por, sptd dk stn, SSFO, f  
 odor, dull fluor  
 Ls crm-lt gry, vfn xtl, dnse

Ls crm-tan, fn xtl, fos-sli ool, p-  
 f int xtl & int frag por w/vugs,  
 sptd-sat dk stn, SFO, f odor,  
 dull fluor  
 Ls crm-tan-gry, fn xtl, ool, f int  
 ool por, sptd-sat stn, FSFO, f  
 odor, dull fluor

Hushpuckney  
4352 (-1244)

B/K.C.  
4402 (-1294)

Marmaton  
4443 (-1335)

DST # 3  
 (4436-4470)  
 15'-30'-45'-90'  
 IF: BOB in 1'. BOB in 10'  
 FF: BOB at op. Built to 9 in.  
 Rec: GTS 737si, 100 GO  
 (20%G, 80%O), 2303' GO  
 (25%G, 75%O), 119' MGO  
 (25%G, 45%O, 30%M)  
 Total fluid: 2522'

Ls var col, silty, calc in prt

Sh var col, silty, sandy

Ls crm-tan, fn-vfn xtl, fos, pp-vug por, sptd dk stn, SSFO, f odor, dull fluor

Ls crm-it gry, vfn xtl, dnse

Ls crm-tan, fn xtl, fos-sli ool, p-f int xtl & int frag por w/vugs, sptd-sat dk stn, SFO, f odor, dull fluor

Ls crm-tan-gry, fn xtl, ool, f int ool por, sptd-sat stn, FSFO, f odor, dull fluor

Sh grm-gry

Ls crm-tan, fn xtl, fos-ool, p-f int xtl & int frag por w/vugs, sptd-sat dk stn, SFO, sli odor, dull fluor

Sh grm-gry, calc

Sh grm-gry-dk gry

Ls crm-it gry, mic xtl, dnse

Ls crm-tan-gry, mic xtl, dnse

Sh blk, carb

Ls tan, vfn xtl, arg in prt

Sh grm-gry

Ls crm-tan, vfn xtl, dnse

Ls crm-it gry, vfn xtl, chty

Sh blk, carb

Marmaton  
4443 (-1335)

DST # 3  
(4436-4470)  
15'-30"-45'-90"

IF: BOB in 1', BOB in 10'  
FF: BOB at op. Built to 9 in.  
Rec: GTS 73'fsi, 100' GO  
(20%G,80%O), 2303' GO  
(25%G,75%O), 119' MGO  
(25%G,45%O,30%M)  
Total fluid: 2522'

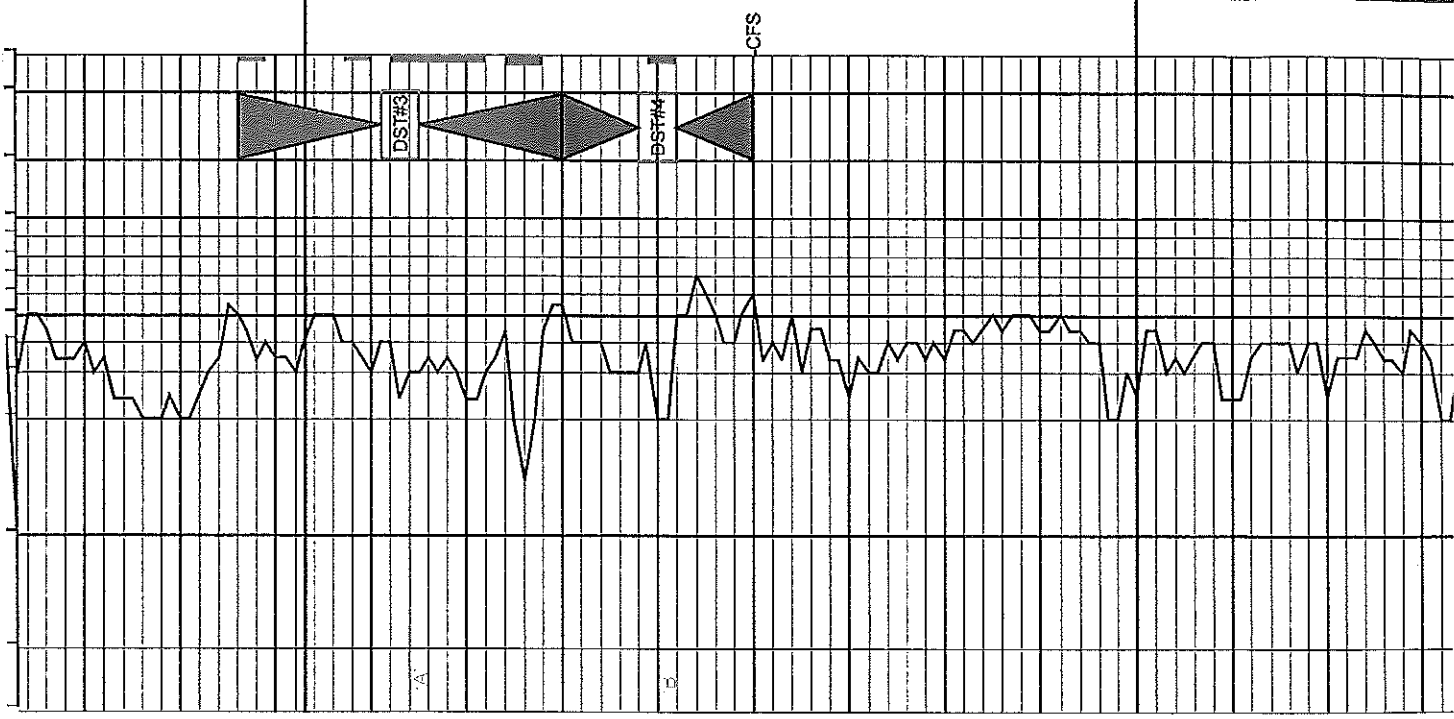
Fps: 219-458#487-952#  
SIPs: 1265#1263#  
HSPs: 2215#2164#  
BHT: 122 deg F  
Gravity: 36

DST # 4  
(4470-4490)

30'-30"-60'-90"  
IF: 9 1/2 in., surface return  
FF: BOB 35', surface return  
Rec: 400' GIP, 110' GO  
(15%G,85%O), 30' GOM  
(20%G,30%O,50%M)  
Total fluid: 140'

Fps: 48-39#43-65#  
SIPs: 1310#1300#  
HSPs: 2236#2199#  
BHT: 116 deg F  
Gravity: 34

Pawnee  
4530 (-1422)

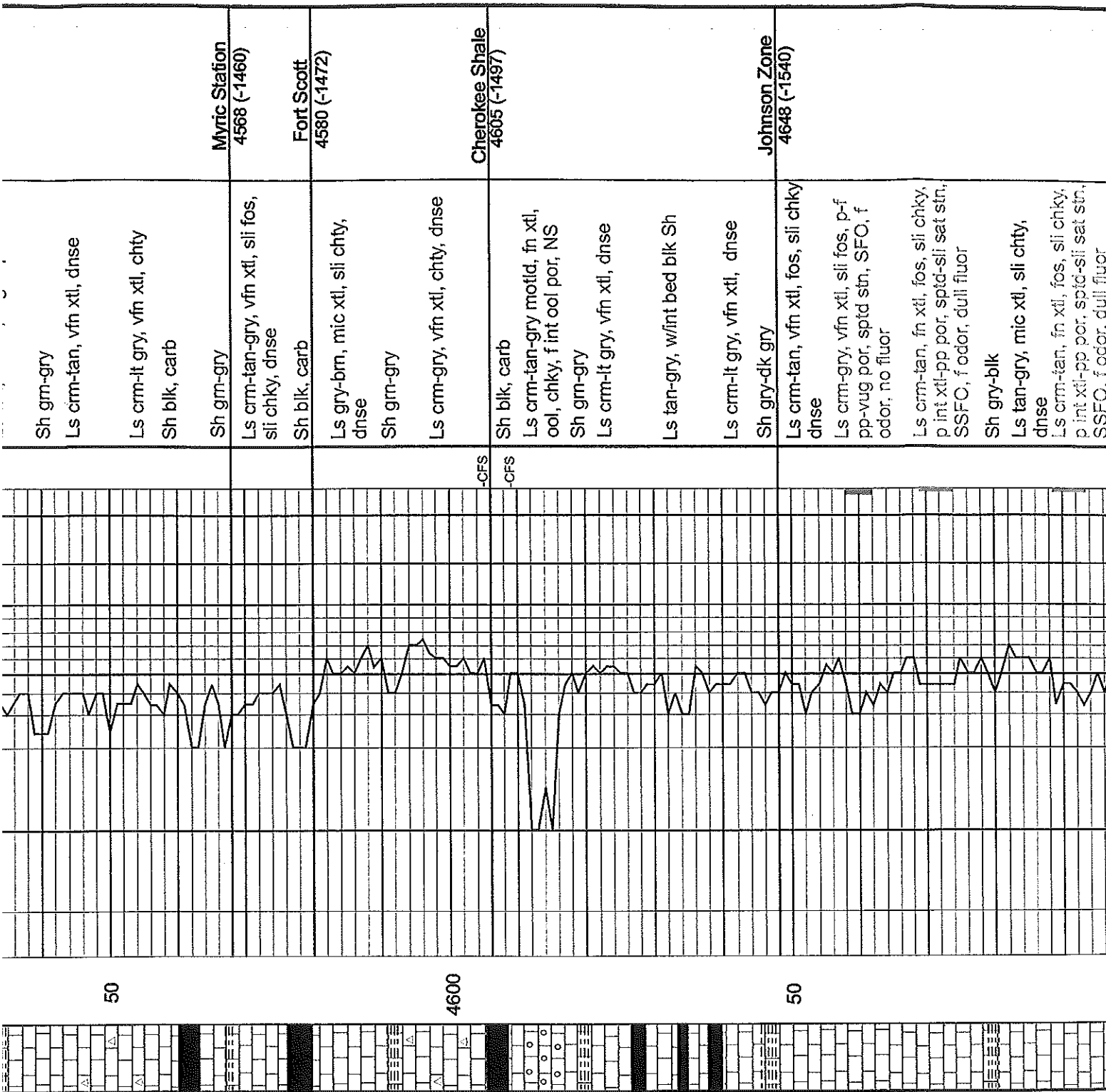


50

4500

50





Sh gm-gry  
 Ls crm-tan, vfn xtl, dnse  
 Ls crm-lt gry, vfn xtl, chty  
 Sh blk, carb

**Myric Station**  
 4568 (-1460)

Sh gm-gry  
 Ls crm-tan-gry, vfn xtl, sli fos,  
 sli chky, dnse  
 Sh blk, carb

**Fort Scott**  
 4580 (-1472)

Ls gry-brn, mic xtl, sli chty,  
 dnse  
 Sh gm-gry  
 Ls crm-gry, vfn xtl, chty, dnse

**Cherokee Shale**  
 4605 (-1497)

Sh blk, carb  
 Ls crm-tan-gry motld, fn xtl,  
 ool, chky, f int ool por, NS  
 Sh gm-gry  
 Ls crm-lt gry, vfn xtl, dnse  
 Ls tan-gry, w/int bed blk Sh  
 Ls crm-lt gry, vfn xtl, dnse  
 Sh gry-dk gry

**Johnson Zone**  
 4648 (-1540)

Ls crm-tan, vfn xtl, fos, sli chky  
 dnse  
 Ls crm-gry, vfn xtl, sli fos, p-f  
 pp-yug por, sptd str, SFO, f  
 odor, no fluor  
 Ls crm-tan, fn xtl, fos, sli chky,  
 p int xtl-pp por, sptd-sli sat str,  
 SSFO, f odor, dull fluor  
 Sh gry-blk  
 Ls tan-gry, mic xtl, sli chty,  
 dnse  
 Ls crm-tan, fn xtl, fos, sli chky,  
 p int xtl-pp por, sptd-sli sat str,  
 SSFO, f odor, dull fluor

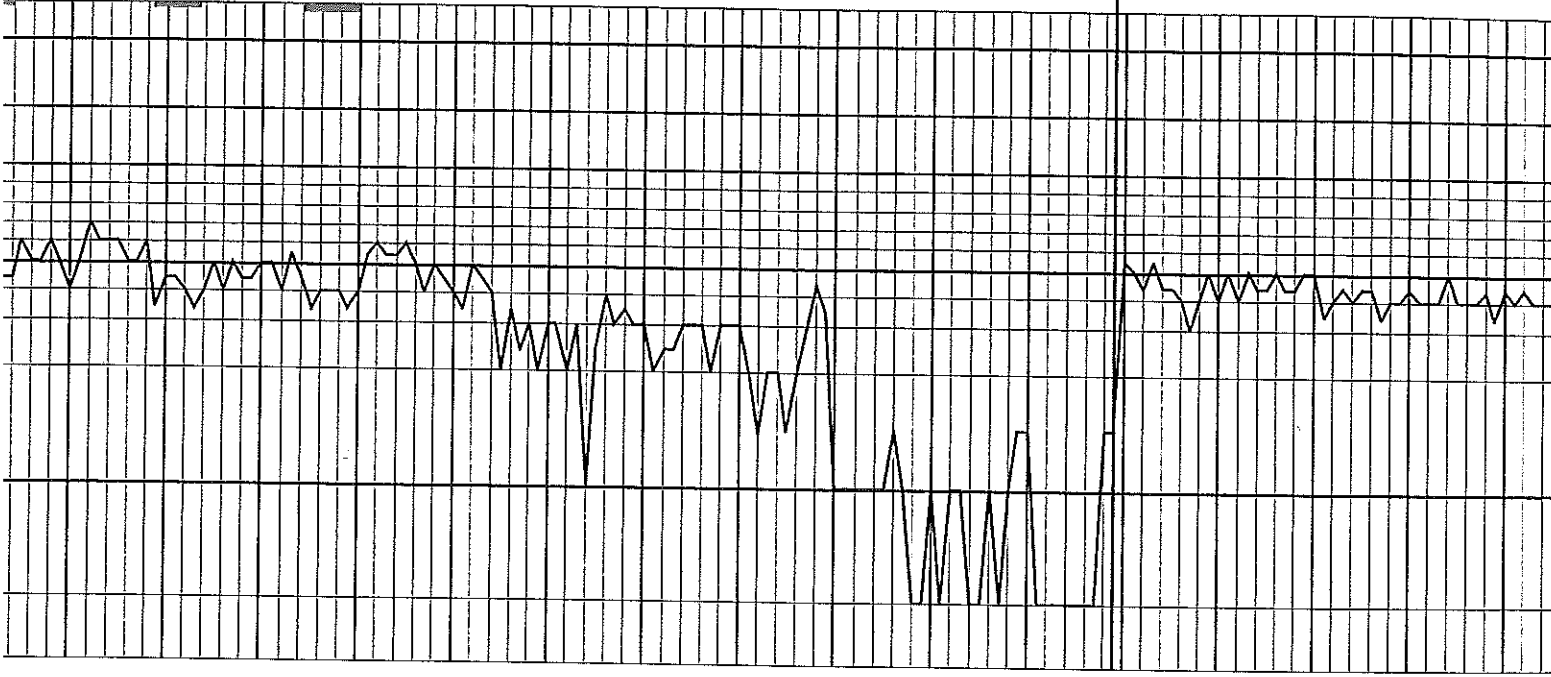
50

4600

50

Sh gry-blk  
 Ls tan-gry, mic xtl, sli chty, dnse  
 Ls crm-tan, fn xtl, fos, sli chky, p int xtl-pp por, sptd-sli sat stn, SSFO, f odor, dull fluor  
 Ls tan-gry, mic xtl, dnse  
 Ls tan-gry, vfn xtl, sli fos, p-f pp-vug por, sptd stn, SFO, f odor, no fluor  
 Ls tan-gry, mic xtl, dnse  
 Sh grn-gry-dk gry  
 Sh grn-gry, silty, w/lt grn vfn gm SS  
 Sh var col, silty  
 SS lt gry-lt gm, fn-med gm, poor sort, friable, abun loose grms, NS

Mississippian  
 4789 (-1681)



4700  
 50  
 4800

Ls tan, vfn xtl, sli sandy, dnse  
 Ls tan, vfn xtl, sli sandy, sli chky dnse  
 Ls crm-lt gry, vfn xtl, dnse  
 Ls tan, vfn xtl, sli sandy, sli chky dnse

