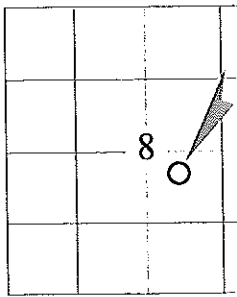


**TIM PRIEST**  
**Petroleum Geologist**  
(316)-213-6115

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

COMPANY <u>SHAKESPEARE OIL CO.</u> LEASE <u>Ottley 1-8</u> FIELD <u>Wildcat</u> LOCATION <u>2301' FSL, 2270' FEL</u> SEC <u>8</u> TWSP <u>14S</u> RGE <u>32W</u> COUNTY <u>Logan</u> STATE <u>Kansas</u>	<b>ELEVATIONS</b> KB <u>2852'</u> DF _____ GL <u>2842'</u> Measurements Are Al From <u>KB</u>
CONTRACTOR <u>HD DrillingRig #2</u> SPUD <u>9-4-12</u> COMP _____ RTD <u>4600'</u> LTD <u>4599'</u> MUD UP <u>3500'</u> TYPE MUD <u>Chemical</u>	<b>CASING</b> CONDUCTOR <u>N/A</u> SURFACE <u>8-5/8" @ 22'</u> PRODUCTION <u>None</u>
SAMPLES SAVED FROM <u>3650'</u> to RTD DRILLING TIME KEPT FROM <u>3650'</u> to RTD SAMPLES EXAMINED FROM <u>3650'</u> to RTD GEOLOGICAL SUPERVISION FROM <u>3800'</u> to RTD GEOLOGIST ON WELL <u>Tim Priest</u>	<b>ELECTRICAL SURVEYS</b> <u>CND;D/SP;P.E.</u> <u>Micro</u> By: <u>Weatherford</u>

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	2308 (+540)	2310 (+542)
Heebner Shale	3813 (-961)	3814 (-962)
Lansing	3854 (-1000)	3854 (-1002)
Stark	4096 (-1244)	4098 (-1246)
BKC	4177 (-1325)	4177 (-1325)
Fort Scott	4364 (-1512)	4365 (-1513)
Cherokee Shale	4390 (-1538)	4391 (-1539)
Mississippian	4509 (-1657)	4509 (-1657)



REMARKS Due to the negative results of drill stem tests, it was decided to plug and abandon the well.

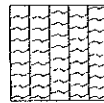
Respectfully Submitted,

Tim Priest

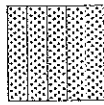
Petroleum Geologist

API #15-109-21098-00-00

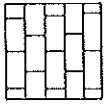
LEGEND



Anhydrite



Sandstone



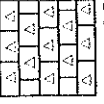
Limestone



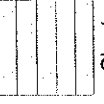
Shale



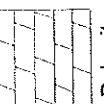
Carb Sh



Cherty LS



Chert



Dolomite

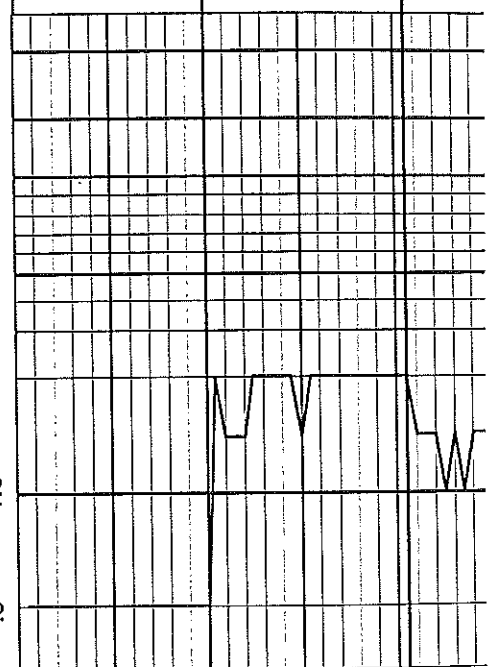
LITHOLOGY

DEPTH

2300

DRILLING TIME IN MINUTES PER FOOT  
Rate of Penetration Decreases

.5 1.0 5 10 15 20 30



SAMPLE DESCRIPTION

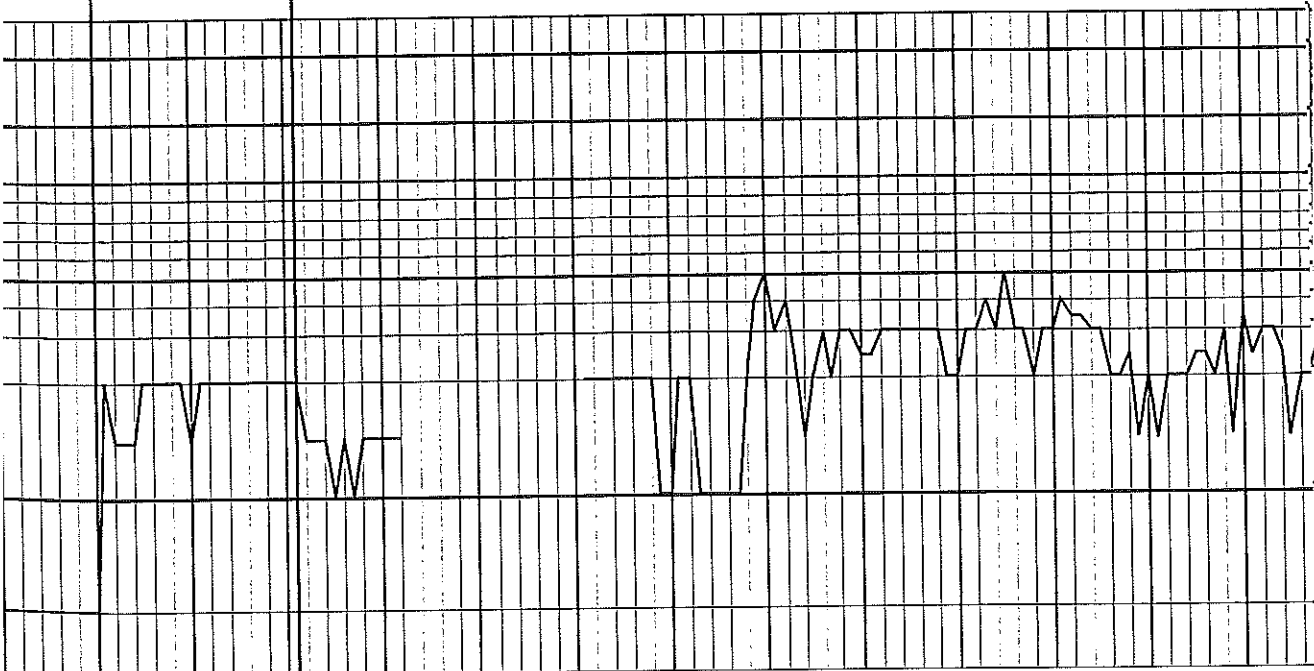
REMARKS

Anhydrite  
2310(+542)

Base/ Anhydrite  
2231(+521)

Anhydrite  
2310(+542)

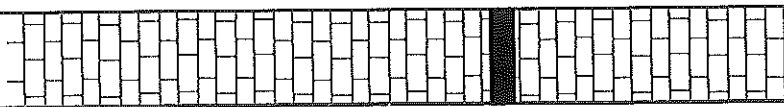
Base/ Anhydrite  
2231(+521)

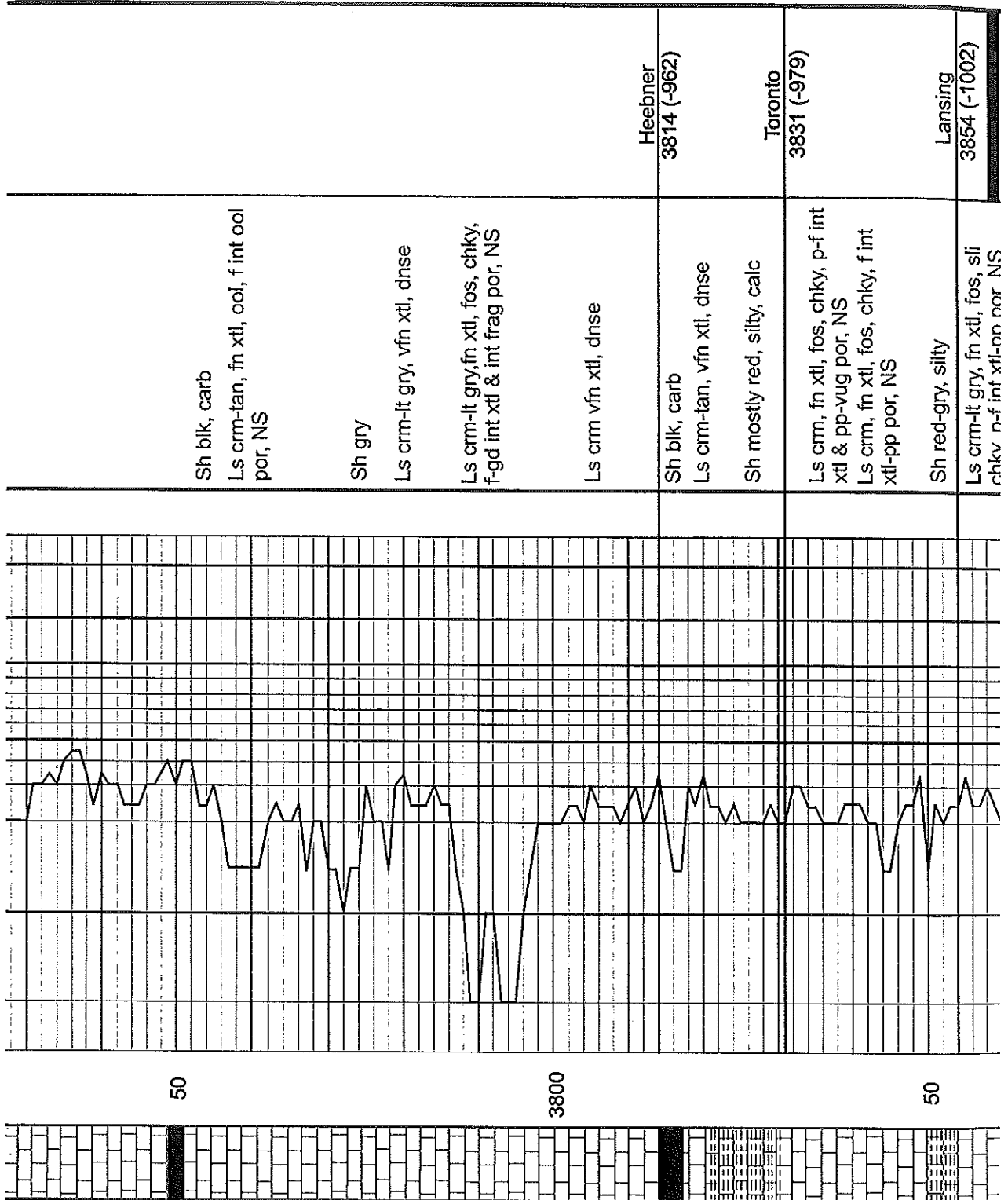


2300

50

3700





**Lansing**  
**3854 (-1002)**

**DST #1**  
**(3880-3904)**  
 30'-30"-45'-60"  
 IF: Built to 1/2 in., no return  
 FF: Built to 1 1/2 in., no return  
 Rec: 75' OSWM(65%W, 35%M)

Fps: 15-28#/20-58#  
 SIPs: 1148#/1154#  
 HSPs: 1857#/1840#  
 BHT: 111 deg F  
 Chlor: 24,000ppm

Pipe strap @ 3904' was  
 1.99' short to board

**DST #2**  
**(3899'-3940')**  
 15'-30"-45'-90"  
 IF: BOB in 11', no return  
 FF: BOB in 15', no return  
 Rec: 5' GCC(3%G,97%O)  
 55' OSWM(40%W,60%M)  
 120' OSWM(75%W,25%M)  
 360' MW(95%W,5%M),  
 540' Total fluid

Fps: 44-121#/124-257#  
 SIPs: 1076#/954#  
 HSPs: 1820#/1843#  
 BHT: 116 deg F  
 Chlor: 50,000ppm

**DST #3**  
**(3937'-3963')**  
 15'-30"-45'-90"  
 IF: BOB in 13', no return  
 FF: BOB in 17', no return  
 Rec: 90' OSWM(65%W, 45%M), 360' MW(97%W, 3%M), Total: 450'

Fps: 26-116#/120-216#  
 SIPs: 1119#/1067#  
 HSPs: 1832#/1774#  
 BHT: 116 deg F  
 Chlor: 80,000ppm

Sh red-gry, silty  
 Ls crm-lt gry, fn xtl, fos, sli  
 chky, p-f int xtl-pp por, NS

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

Ls crm-lt gry, vfn xtl, dnse

Sh gm-gry

Ls crm, fn xtl, fos-sub ool, sli  
 chky, p-f int xtl & int frag por,  
 spid-sli sat dk stn, SFO, sli  
 odor, dull fluor

Sh gm-gry

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

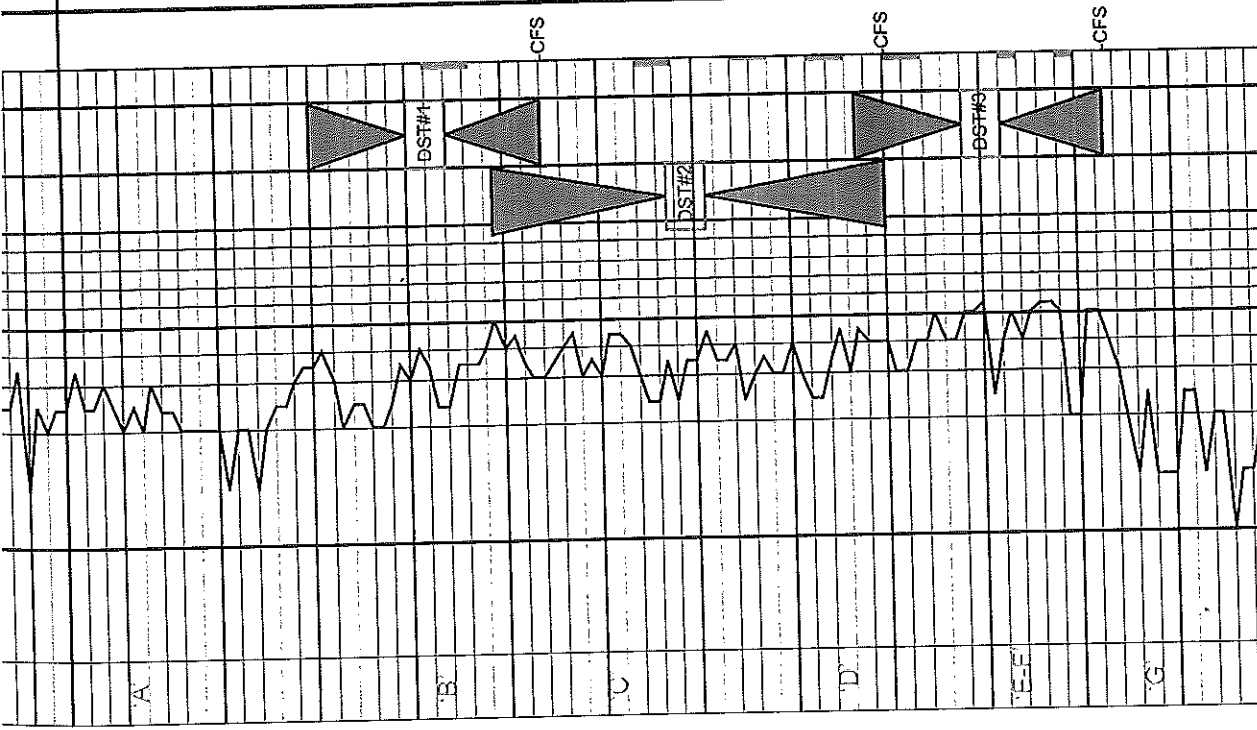
Sh gm-gry

Ls crm-lt gry, fn xtl, fos-sli ool,  
 sli chky, p-f int xtl-pp por w/few  
 vugs, spid-sli sat stn, SSFO,  
 v sli odor, dull fluor

Sh gry

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

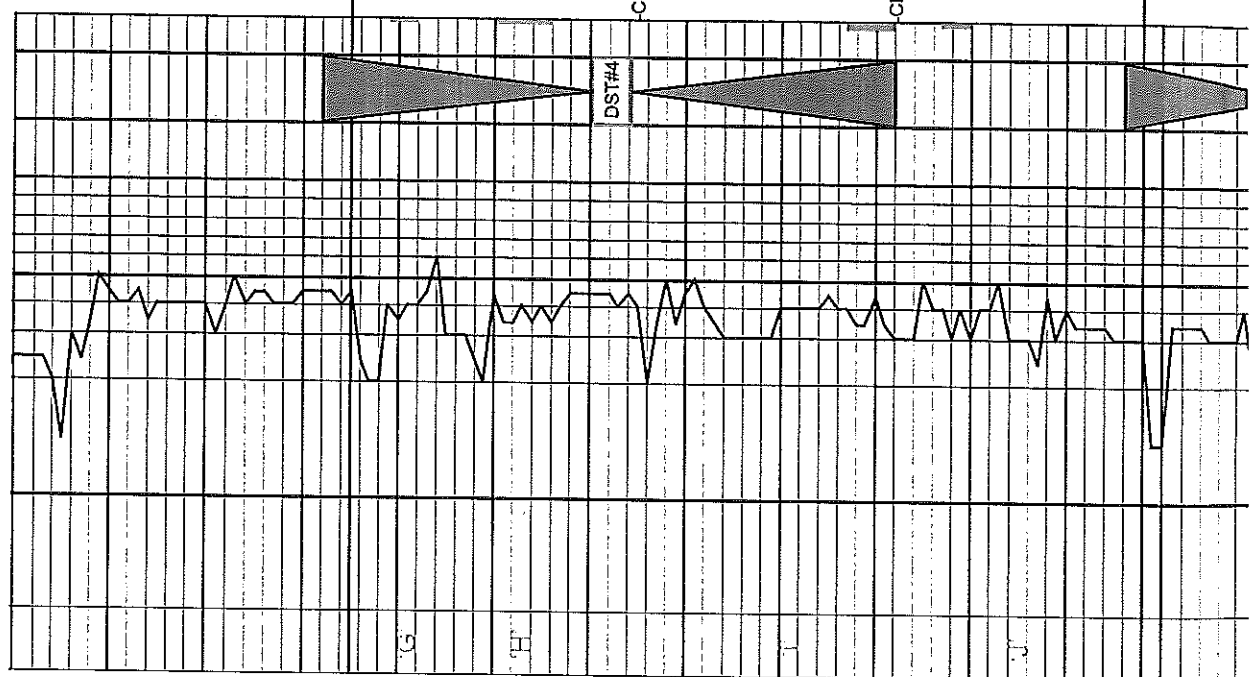
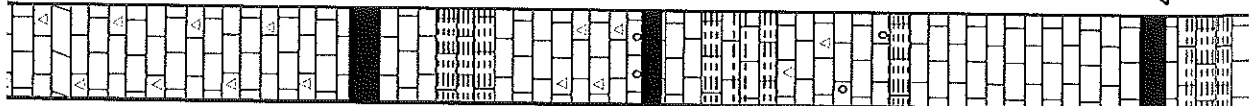
Dol crm, fn-med xtl, chky, f  
 int-xtl por, NS



50

3900

50

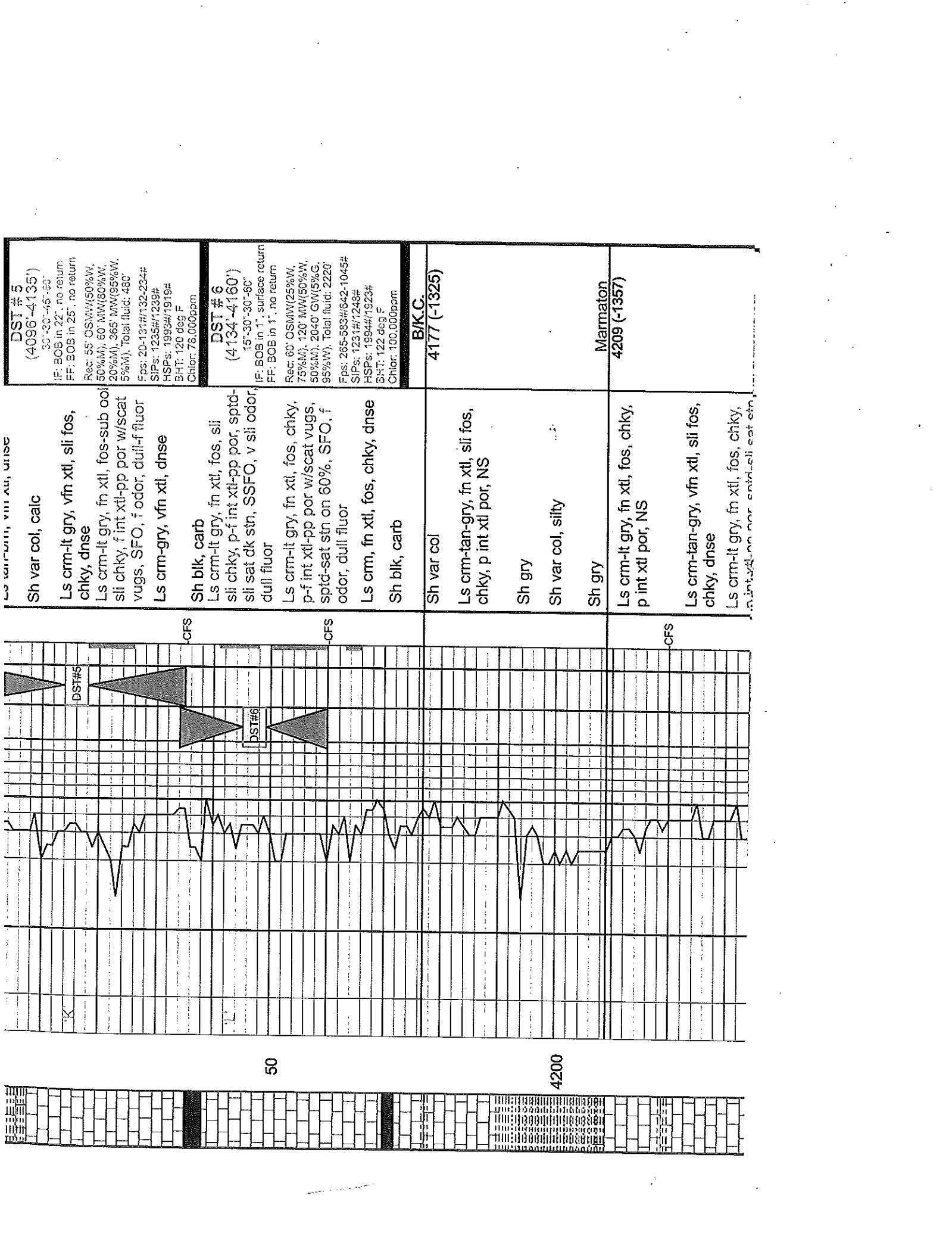


UO/Ls crm-it gry, m xtl, crnky, chty, p int xtl por, NS	
Ls crm-tan, vfn xtl, sli chty, dnse	
Ls crm, vfn xtl, sli chty, dnse	
Sh blk, carb Ls lt gry, fn xtl, sli fos, chky, p-f int xtl-pp por, sptd stn on few pos, VSSFO, sli odor, dull fluor	<p><b>Muncie Creek</b> <b>4015 (-1163)</b></p> <p><b>DST # 4</b> <b>(4012-4072')</b> 30'-30"-45"-50" IF: Built to 1 in., no return FF: Built to 1 in., no return Rec: 1' FO: 75' SOCM (1%O, 99%M)</p> <p>Fps: 16-29#/33-49# SIPs: 1128#/1168# HSPs: 1921#/1903# BHT: 110 deg F</p>
Sh grn-gry Ls crm-it gry, fn xtl, fos, chky, p int xtl-pp por, sptd-sli sat stn, SSFO, sli odor, dull fluor	
Ls crm-tan, vfn xtl, chty, dnse	
Sh blk, carb	
Sh grn-gry Ls crm, vfn xtl, chty, dnse	
Ls crm, fn xtl, fos-sub ool, sli chky, p-f int xtl-pp por, sme int frag por, sptd-sat stn, SFO, f odor, dull-f fluor	
Ls crm-it gry, fn xtl, fos, p-f int xtl-pp por, sptd stn, SSFO, no odor, dull-f fluor	
Ls crm, fn xtl, sli dolo, chky, p-f int xtl por, NS	
Ls crm, fn xtl, sli fos, sli chty, dnse	
Sh blk, carb Ls tan-brn, vfn xtl, dnse	<p><b>Stark</b> <b>4098 (-1246)</b></p> <p><b>DST # 5</b> <b>(4096-4135')</b></p>
Sh var col. calc	

4000

50

4100



Sh var col, calc

Ls crm-lt gry, vfn xtl, sli fos, chky, dnse

Ls crm-lt gry, fn xtl, fos-sub ool, sli chky, f int xtl-pp por w/iscat vugs, SFO, f odor, dull-f fluor

Ls crm-gry, vfn xtl, dnse

Sh blk, carb

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

Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl-pp por w/iscat vugs, sptd-sat str on 60%, SFO, f odor, dull fluor

Ls crm, fn xtl, fos, chky, dnse

Sh blk, carb

Sh var col

Ls crm-tan-gry, fn xtl, sli fos, chky, p int xtl por, NS

Sh gry

Sh var col, silty

Sh gry

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

Ls crm-tan-gry, vfn xtl, sli fos, chky, dnse

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

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

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

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

DST # 5  
(4096-4135')

30'-30"-45'-60'  
IF: BOB in 22', no return  
FF: BOB in 25', no return  
Rec: 55' OSMW(50%W, 50%M), 60' MW(80%W, 20%M), 365' MW(95%W, 5%M). Total fluid: 480'  
Fps: 20-131#/132-234#  
SIPs: 1235#/1239#  
HSPs: 1993#/1919#  
BHT: 120 deg F  
Chlor: 78,000ppm

DST # 6  
(4134'-4160')

15'-30'-30"-60'  
IF: BOB in 1', surface return  
FF: BOB in 1', no return  
Rec: 60' OSMW(25%W, 75%M), 120' MW(50%W, 50%M), 2040' GW(5%G, 95%W). Total fluid: 2220'  
Fps: 265-583#/642-1045#  
SIPs: 1231#/1248#  
HSPs: 1994#/1923#  
BHT: 122 deg F  
Chlor: 100,000ppm

B/K.C.  
4177 (-1325)

Marmaton  
4209 (-1357)

CFS

CFS

CFS

CFS

CFS

CFS

CFS

CFS

CFS

CFS

50

4200

Marmaton

CFS

CFS

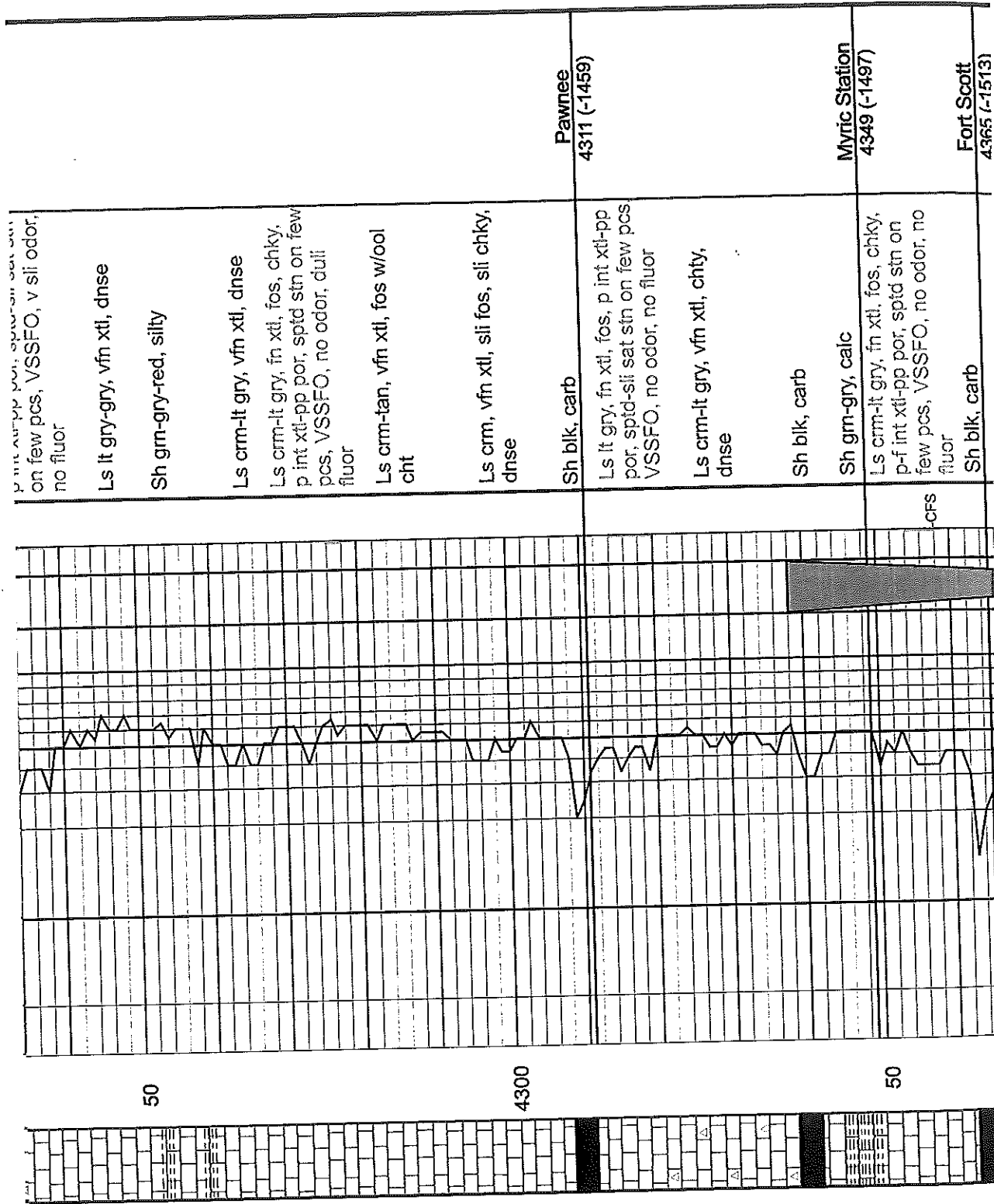
CFS

CFS

CFS

CFS

CFS



on few pcs, VSSFO, v sli odor, no fluor

Ls lt gry-gry, vfn xtl, dnse

Sh grn-gry-red, silty

Ls crm-lt gry, vfn xtl, dnse

Ls crm-lt gry, fn xtl, fos, chky, p int xtl-pp por, sptd strn on few pcs, VSSFO, no odor, dull fluor

Ls crm-tan, vfn xtl, fos w/ool cht

Ls crm, vfn xtl, sli fos, sli chky, dnse

Sh blk, carb

Pawnee  
4311 (-1459)

Ls lt gry, fn xtl, fos, p int xtl-pp por, sptd-sli sat strn on few pcs VSSFO, no odor, no fluor

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

Sh blk, carb

Sh grn-gry, calc

Myric Station  
4349 (-1497)

Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl-pp por, sptd strn on few pcs, VSSFO, no odor, no fluor

Sh blk, carb

Fort Scott  
4365 (-1513)

50

4300

50

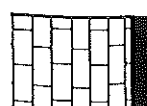
-cfs



Ls crm-lt gry, fn xtl, fos, chky,  
p-f int xtl-pp por, sptd stn on  
few pcs, VSSFO, no odor, no  
fluor

Sh blk, carb

-CFS



**Fort Scott**  
4365 (-1513)

Ls tan-gry, vfn xtl, ool, dnse

Ls crm-tan, fn xtl, fos, sli chky,  
p int xtl-pp por, sptd stn on 2  
pcs, VSSFO, sli odor, dull fluor

Ls crm-gry, vfn xtl, sli fos, chky  
sli chty, dnse

Sh blk, carb

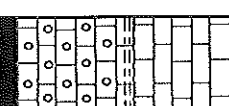
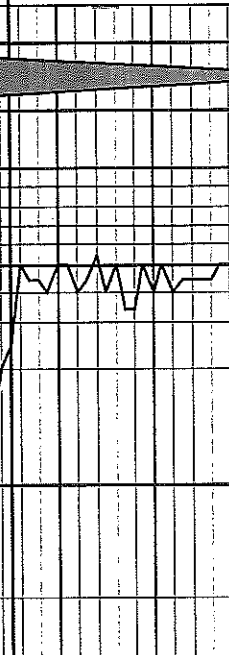
Ls tan-gry, mic xtl, chty, dnse

Ls crm-lt gry, fn xtl, fos, chky,  
arg in prt, p int xtl-pp por, NS

Sh blk, carb, w/int bed tan-gry  
dnse Ls

Ls crm-lt gry, mic xtl, dnse

-CFS



**Cherokee Shale**  
4391 (-1539)

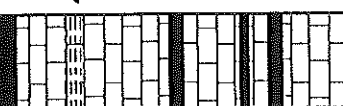
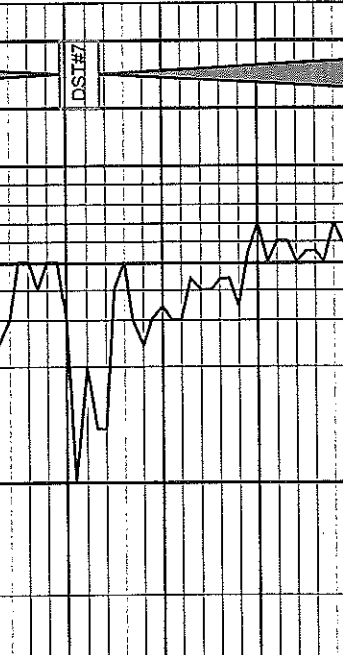
**DST # 7**  
(4322-4465')  
30"-30"-60"-90"  
IF: Built to 1 1/2 in., no return  
FF: Surface blow, no return  
Rec: 90' OCM(2%O, 98%M)  
Fps: 19-31#/35-53#  
SIPs: 1092#/1103#  
HSPs: 2153#/2107#  
BHT: 115 deg F

Ls crm-lt gry, fn xtl, fos, chky,  
arg in prt, p int xtl-pp por, NS

Sh blk, carb, w/int bed tan-gry  
dnse Ls

Ls crm-lt gry, mic xtl, dnse

-CFS



**Johnson Zone**  
4435 (-1583)

Sh gry-gm-red

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

Ls tan-gry, vfn xtl, dnse

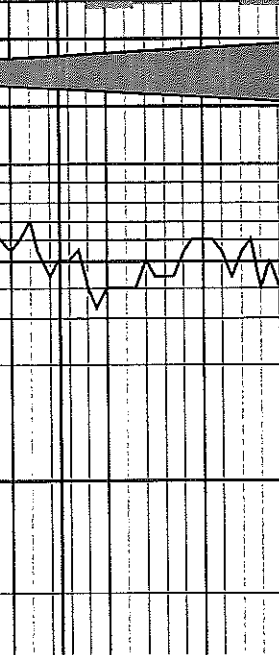
Ls crm-lt gry, fn xtl, fos, sli  
chky, p-f int xtl-pp por, spid-sli  
sat stn, SSFO, sli odor, dull  
fluor

SS lt gry, fn gm, well sort, fria,  
sat stn, SFO, f odor, no fluor

Sh gm-gry-dk gry

SS wh-lt gm, fn gm, well sort,  
fria NS

-CFS



**DST # 8**  
(4465'-4510')  
30"-30"-30"-60"  
IF: BOB in 13", no return  
FF: BOB in 17", no return  
Rec: 50' MW(70%W, 30%M)  
480' MW(95%W, 5%M).  
Total Fluid: 530'  
Fps: 22-163#/168-261#  
SIPs: 1205#/1216#  
HSPs: 2233#/2198#

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

Ls tan-gry, vfn xtl, dnse

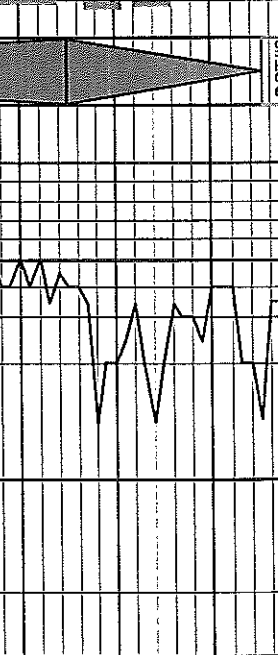
Ls crm-lt gry, fn xtl, fos, sli  
chky, p-f int xtl-pp por, spid-sli  
sat stn, SSFO, sli odor, dull  
fluor

SS lt gry, fn gm, well sort, fria,  
sat stn, SFO, f odor, no fluor

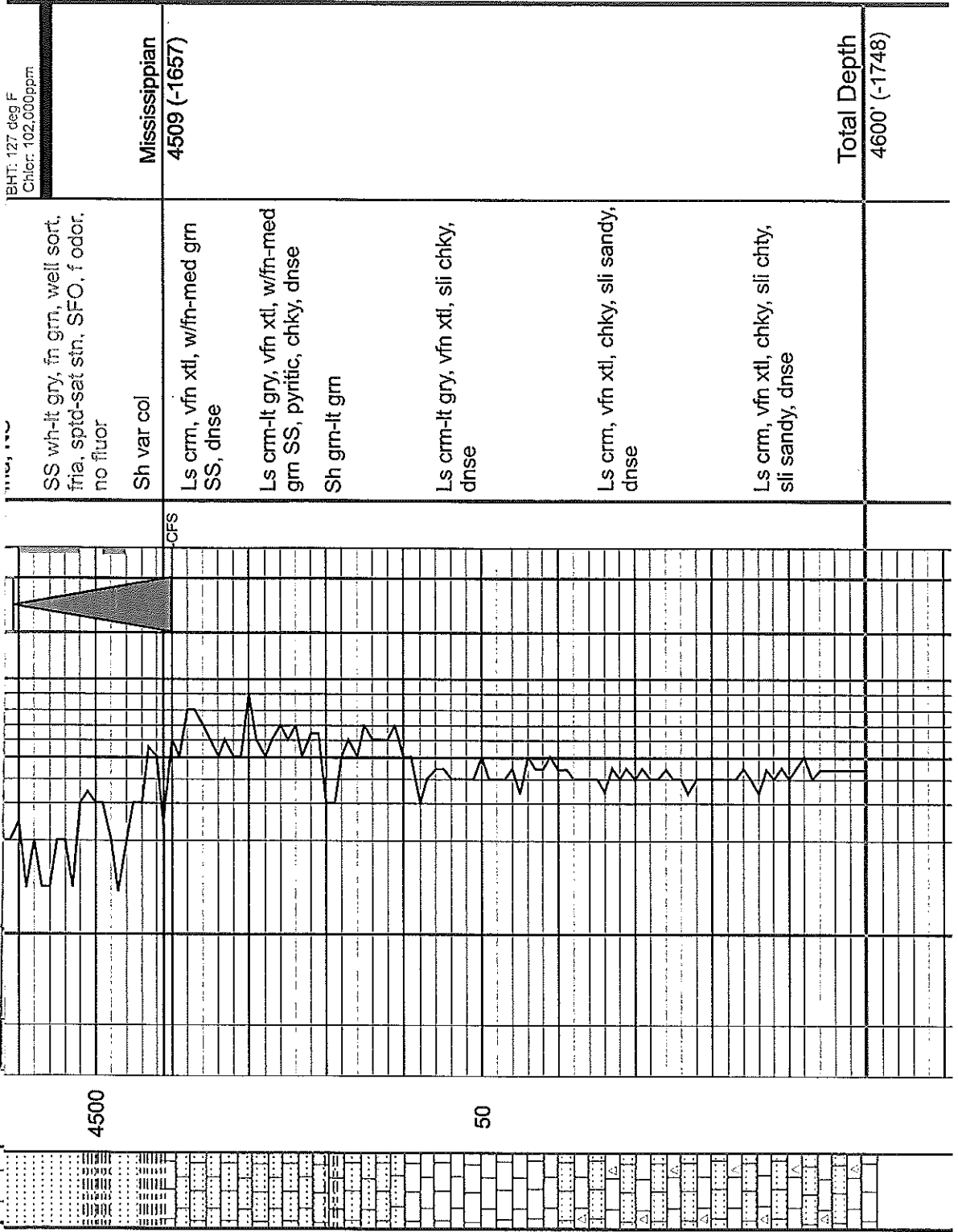
Sh gm-gry-dk gry

SS wh-lt gm, fn gm, well sort,  
fria NS

-CFS



BHT: 127 deg F  
 Chlor: 102.000ppm



SS wh-it gry, fn gm, well sort,  
 fria, spid-sat str, SFO, f odor,  
 no fluor

Sh var col

Ls crm, vfn xtl, w/fn-med gm  
 SS, dnse

Ls crm-lt gry, vfn xtl, w/fn-med  
 gm SS, pyritic, chky, dnse

Sh gm-lt gm

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

Ls crm, vfn xtl, chky, sli sandy,  
 dnse

Ls crm, vfn xtl, chky, sli chty,  
 sli sandy, dnse

Mississippian  
 4509 (-1657)

Total Depth  
 4600' (-1748)

4500

50