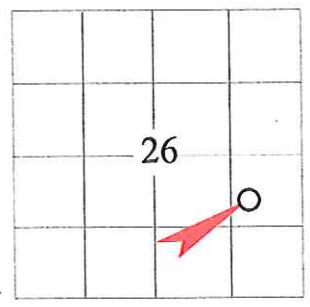


TIM PRIEST
Petroleum Geologist
(316)-213-6115

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

COMPANY <u>SHAKESPEARE OIL CO.</u> LEASE <u>JANZEN 1-26</u> FIELD <u>Wildcat</u> LOCATION <u>2000' FSL, 900' FEL</u> SEC <u>26</u> TWSP <u>16S</u> RGE <u>34W</u> COUNTY <u>Scott</u> STATE <u>Kansas</u> CONTRACTOR <u>HD Rig #2</u> SPUD <u>10-1-12</u> COMP <u>10-15-12</u> RTD <u>4870'</u> LTD <u>4900'</u> MUD UP <u>3700'</u> TYPE MUD <u>Chemical</u>	ELEVATIONS KB <u>3119'</u> DF _____ GL <u>3109'</u> Measurements Are All From <u>KB</u>
SAMPLES SAVED FROM <u>3800'</u> to RTD DRILLING TIME KEPT FROM <u>3800'</u> to RTD SAMPLES EXAMINED FROM <u>3800'</u> to RTD GEOLOGICAL SUPERVISION FROM <u>3900'</u> to RTD GEOLOGIST ON WELL <u>Tim Priest</u>	CASING CONDUCTOR <u>N/A</u> SURFACE <u>8-5/8" @ 264'</u> PRODUCTION <u>5-1/2" @ 4870'</u>
	ELECTRICAL SURVEYS <u>CND;D/SP;P.E.</u> <u>Micro</u> By: <u>Weatherford</u>

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	2430 (+689)	2436 (+683)
Heebner Shale	3975 (-856)	3979 (-860)
Lansing	4018 (-899)	4022 (-903)
Stark	4302 (-1183)	4304 (-1185)
BKC	4394 (-1275)	4394 (-1275)
Fort Scott	4577 (-1458)	4581 (-1462)
Cherokee Shale	4603 (-1484)	4607 (-1488)
	4791 (-1672)	4798 (-1679)









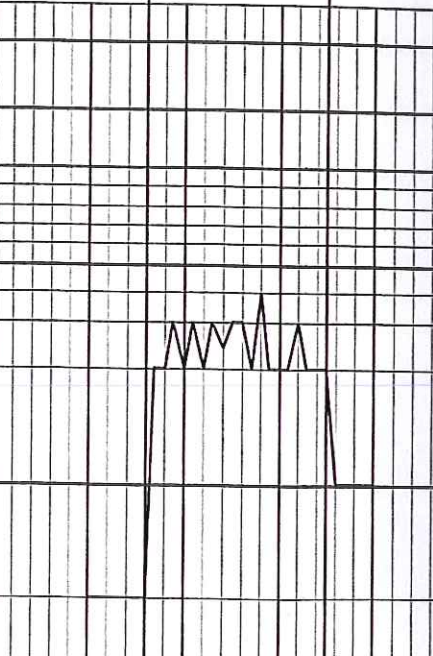


REMARKS Due to the results of DSTs, it was decided to set production casing to further test the well.

Respectfully Submitted,

Tim Priest
 Petroleum Geologist

API #15-171-20909-00-00

LITHOLOGY	DEPTH	DRILLING TIME IN MINUTES PER FOOT Rate of Penetration Decreases	SAMPLE DESCRIPTION	REMARKS
 Anhydrite  Sandstone  Limestone  Shale  Carb Sh  Cherty LS  Chert  Dolomite	50		Anhydrite 2436(+683)	Base/ Anhydrite 2455(+664)

2436(+683)

Base/ Anhydrite
2455(+664)

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

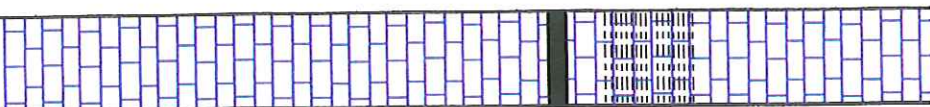
Sh gry-dk gry

50



3800

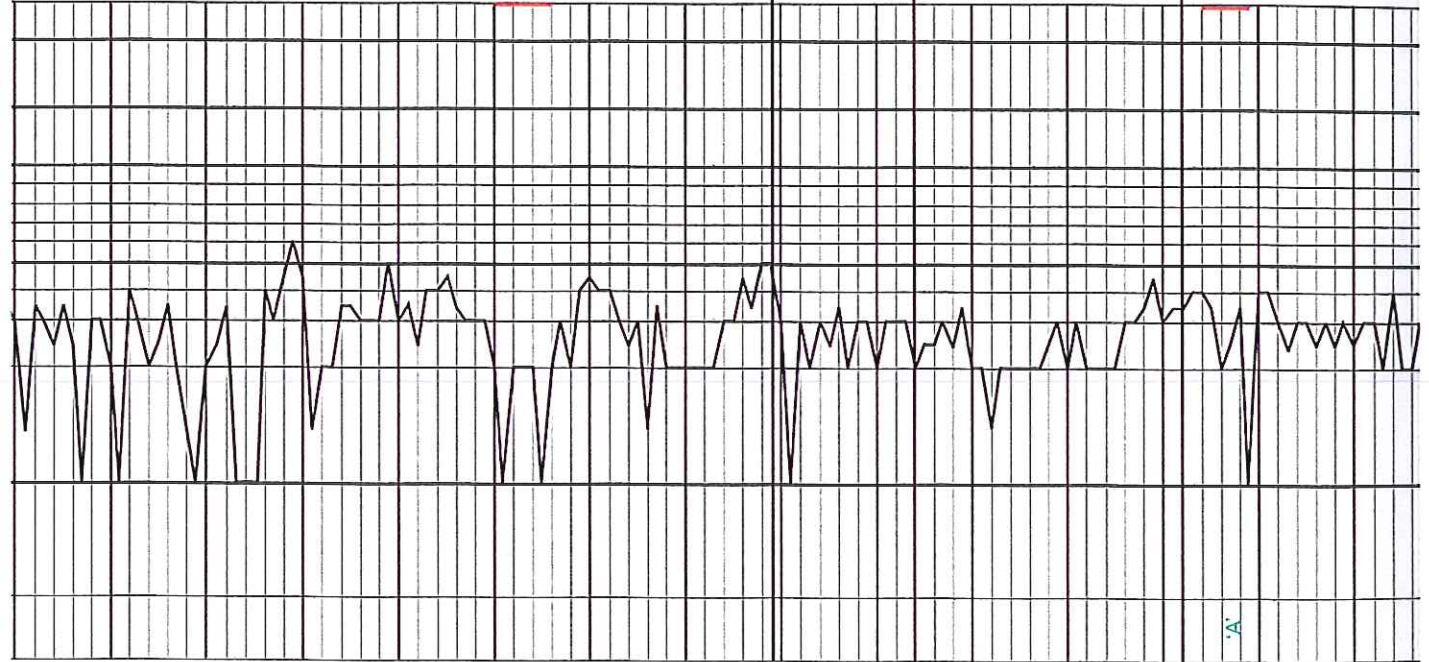
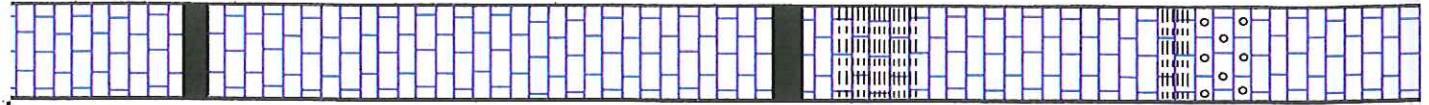
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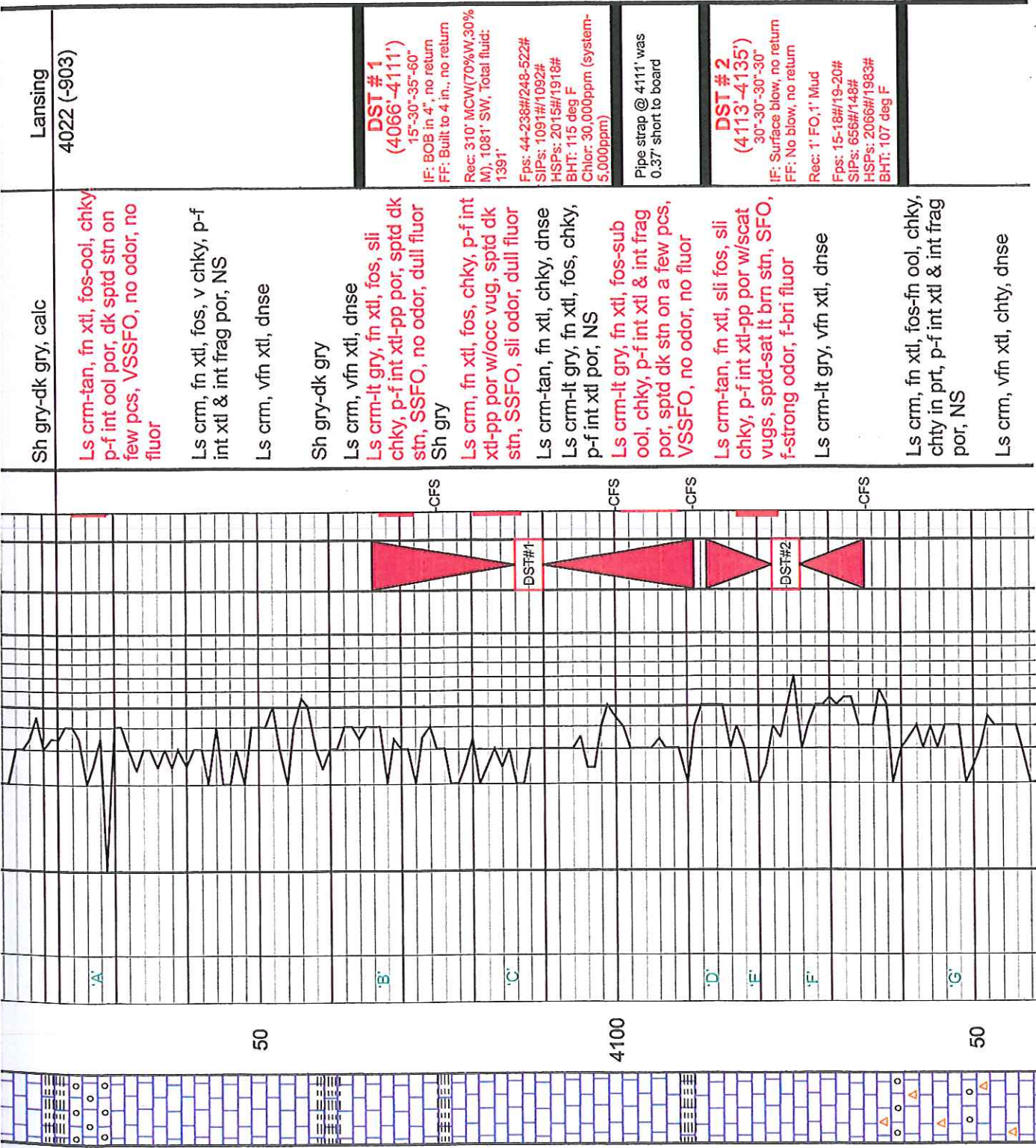
3900

50

4000



<p>Ls crm, fn xtl, fos, chky, p-f int xtl-pp por, NS</p>	<p>Sh blk</p>	<p>Ls crm, fn xtl, fos, chky, p-f int xtl-pp por, NS</p>	<p>Sh blk</p>	<p>Heebner 3979 (-860)</p>
<p>Sh blk</p>	<p>Ls crm, fn xtl, fos, chky, p-f int xtl-pp por, NS</p>	<p>Sh gry-blk</p>	<p>Ls crm, fn xtl, fos, sli chky, f int xtl-pp por, sptd blk stn on few pcs, VSSFO, no odor, dull fluor</p>	<p>Toronto 3995 (-875)</p>
<p>Ls crm-tan, fn xtl, fos, chky, p-f int xtl-pp por, NS</p>	<p>Sh blk, carb</p>	<p>Sh gry-dk gry, calc</p>	<p>Ls crm-lt gry, fn xtl, fos, chky, f int xtl-pp por, NS</p>	<p>Lansing 4022 (-903)</p>
<p>Ls crm, fn xtl, fos, v chky, p-f int xtl & int frag por, NS</p>	<p>Ls crm-tan, fn xtl, fos-ool, chky, p-f int ool por, dk sptd stn on few pcs, VSSFO, no odor, no fluor</p>			



Lansing
4022 (-903)

DST #1
(4066'-4111')
15'-30"-35"-60"
IF: BOB in 4", no return
FF: Built to 4 in., no return
Rec: 310' MCW(70%W,30% M), 1081' SW, Total fluid: 1391'
F'ps: 44-238#/248-522#
SIPs: 1091#/1092#
HSPs: 2015#/1918#
BHT: 115 deg F
Chlor: 30,000ppm (system-5,000ppm)

Pipe strap @ 4111' was 0.37' short to board

DST #2
(4113'-4135')
30"-30"-30"-30"
IF: Surface blow, no return
FF: No blow, no return
Rec: 1' FO, 1' Mud
F'ps: 15-18#/19-20#
SIPs: 656#/148#
HSPs: 2066#/1983#
BHT: 107 deg F

Sh gry-dk gry, calc

Ls crm-tan, fn xtl, fos-ool, chky, p-f int ool por, dk sptd stn on few pcs, VSSFO, no odor, no fluor

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

Ls crm, vfn xtl, dnse

Sh gry-dk gry

Ls crm, vfn xtl, dnse

Ls crm-lt gry, fn xtl, fos, sli chky, p-f int xtl-pp por, sptd dk stn, SSFO, no odor, dull fluor

Sh gry

Ls crm, fn xtl, fos, chky, p-f int xtl-pp por w/occ vug, sptd dk stn, SSFO, sli odor, dull fluor

Ls crm-tan, fn xtl, chky, dnse

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

Ls crm-lt gry, fn xtl, fos-sub ool, chky, p-f int xtl & int frag por, sptd dk stn on a few pcs, VSSFO, no odor, no fluor

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

Ls crm-lt gry, vfn xtl, dnse

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

Ls crm, vfn xtl, chty, dnse

-CFS

-CFS

-CFS

-CFS

DST#1

DST#2

'A'

'B'

'C'

'D'

'E'

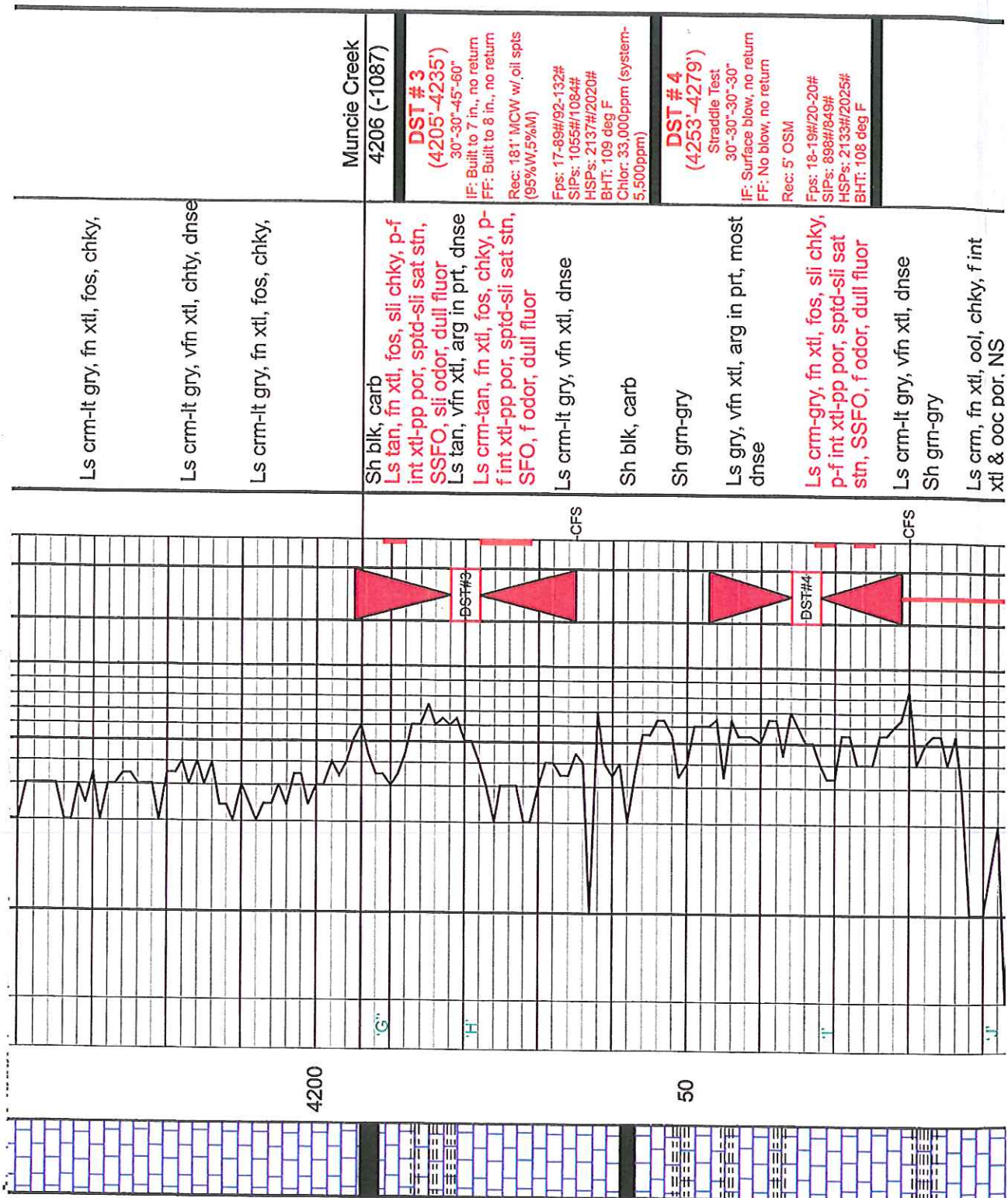
'F'

'G'

50

4100

50



**Muncie Creek
4206 (-1087)**

**DST # 3
(4205'-4235')**
 30"-30"-45"-60"
 IF: Built to 7 in., no return
 FF: Built to 8 in., no return
 Rec: 181' MCW w/ oil sps
 (95%W,5%M)
 F ps: 17-89#/92-132#
 SIPs: 1055#/1084#
 HSPs: 2137#/2020#
 BHT: 109 deg F
 Chlor: 33,000ppm (system-
 5,500ppm)

**DST # 4
(4253'-4279')**
 Saddle Test
 30"-30"-30"-30"
 IF: Surface blow, no return
 FF: No blow, no return
 Rec: 5' OSM
 F ps: 18-19#/20-20#
 SIPs: 898#/848#
 HSPs: 2133#/2025#
 BHT: 108 deg F

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

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

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

Sh blk, carb
 Ls tan, fn xtl, fos, sli chky, p-f
 int xtl-pp por, sptd-sli sat str,
 SSFO, sli odor, dull fluor
 Ls tan, vfn xtl, arg in prt, dnse
 Ls crm-tan, fn xtl, fos, chky, p-
 f int xtl-pp por, sptd-sli sat str,
 SFO, f odor, dull fluor

Ls crm-lt gry, vfn xtl, dnse

Sh blk, carb

Sh grn-gry

Ls gry, vfn xtl, arg in prt, most
 dnse

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

Ls crm-lt gry, vfn xtl, dnse

Sh grn-gry

Ls crm, fn xtl, ool, chky, f int
 xtl & ooc por. NS

4200

50

G

H

I

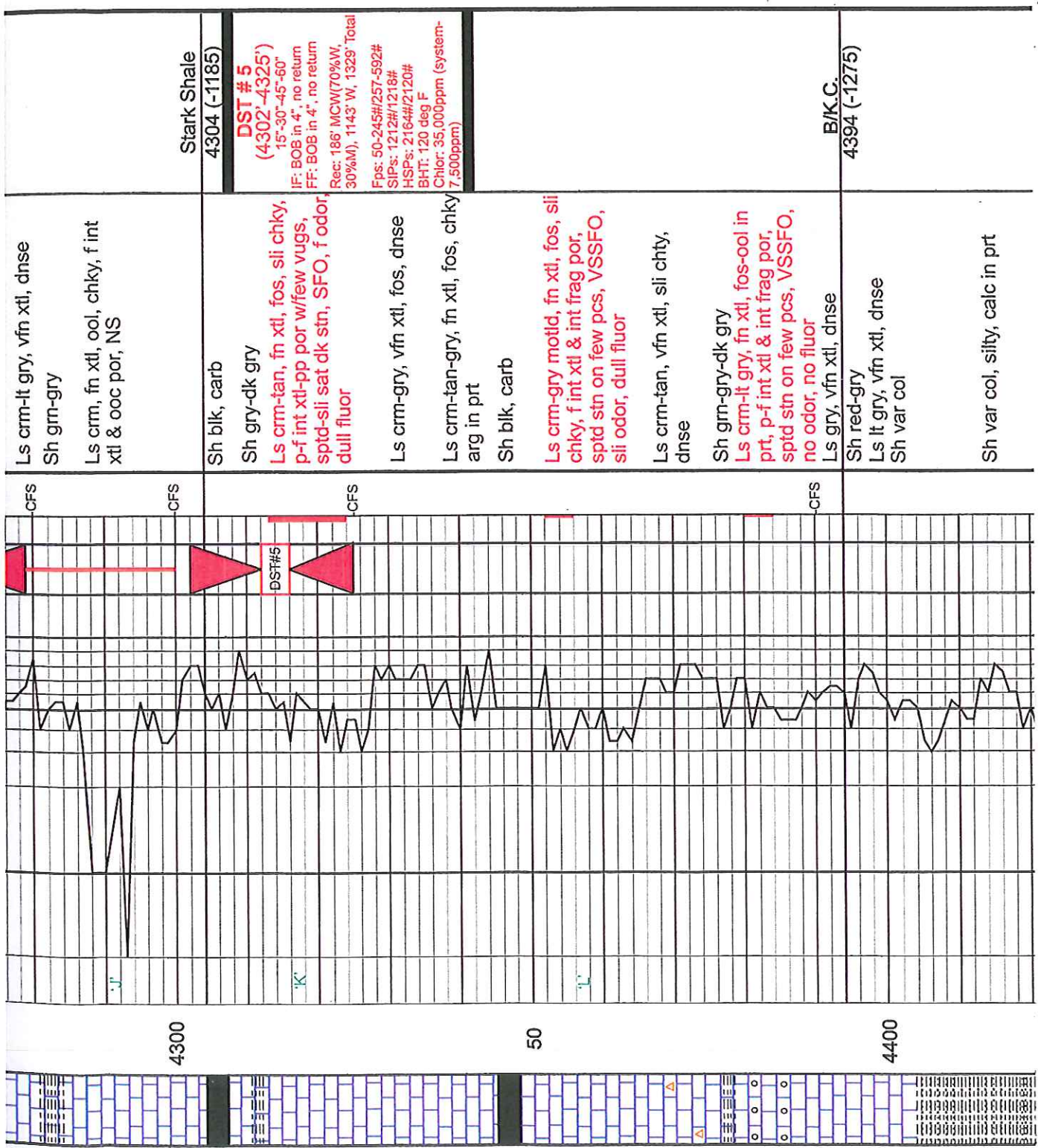
J

-CFS

CFS

DST#3

DST#4



Stark Shale
4304 (-1185)

DST # 5
(4302'-4325')
15'-30" -45" -60"
IF: BOB in 4" . no return
FF: BOB in 4" . no return
Rec: 186' MCW(70%W, 30%AM), 1143' W, 1329' Total
Fps: 50-245#/257-592#
SIPs: 1212#/1218#
HSPs: 2164#/2120#
BHT: 120 deg F
Chlor: 35,000ppm (system-7,500ppm)

B/K.C.
4394 (-1275)

Ls crm-lt gry, vfn xtl, dnse
Sh grn-gry
Ls crm, fn xtl, ool, chky, f int
xtl & ooc por, NS

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

Ls crm-gry, vfn xtl, fos, dnse
Ls crm-tan-gry, fn xtl, fos, chky
arg in prt
Sh blk, carb

Ls crm-gry motid, fn xtl, fos, sli
chky, f int xtl & int frag por,
sptd stn on few pcs, VSSFO,
sli odor, dull fluor

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

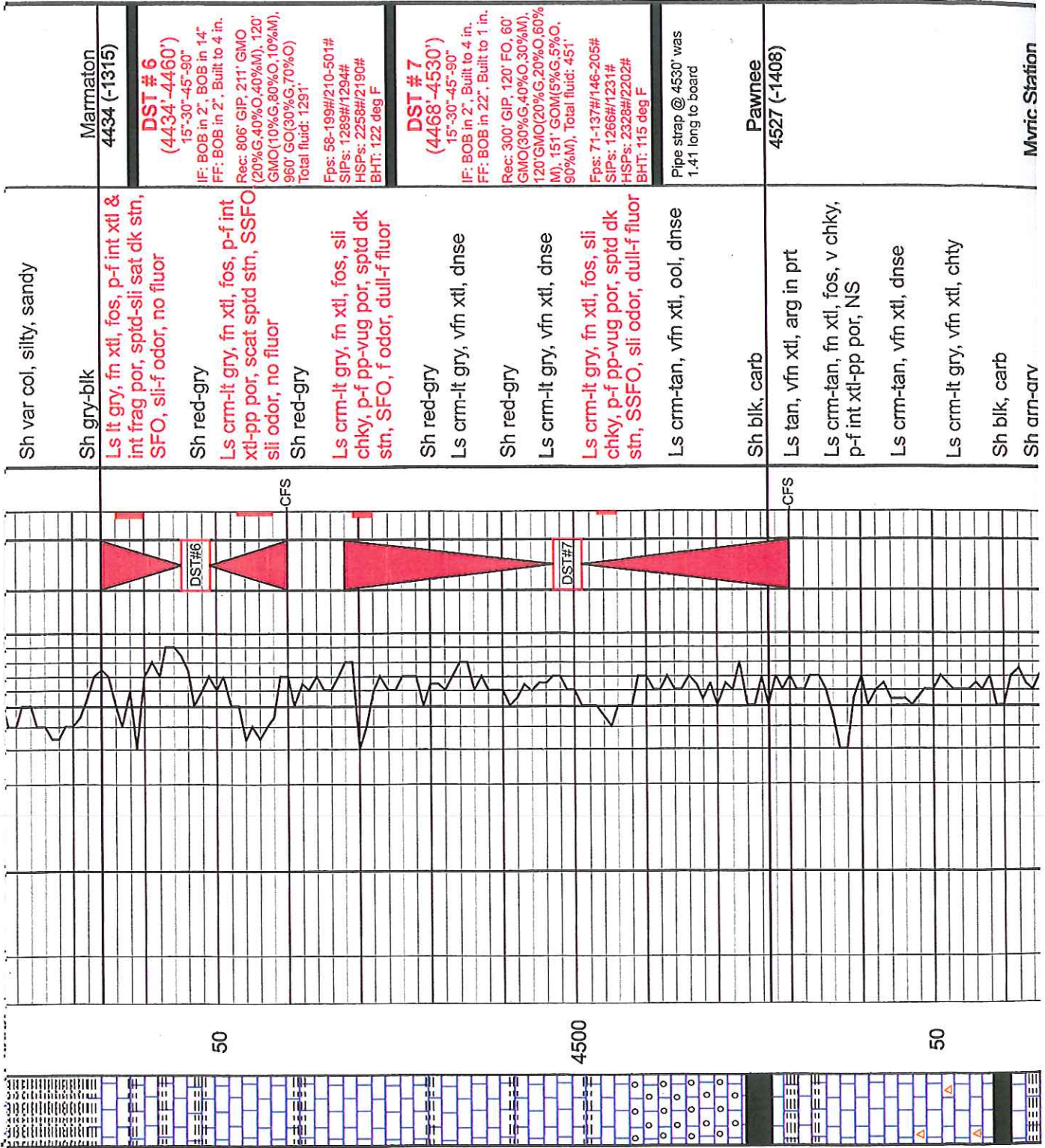
Ls gry, vfn xtl, dnse
Sh red-gry
Ls lt gry, vfn xtl, dnse
Sh var col

Sh var col, silty, calc in prt

4300

50

4400



Marmaton
4434 (-1315)

DST # 6
(4434'-4460')
15'-30"-45'-90"
IF: BOB in 2", BOB in 14"
FF: BOB in 2", Built to 4 in.
Rec: 806' GIP, 211' GMO
(20%G,40%O,40%M), 120'
GMO(10%G,80%O,10%M),
960' GO(30%G,70%O)
Total fluid: 1291'

Fps: 58-199#/210-501#
SIPs: 1289#/1294#
HSPs: 2258#/2190#
BHT: 122 deg F

DST # 7
(4468'-4530')
15'-30"-45'-90"
IF: BOB in 2", Built to 4 in.
FF: BOB in 22", Built to 1 in.
Rec: 300' GIP, 120' FO, 60'
GMO(30%G,40%O,30%M),
120'GMO(20%G,20%O,60%
M), 151' GOM(5%G,5%O,
90%M), Total fluid: 451'

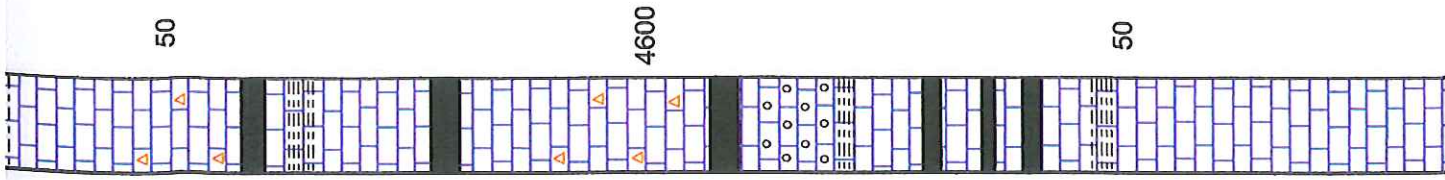
Fps: 71-137#/146-205#
SIPs: 1266#/1231#
HSPs: 2328#/2202#
BHT: 115 deg F

Pipe strap @ 4530' was
1.41 long to board

Pawnee
4527 (-1408)

Mvric Station

<p>Ls crm-tan, fn xtl, fos, v chky, p-f int xtl-pp por, NS</p> <p>Ls crm-tan, vfn xtl, dnse</p> <p>Ls crm-lt gry, vfn xtl, chty</p> <p>Sh blk, carb</p> <p>Sh grn-gry</p>	<p>Myric Station 4566 (-1447)</p>
<p>Ls crm-tan-gry, vfn xtl, sli fos, sli chky, dnse</p> <p>Sh blk, carb</p> <p>Ls crm-tan, vfn xtl, fos, dnse</p> <p>Ls gry-brn, mic xtl, sli chty, dnse</p> <p>Ls crm-gry, vfn xtl, chty, dnse</p>	<p>Fort Scott 4581 (-1462)</p>
<p>Sh blk, carb</p> <p>Ls crm-tan-gry motld, fn xtl, ool, chky, f int ool por, NS</p> <p>Sh grn-gry</p> <p>Ls crm-lt gry, vfn xtl, dnse</p> <p>Sh blk</p> <p>Ls tan-gry, w/int bed blk Sh</p> <p>Sh blk</p> <p>Ls crm-lt gry, vfn xtl, dnse</p> <p>Sh gry-dk gry</p>	<p>Cherokee Shale 4607 (-1488)</p>
<p>Ls crm-it gry, fn xtl, fos, p pp-vug por, sptd stn on few pcs, VSSFO, v sli odor, dull fluor</p> <p>Ls tan-gry, vfn xtl, fos, dnse</p> <p>Ls crm-tan, fn xtl, fos, sli chky, p-f int xtl-pp por, sptd-sat stn, SFO, v sli odor, dull fluor</p> <p>Ls crm-tan-gry, fn xtl, sli fos, sli chky, p int xtl-pp por, sptd-sli sat stn, VSSFO, v sli odor, dull</p>	<p>Johnson Zone 4649 (-1530)</p>

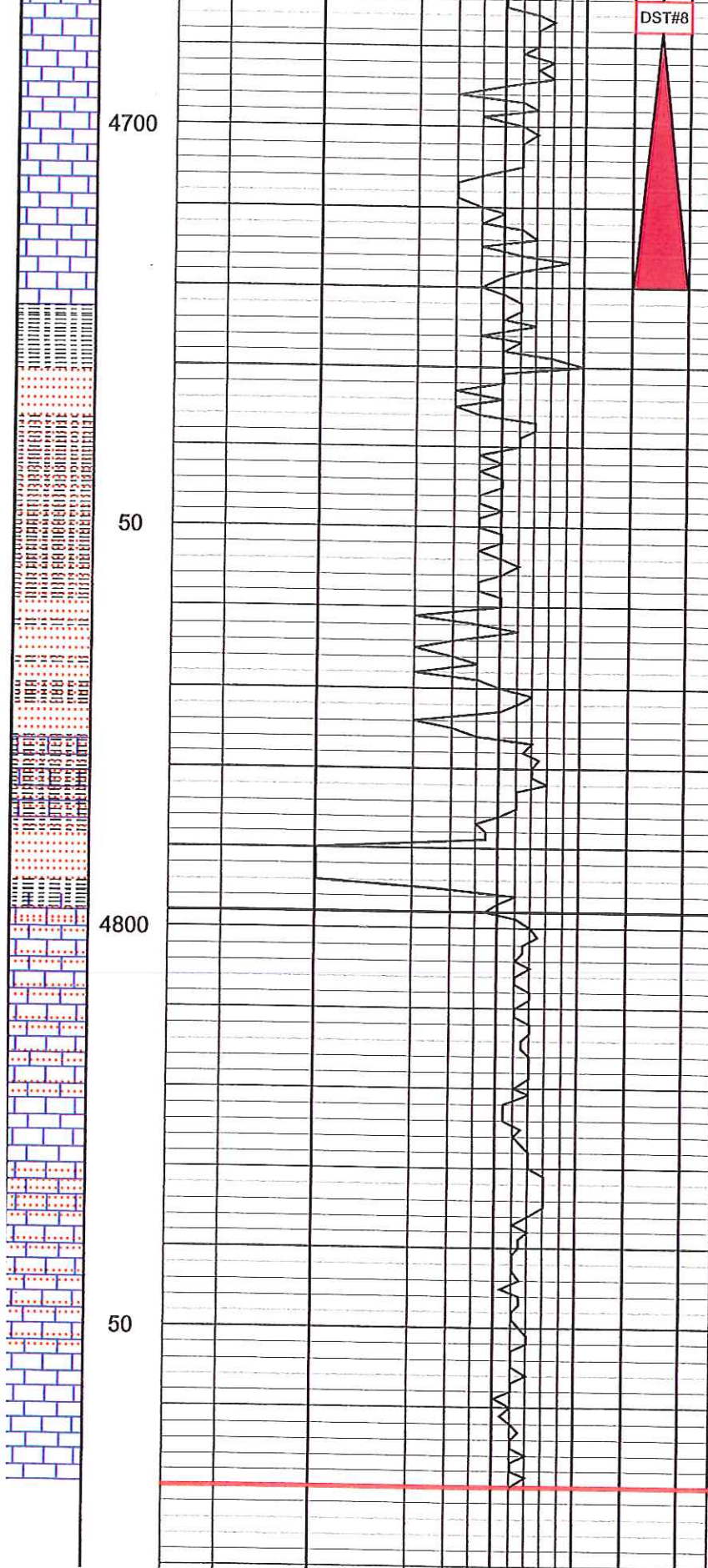


50

4600

50

DST # 8
(4651'-4720')
30°-30°-45°-90°
IF: BOB in 28', no return
FF: BOB in 35', no return
Rec: 120' OSM, 180' MW



fluor
 Ls gry, mic xtl, dnse
 Ls crm-tan, fn xtl, sli chky, p-f int xtl-pp por, sat stn on few pcs, SSFO, f odor, dull-f fluor
 Ls crm-tan-gry, fn xtl, sli chky, p-f int xtl-pp por, sptd-sat stn, SFO, f odor, dull-f fluor

(50%Vv,50%M), 151' MW (70%W,30%M), Total: 151'
 Fps: 34-134#/137-212#
 SIPs: 1208#/1219#
 HSPs: 2409#/2338#
 BHT: 122 deg F

Sh red-grn-gry
 SS clear-wh, fn grn, well sort, well cement, tite, NS
 SS tan-gry, fn-med grn, tite, w/ gry-dk gry Sh
 SS gry, fn-med grn, tite, w/gry-dk gry Sh
 SS clear-lt gry, fn-coarse grn, well cement, w/int bed gry Sh
 Sh var col, silty, sandy, calc in prt, dnse
 SS clear-wh milky, fn grn, friable, NS
 Sh var col, silty

Mississippian
 4798 (-1679)

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

Total Depth
 4870' (-1751)