

TIM PRIEST
Petroleum Geologist
(316)-213-6115

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

COMPANY SHAKESPEARE OIL CO.
LEASE Tucker #1-9
FIELD Wildcat
LOCATION 400' FSL 600' FEL
SEC 9 TWSP 16S RGE 34W
COUNTY Scott STATE Kansas

ELEVATIONS
KB 3140'
DF _____
GL 3130'

Measurements Are All
From KB

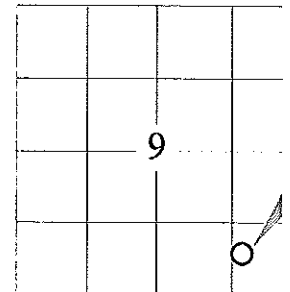
CONTRACTOR HD Rig 2
SPUD 5-30-13 COMP 6-13-13
RTD 4864' LTD 4863'
MUD UP 3500' TYPE MUD Chemical

CASING
CONDUCTOR N/A
SURFACE 8-5/8" @ 264'
PRODUCTION 5 1/2" @ 486'

SAMPLES SAVED FROM 3800' to RTD
DRILLING TIME KEPT FROM 3800' to RTD
SAMPLES EXAMINED FROM 3800' to RTD
GEOLOGICAL SUPERVISION FROM 3800' to RTD
GEOLOGIST ON WELL Tim Priest

ELECTRICAL SURVEYS
CND;D/SP;P.E.
Micro, sonic
By: Weatherford

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	2460 (+680)	NA
Heebner Shale	3984 (-844)	3986 (-846)
Lansing	4032 (-892)	4032 (-892)
Stark	4299 (-1259)	4304 (-1264)
BKC	4400 (-1260)	4396 (-1256)
Fort Scott	4576 (-1436)	4575 (-1435)
Cherokee Shale	4604 (-1464)	4606 (-1466)
Mississippian	4786 (-1646)	4787 (-1647)



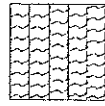
REMARKS Due to the results of DSTs, it was decided to set production casing to further test the well.

Respectfully Submitted,

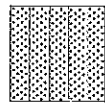
Tim Priest
Petroleum Geologist

API #15-171-20947-00-00

LEGEND



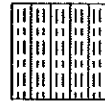
Anhydrite



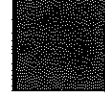
Sandstone



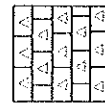
Limestone



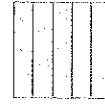
Shale



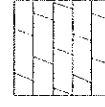
Carb Sh



Cherty LS



Chert



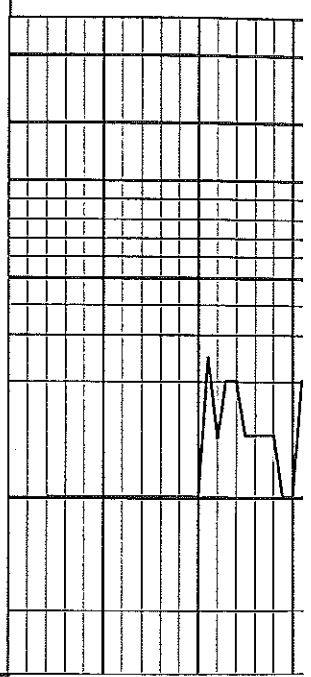
Dolomite

DEPTH

LITHOLOGY

DRILLING TIME IN
MINUTES PER FOOT
Rate of Penetration Decreases ↑

.5 1.0 5 10 15 20 30



SAMPLE DESCRIPTION

REMARKS

2450

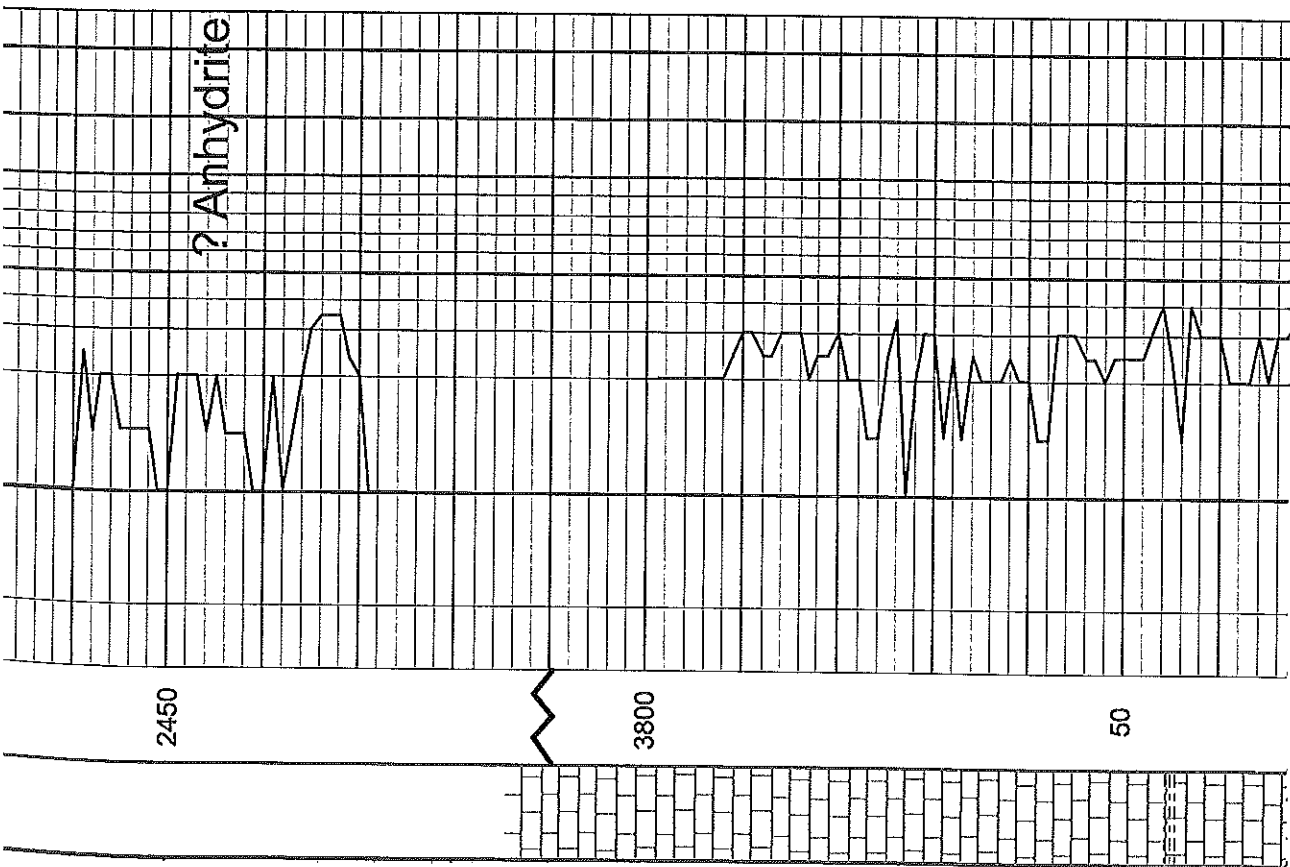
? Anhydrite

2450

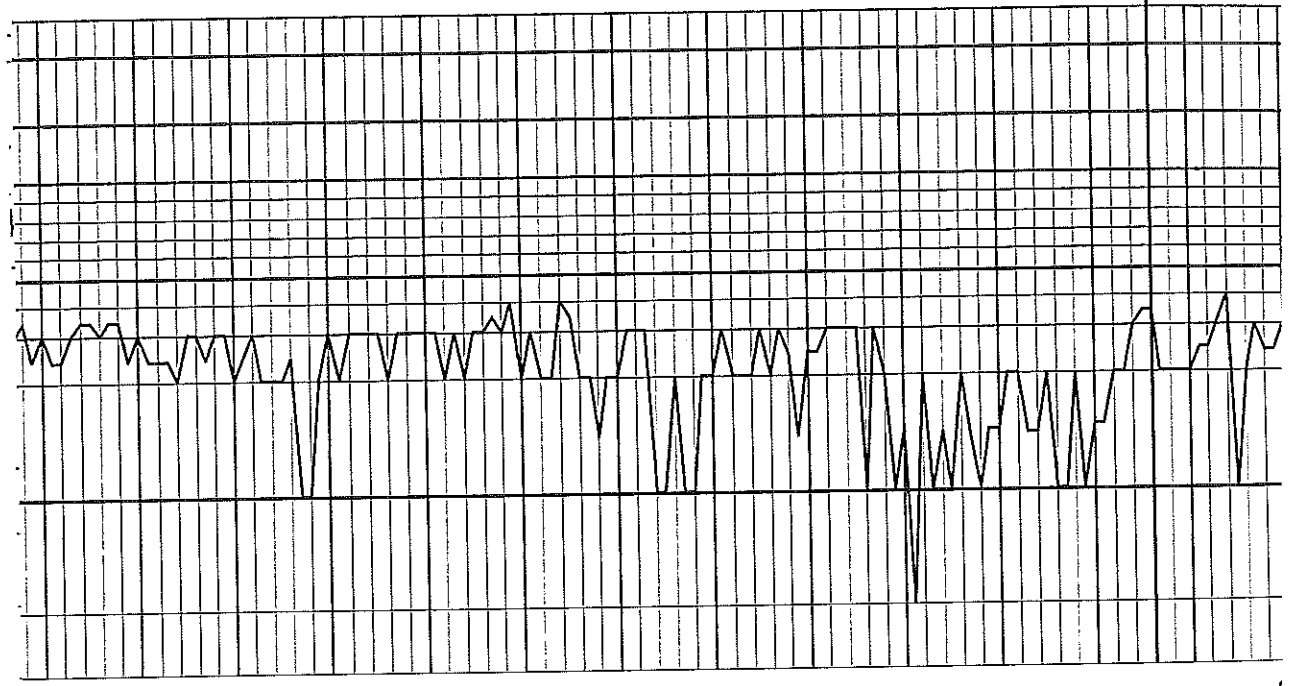
3800

50

Ls crm-gry mottd, fos, sil chky.

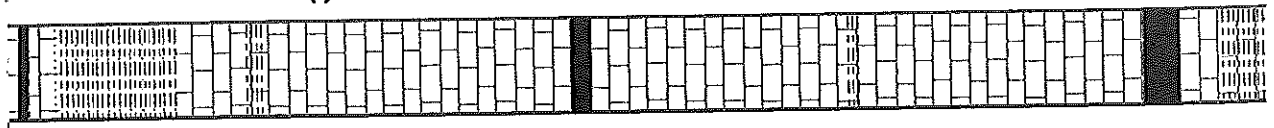


p-1 111 xii-pp por, NS		
Sh blk, carb		
Sh/SS red-gry, fn-med gm, p sort, friable, NS		
Ls crm-tan-gry, fn xtl, arg in prt no vis por		
Ls tan, vfn xtl, sli fos, dnse		
Sh blk, carb		
Sh red-maroon Ls crm-lt gry, fos, chky, p-f int xtl & int frag por, NS		
Ls crm, vfn xtl, chty, dnse		
Ls crm-tan, fn xtl, fos, p-f int xtl-pp por, NS		
Ls crm-tan, fn xtl, fos, f int xtl- pp por, NS		
Sh blk, carb	Heebner 3986 (-846)	
Sh gry-dk gry, calc		



3900

50

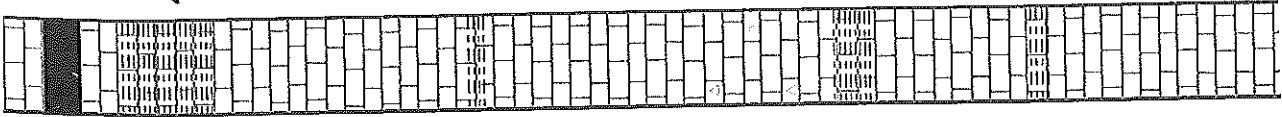


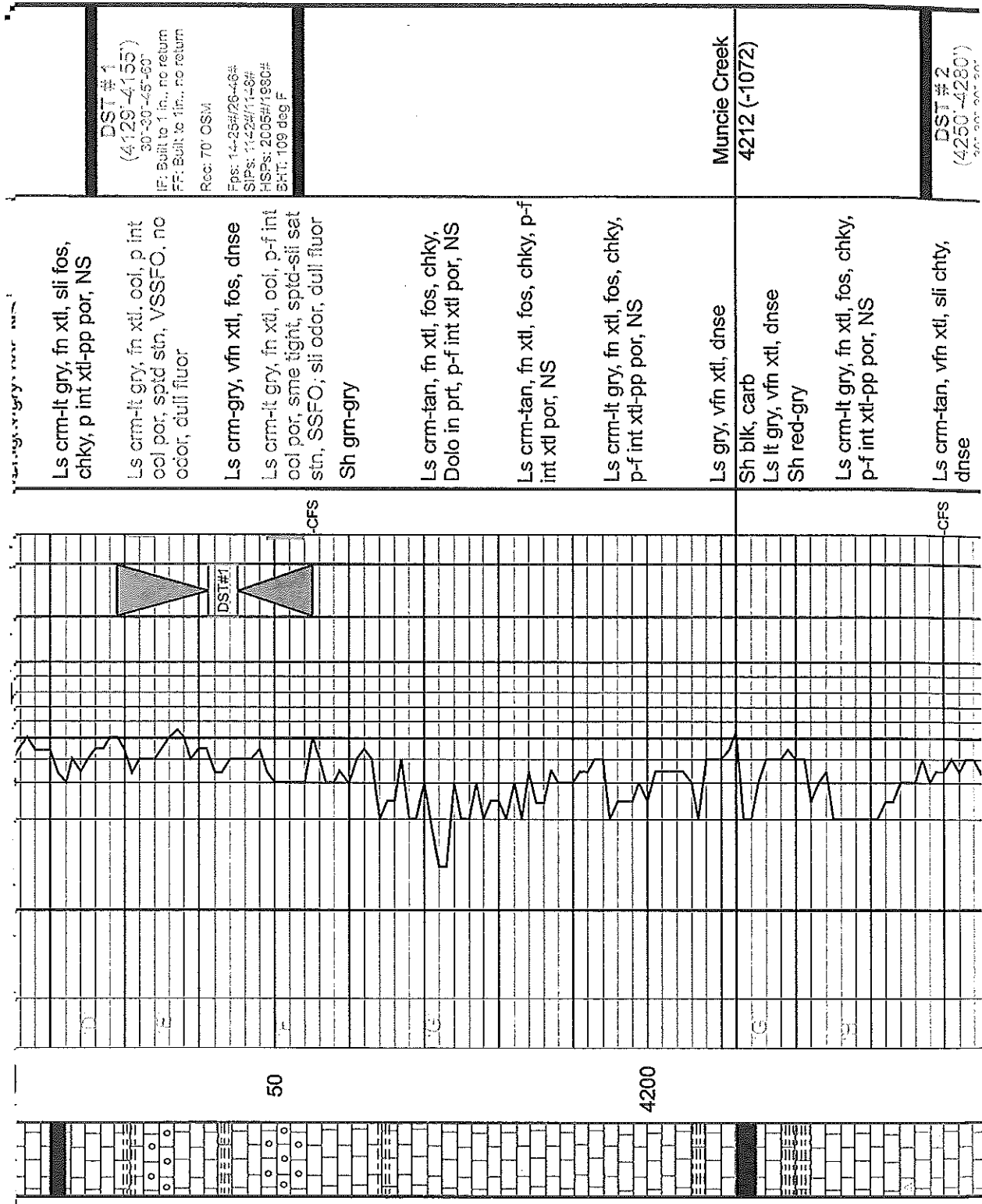
<p>Sh blk, carb</p>	<p>3986 (-846)</p>	<p>Receipt</p>
<p>Sh gry-dk gry, calc</p>	<p>Toronto 4004 (-864)</p>	<p>Ls crm-lt gry, fn xtl, fos-sli ool, p-f int xtl & int frag por, sptd-sli sat stn, sme barren, SSFO, dull flour, no odor</p>
<p>Sh grn-gry, calc</p>	<p>Lansing 4032 (-892)</p>	<p>Ls crm-lt gry, fn xtl, fos, f int xtl & int frag por, NS</p>
<p>Ls crm, fn xtl, fos, chky, p-f int xtl-pp por, NS</p>	<p>Ls crm-lt gry, vfn xtl, sli chty, dnse</p>	<p>Sh grn-gry</p>
<p>Ls crm-lt gry, fn xtl, sli fos, chky, p int xtl-pp por, NS</p>	<p>Ls crm, vfn xtl, sli chky, dnse</p>	<p>Ls crm, fn xtl, fos, sli chky, p-f int xtl-pp por, sptd stn on few pcs, VSSFO, dull flour, no odor</p>
<p>Ls crm-lt gry, vfn xtl, sli chky, dnse</p>	<p>Sh crm-cr</p>	<p>CFS</p>

4000

50

4100





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

Ls crm-lt gry, fn xtl, ool, p int ool por, spid stn, VSSFO, no odor, dull fluor

Ls crm-gry, vfn xtl, fos, dnse

Ls crm-lt gry, fn xtl, ool, p-f int ool por, sme tight, spid-sli sat stn, SSFO; sli odor, dull fluor

Sh gm-gry

Ls crm-tan, fn xtl, fos, chky, Dolo in prt, p-f int xtl por, NS

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

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

Ls gry, vfn xtl, dnse

Sh blk, carb

Ls lt gry, vfn xtl, dnse

Sh red-gry

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

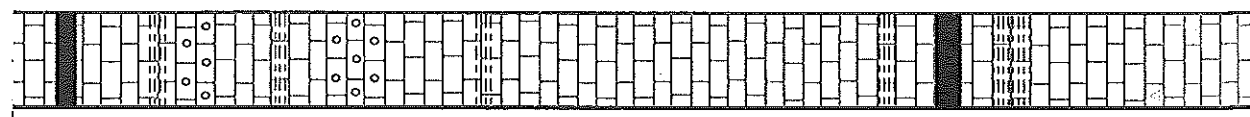
Ls crm-tan, vfn xtl, sli chty, dnse

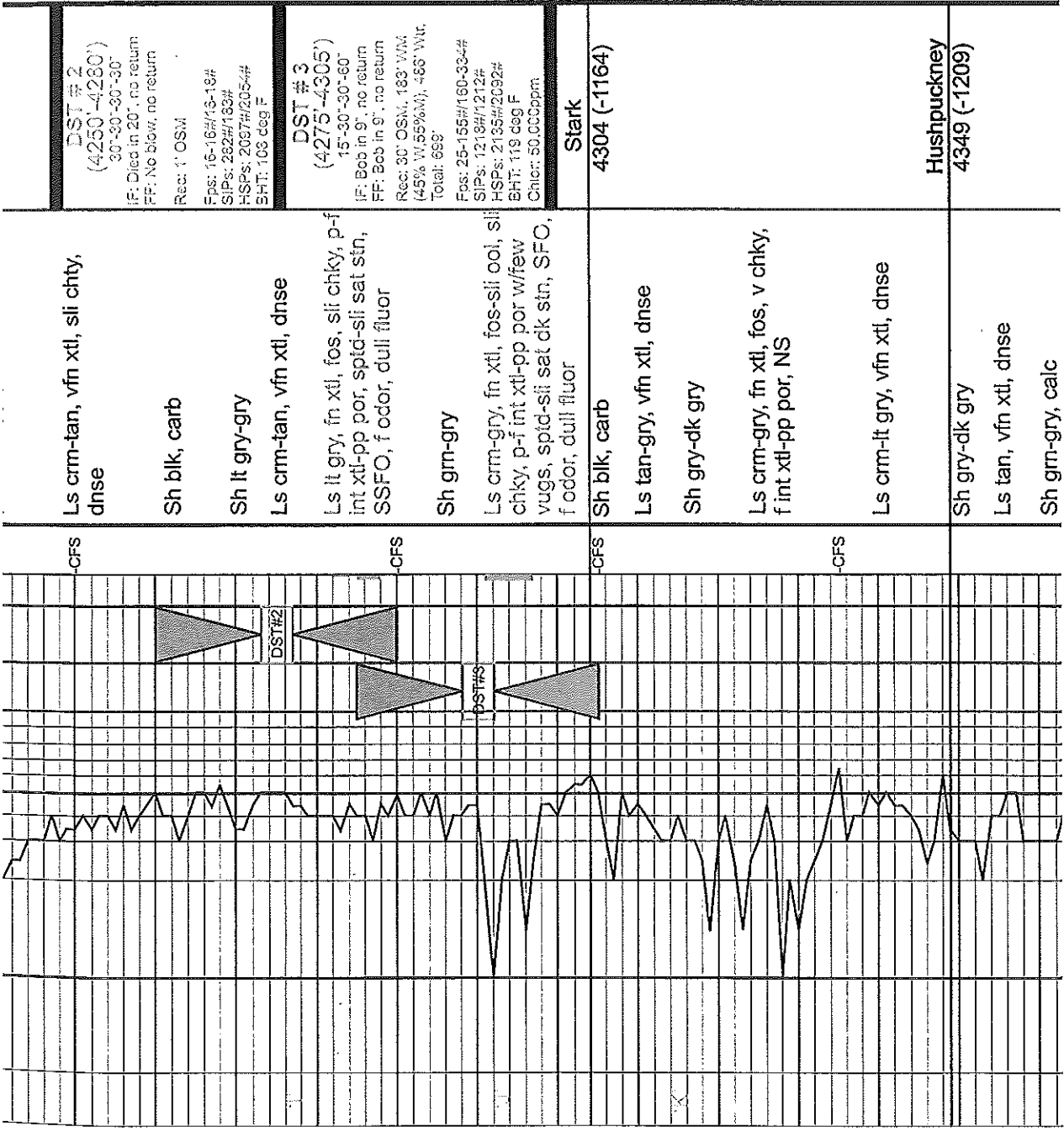
DST #1
(4129-4155)
30'-30'-45'-60'
IF: Built to 1 in., no return
FF: Built to 1 in., no return
Rec: 70' OSM
Fps: 14-25#/26-48#
SIPs: 1142#/11-8#
HSPs: 2005#/1990#
BHT: 109 deg F

Muncie Creek
4212 (-1072)
DST #2
(4250-4280)
30'-30'-30'-30'

50

4200





DST #2
 (4250'-4280')
 IF: Died in 20', no return
 FF: No blow, no return
 Rec: 1' OSM
 Fps: 16-16#/13-13#
 SIPs: 282#/133#
 HSPs: 2097#/205-4#
 SHT: 103 deg F

DST #3
 (4275'-4305')
 15'-30'-30'-60'
 IF: Bob in 9', no return
 FF: Bob in 9', no return
 Rec: 30' OSM, 183' WMA
 (45% W.55%W), 466' Wtr.
 Total: 669'
 Fps: 25-155#/160-334#
 SIPs: 1218#/1212#
 HSPs: 2135#/2092#
 BHT: 119 deg F
 Chlor: 50.00ppm

Stark
 4304 (-1164)

Hushpuckney
 4349 (-1209)

Ls crm-tan, vfn xtl, sli chty,
 dnse

Sh blk, carb

Sh lt gry-gry

Ls crm-tan, vfn xtl, dnse

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

Sh gm-gry

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

Sh blk, carb

Ls tan-gry, vfn xtl, dnse

Sh gry-dk gry

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

Ls crm-lt gry, vfn xtl, dnse

Sh gry-dk gry

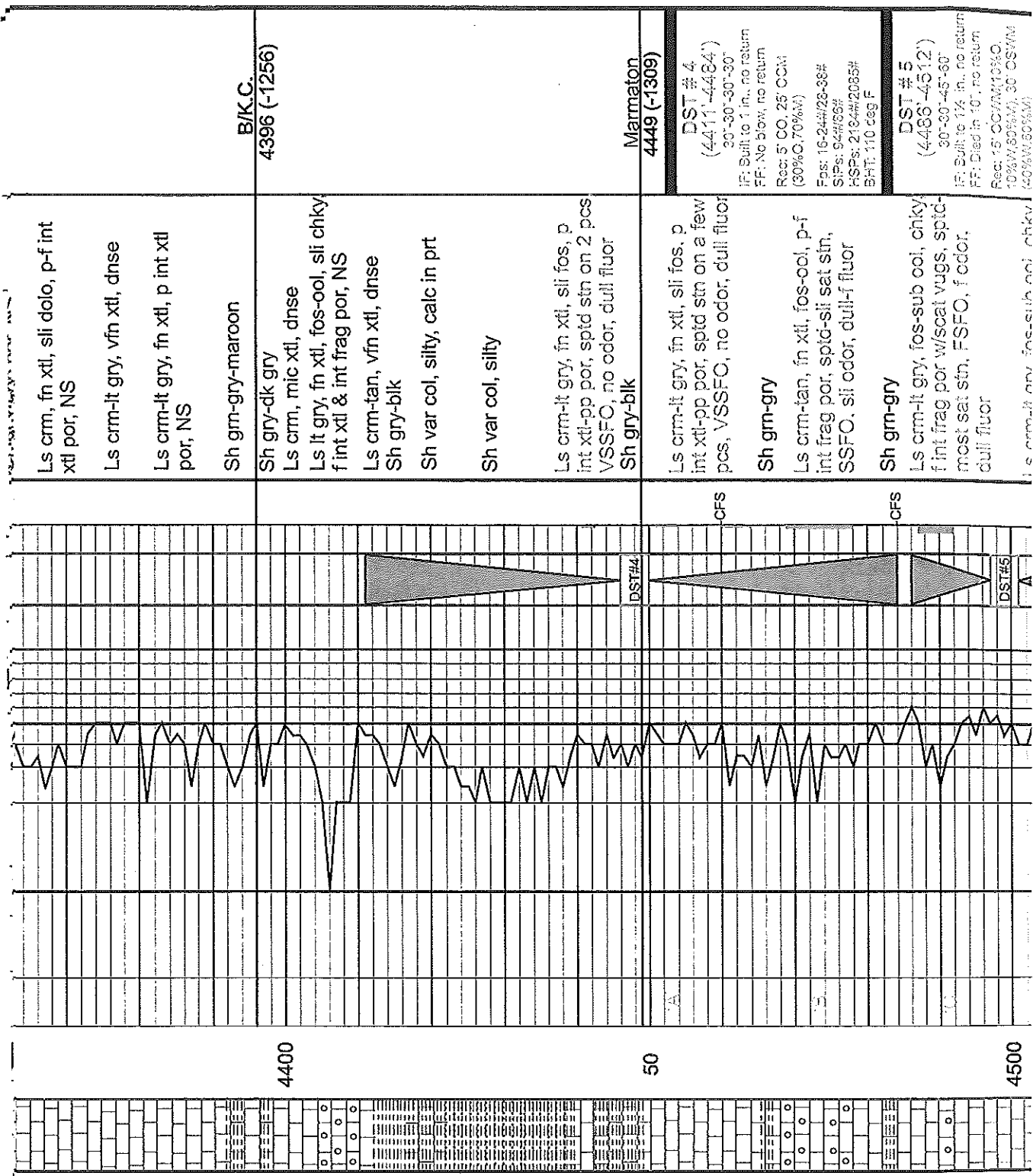
Ls tan, vfn xtl, dnse

Sh gm-gry, calc

50

4300

50



Ls crm, fn xtl, sli dolo, p-f int xtl por, NS

Ls crm-lt gry, vfn xtl, dnse

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

Sh gm-gry-maroon

Sh gry-dk gry

Ls crm, mic xtl, dnse

Ls lt gry, fn xtl, fos-ool, sli chky f int xtl & int frag por, NS

Ls crm-tan, vfn xtl, dnse

Sh gry-blk

Sh var col, silty, calc in prt

Sh var col, silty

Ls crm-lt gry, fn xtl, sli fos, p int xtl-pp por, sptd stn on 2 pcs VSSFO, no odor, dull fluor

Sh gry-blk

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

Sh gm-gry

Ls crm-tan, fn xtl, fos-ool, p-f int frag por, sptd-sli sat stn, SSFO, sli odor, dull-f fluor

Sh gm-gry

Ls crm-lt gry, fos-sub col, chky f int frag por w/soat vugs, sptd-most sat stn, FSFO, f odor, dull fluor

B/K.C.
4396 (-1256)

Marmaton
4449 (-1309)

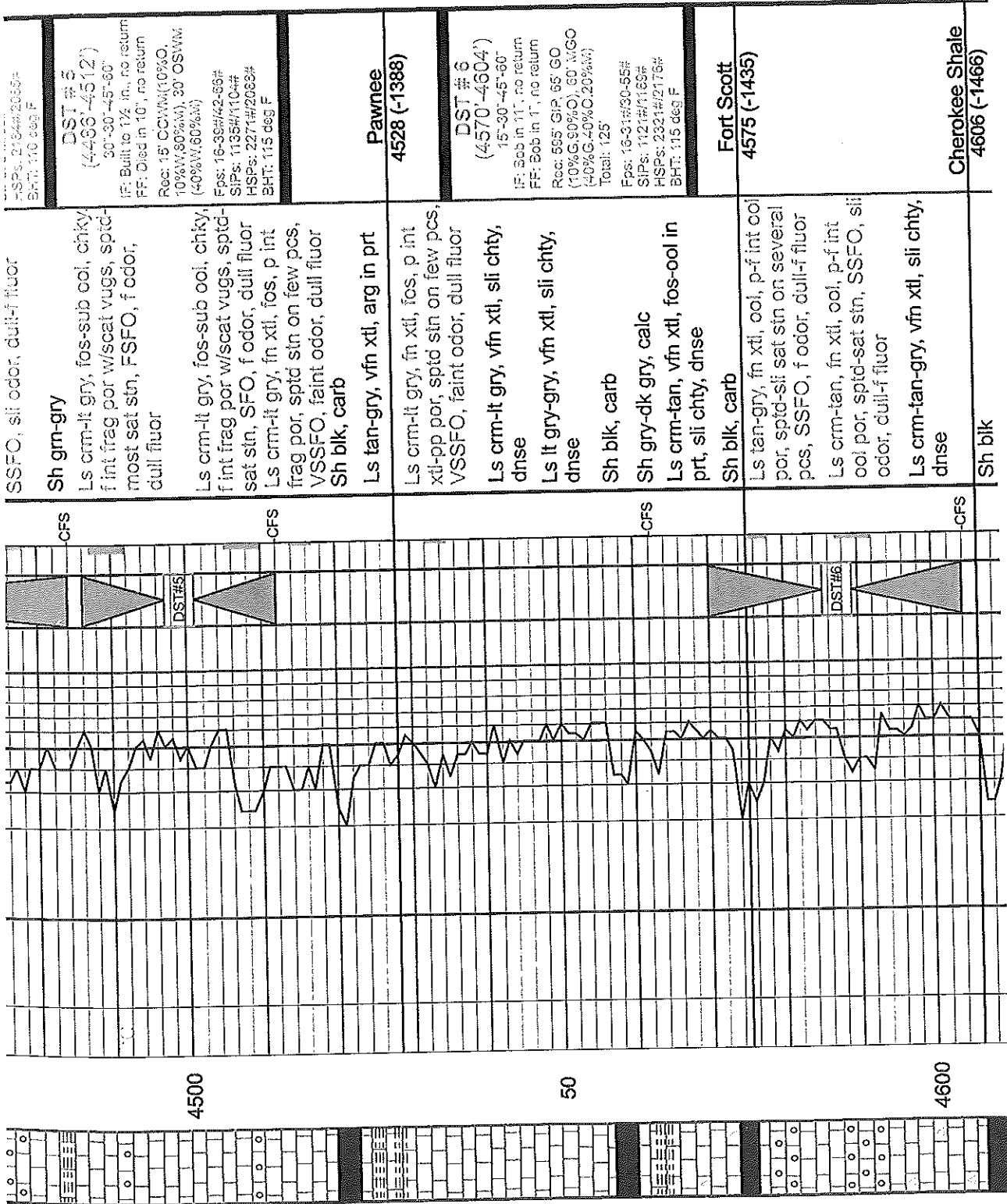
DST # 4
(4411-4484)
30'-30"-30"-30"
IF: Built to 1 in., no return
FF: No blow, no return
Recr: 5' CO, 25' OCM
(30% C, 70% M)

DST # 5
(4486-4512)
30'-30"-45'-60"
IF: Built to 1/8 in., no return
FF: Dried in 10', no return
Recr: 15' CC/M (10% O, 70% M), 30' CS/M (40% M, 60% O)

4400

50

4500



HSPs: 2154#/2066#
BHT: 110 deg F

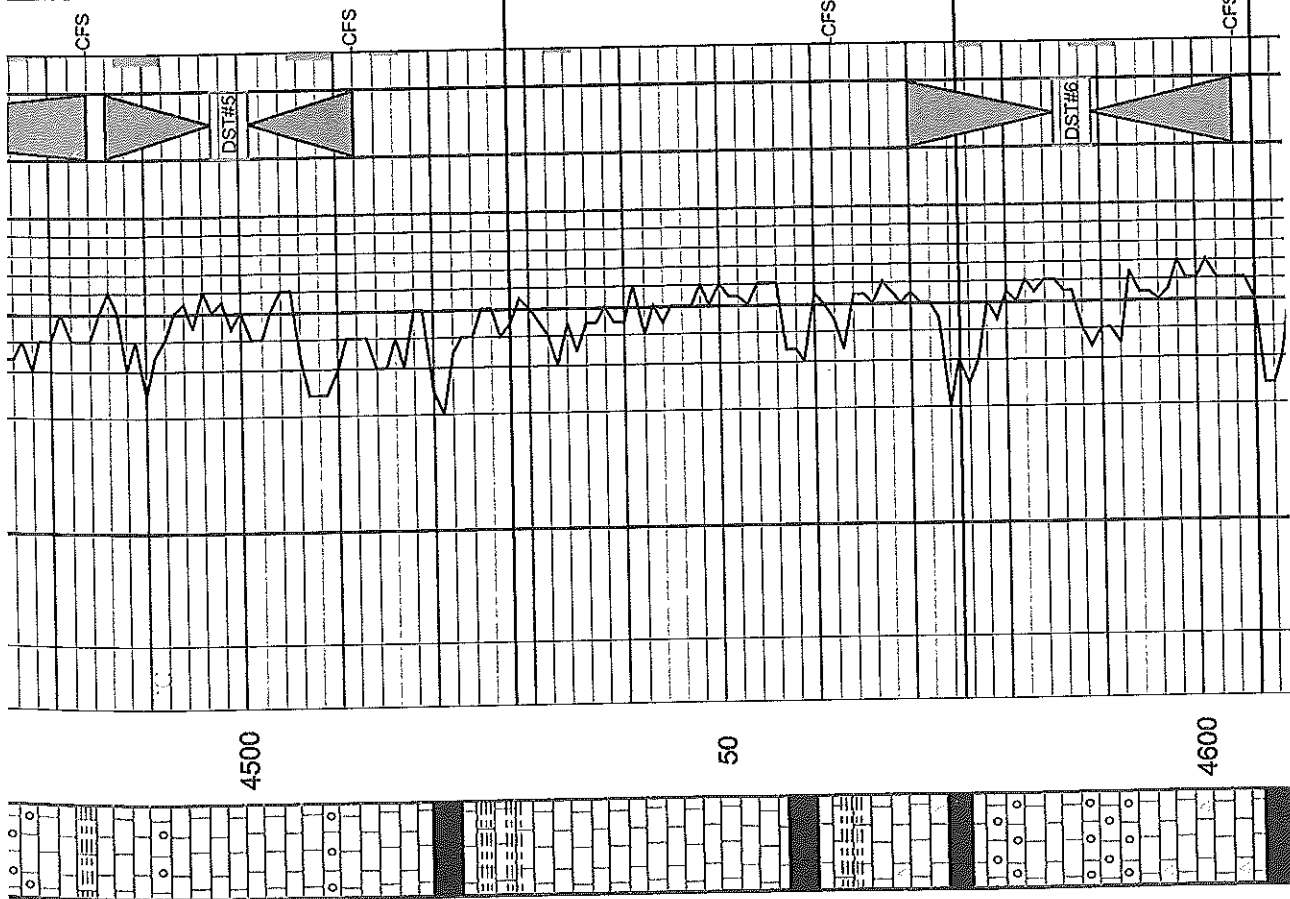
DST #5
(4466'-4512')
30"-30"-45"-60"
IF: Built to 1/2 in., no return
FF: Dried in 10', no return
Rec: 15' CCW/M (10%O,
10%W,80%V), 30' OSW/M
(40%W,60%V)
Fps: 16-35#/42-66#
SjPs: 1135#/110-#
HSPs: 2271#/2066#
BHT: 115 deg F

Pawnee
4528 (-1388)

DST #6
(4570'-4604')
15"-30"-45"-60"
IF: Bob in 11', no return
FF: Bob in 1', no return
Rec: 595' GIP, 65' GO
(10%G,90%O), 60' MGO
(40%G,40%C,20%W)
Total: 125'
Fps: 16-31#/30-55#
SjPs: 1121#/1165#
HSPs: 2321#/2176#
BHT: 115 deg F

Fort Scott
4575 (-1435)

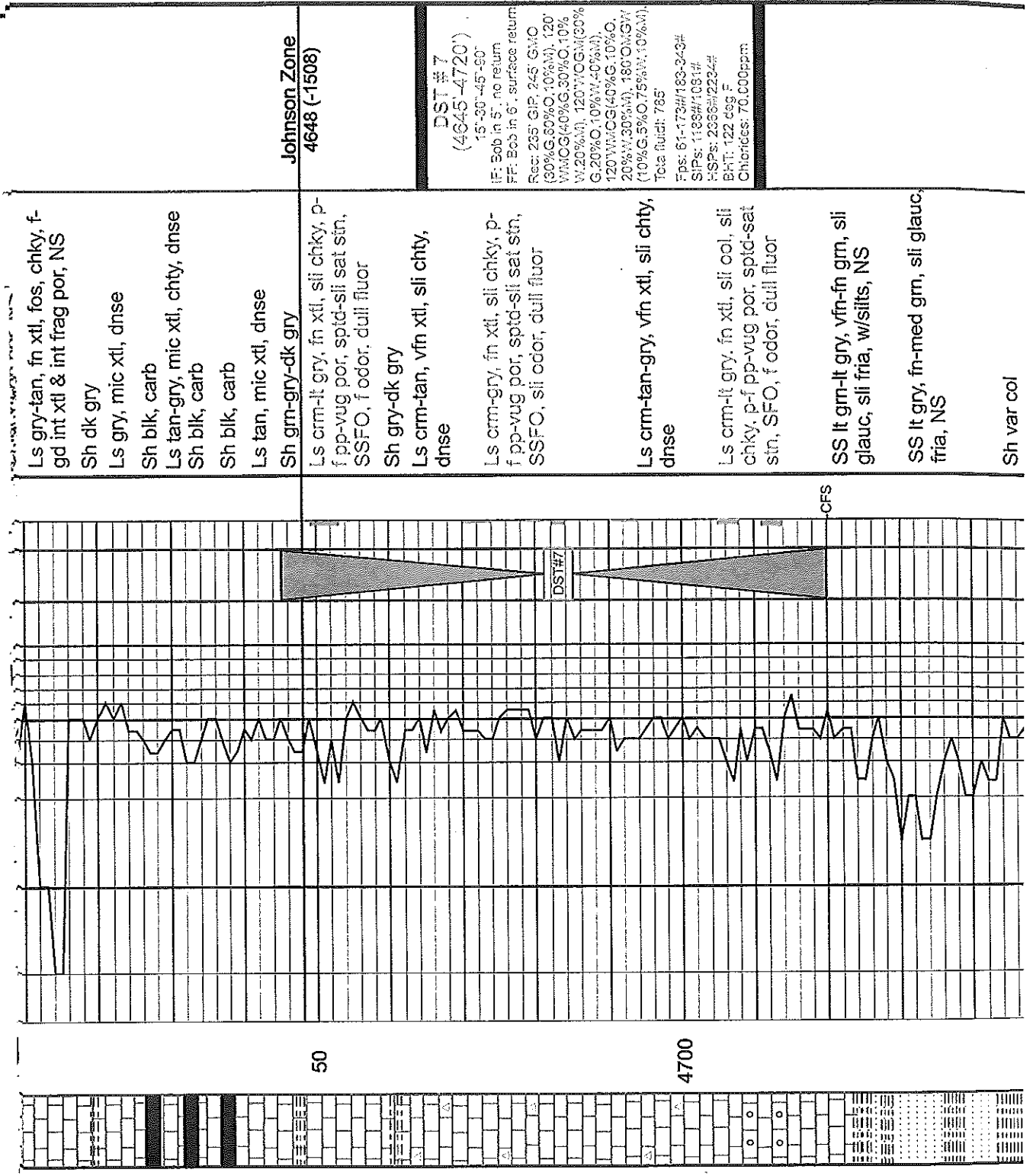
Cherokee Shale
4606 (-1466)



4500

50

4600



Johnson Zone
4648 (-1508)

DST#7
(4645-4720)
15'-30" 45'-50"
IF: Bob in 5', no return
FF: Bob in 6', surface return
Rec: 235' GIP: 245' GWO
(90%G, 60%O, 10%M), 120'
WMOG(40%G, 30%O, 10%
W, 20%M), 120' WOG(30%
G, 20%O, 10%W, 40%M),
120' WMOG(40%G, 10%O,
20%W, 30%M), 180' OMOG
(10%G, 5%O, 75%W, 10%M),
Total fluid: 785'
Fos: 61-173#/183-343#
SIPs: 1188#/1081#
PSPs: 2366#/2234#
BHT: 122 deg F
Chlorides: 70,000ppm

Ls gry-tan, fn xtl, fos, chky, f-
gd int xtl & int frag por, NS

Sh dk gry

Ls gry, mic xtl, dnse

Sh blk, carb

Ls tan-gry, mic xtl, chty, dnse

Sh blk, carb

Sh blk, carb

Ls tan, mic xtl, dnse

Sh grn-gry-dk gry

Ls crm-lt gry, fn xtl, sli chky, p-
f pp-vug por, spta-sli sat str,
SSFO, f odor, dull fluor

Sh gry-dk gry

Ls crm-tan, vfn xtl, sli chty,
dnse

Ls crm-gry, fn xtl, sli chky, p-
f pp-vug por, spta-sli sat str,
SSFO, sli odor, dull fluor

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

Ls crm-lt gry, fn xtl, sli cool, sli
chky, p-f pp-vug por, spta-sat
str, SFO, f odor, dull fluor

SS lt grn-lt gry, vfn-fn gm, sli
glauc, sli fria, w/silts, NS

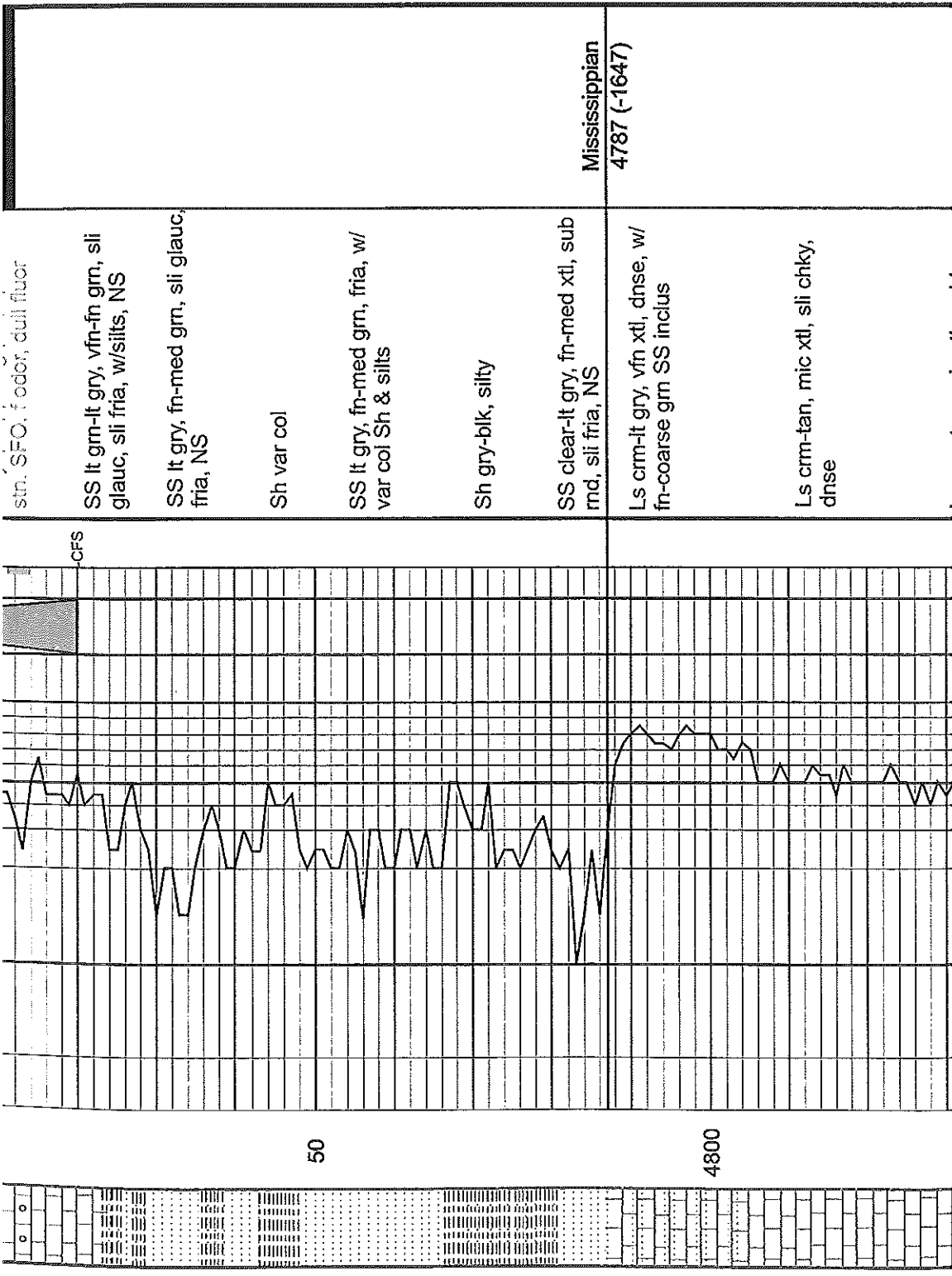
SS lt gry, fn-med gm, sli glauc,
fria, NS

Sh var col

50

4700

CFS



str. SFO. f odor, dull fluor

CFS

SS lt grn-lt gry, vfn-fn gm, sli glauc, sli fria, w/silts, NS

SS lt gry, fn-med gm, sli glauc, fria, NS

Sh var col

SS lt gry, fn-med gm, fria, w/ var col Sh & silts

Sh gry-blk, silty

SS clear-lt gry, fn-med xtl, sub rnd, sli fria, NS

Ls crm-lt gry, vfn xtl, dnse, w/ fn-coarse gm SS inclus

Ls crm-tan, mic xtl, sli chky, dnse

Mississippian
4787 (-1647)

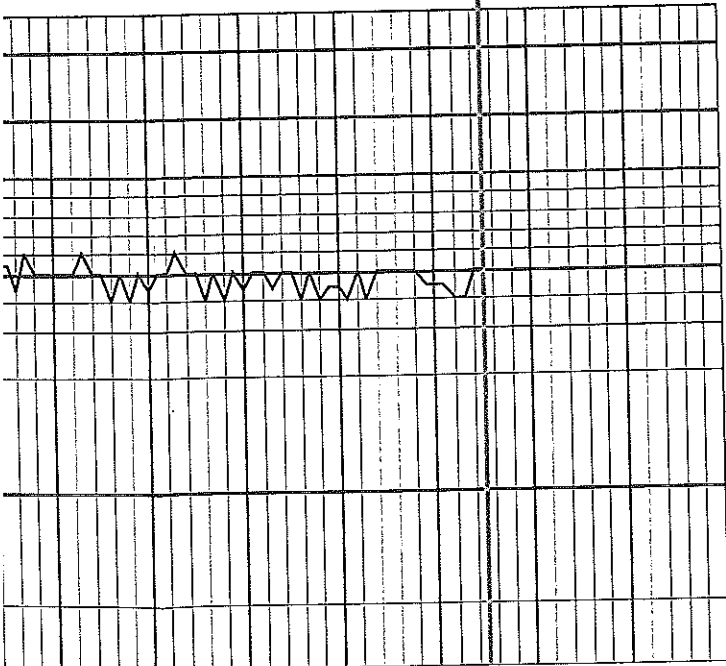
50

4800

Ls crm-tan, mic xtl, v chky,
fn ool in prt, dnse

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

Total Depth
4865' (-1725)



50

