



Musgrove

Petroleum Geology
212 Main Street, Claflin KS

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY US Oil Resources, LLC.
 LEASE Beougher 13A-36-1329
 FIELD Hoffsmith East
 LOCATION NW-NE-SW-SW ('FSL&FEL)
 SEC 36 TWSP 13S RGE 29W
 COUNTY Gove STATE Kansas

ELEVATIONS

KB 2787'
 DF _____
 GL 2779'
 Measurements Are All
 From KB

CONTRACTOR Duke Drilling, Inc. (Rig # 2)
 SPUD 04/23 /2019 COMP 05/04/2019
 RTD 4670' LTD 4670'
 MUD UP 3400' TYPE MUD Chemical

CASING

SURFACE 8 5/8"@ 264'
 PRODUCTION 5 1/2"@ 4669'

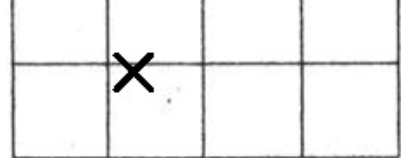
ELECTRICAL SURVEYS

By ELI;
 CDL/CNL, Sonic, MEL, DIL

SAMPLES SAVED FROM 3500' TO RTD
 DRILLING TIME KEPT FROM 3500' TO RTD
 SAMPLES EXAMINED FROM 3500' TO RTD
 GEOLOGICAL SUPERVISION FROM 3540' TO RTD
 GEOLOGIST ON WELL Wyatt Urban (3500'-4014') & Jim Musgrove (4014-RTD)

FORMATION TOPS	LOG		SAMPLES	
Anhydrite	2244	+543	Ft. Scott	4404 (-1617)
B. Anhydrite	2277	+ 510	Cherokee Sh	4434 (-1647)
Heebner	3881	-1094	Johnson	4777 (-1690)
Toronto	3898	-1110	Conglomerate	4899 (-1702)
Lansing	3914	-1127	Miss. "Spergen"	4514 (-1727)
Stark	4157	-1370	Miss "Warsaw"	4558 (-1771)

BKC	4231	-1444	Miss. "Osage"	4586 (-1799)
Marmaton	4257	-1470	Miss "Gilmore City"	4639 (-1852)
Pawnee	4319	-1532	RTD	4670 (-1883)
Myric Station	4374	-1587	LTD	4670 (-1883)



LEGEND

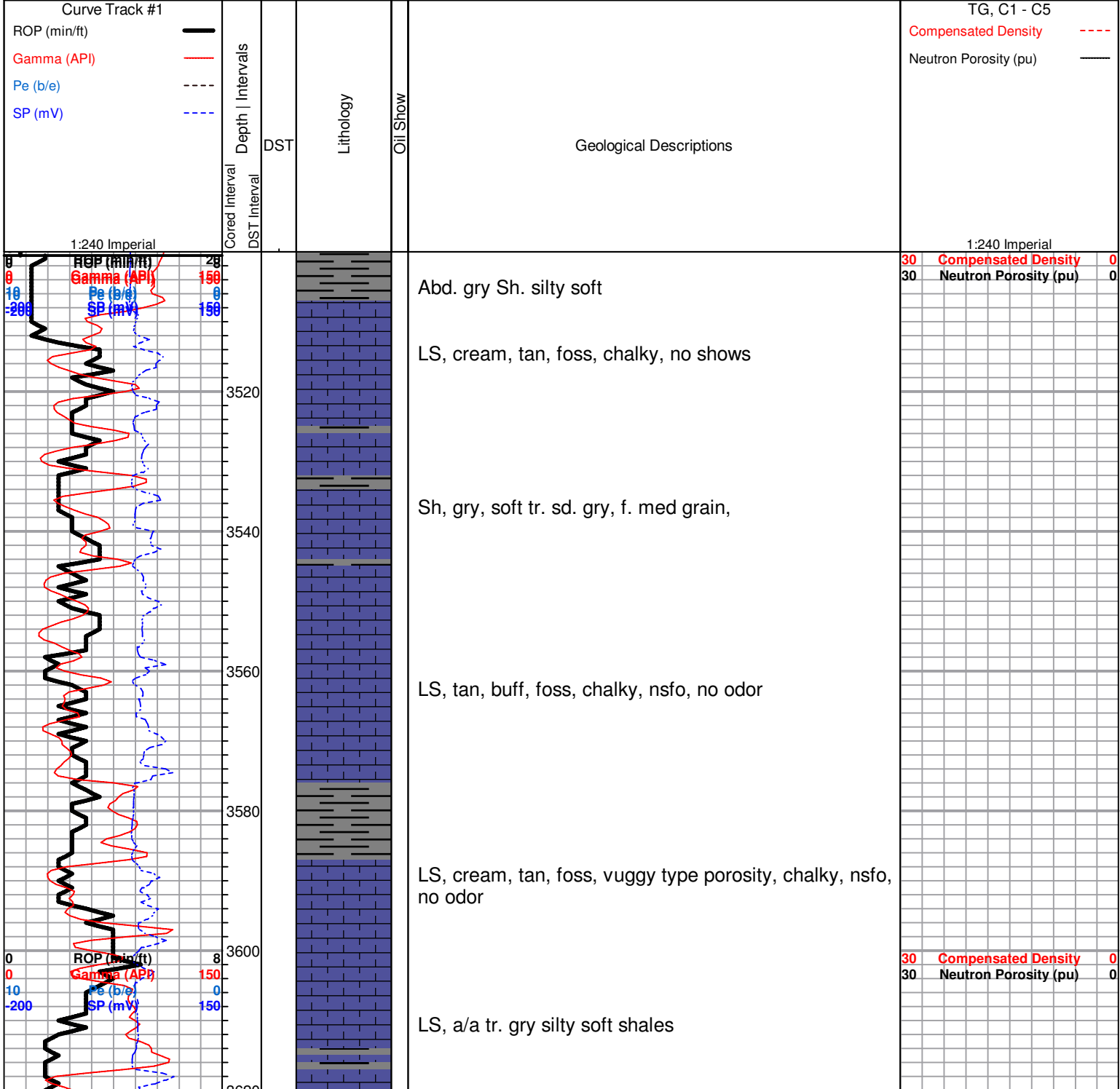
Oil Show

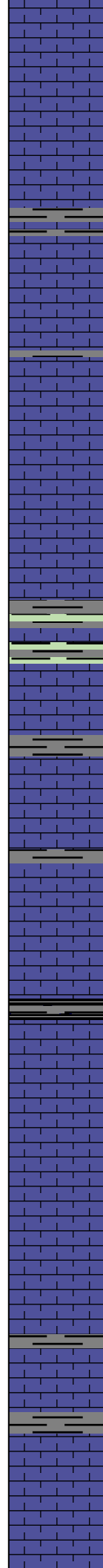
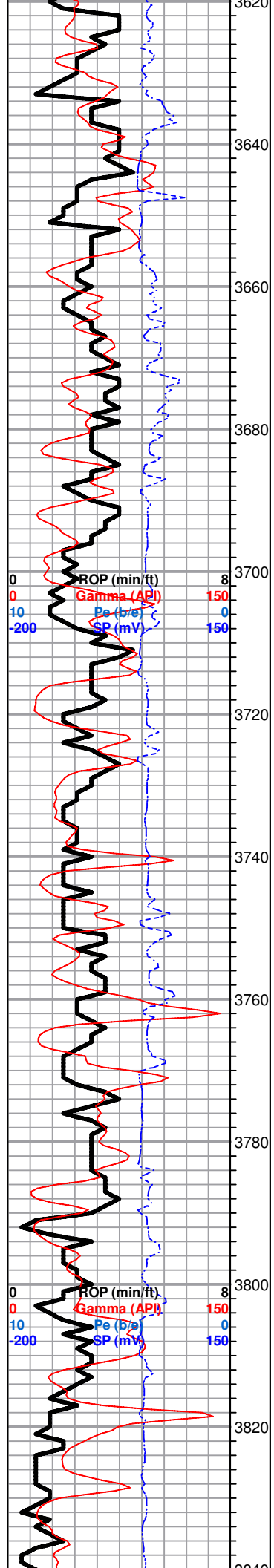
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- Dead Oil Stn
- Fluorescence
- * Gas

DST

- DST Int
- DST alt
- Core
- tail pipe

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LS, foss, oom, fair vuggy - p.p. porosity, chalky, nsfo, no odor

3640

Sh, gry silty soft

3660

LS, tan, foss, oom, good vuggy porosity, chalky, no shows, no odor

3680

LS, tan, buff, poor scatt. p.p. porosity, sl.chalky, no shows, no odor

3700

Sh, gry, greenish, a/a

3720

LS, white, cream, foss, a/a, chalky, no shows, no odor

3740

LS, a/a,

LS, tan, cream, foss, scattered vuggy porosity, chalky, no shows

3760

Tr. gry / dk gry + blk carb shale

LS, brn, foss, ool, poor scattered oom porosity, chalky, no shows, no odor

3780

LS, tan, brn, foss, fair scattered porosity, dk brn stain on few, no sfo, no odor

3800

LS, tan, foss, poor scattered p.p porosity, chalky, nsfo, no odor

3820

LS, tan, dense, ool, poor vis. porosity, chalky, no shows

3840

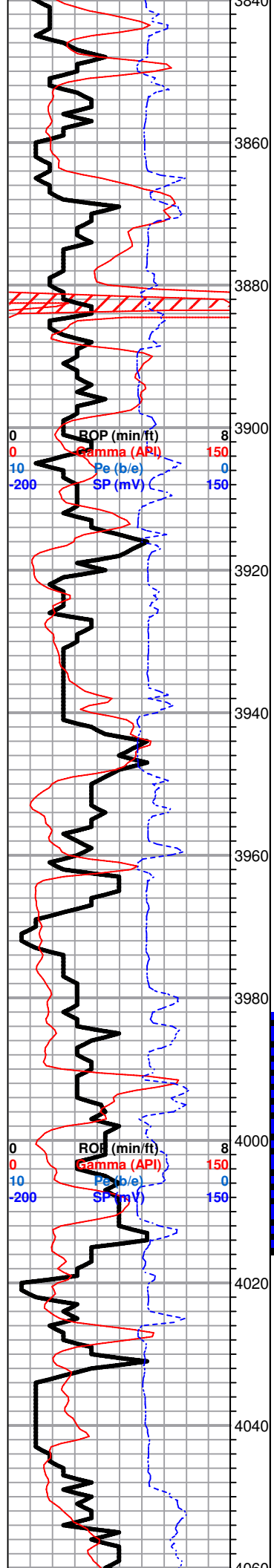
30 Compensated Density 0

30 Neutron Porosity (pu) 0

<----(discoloration??)
shows gas x-over on log

30 Compensated Density 0

30 Neutron Porosity (pu) 0



Tr. gry/ dk gry shale

LS, tan, foss, chalky, no shows, no odor

LS, tan, vuggy foss, scattered vuggy porosity, sl. chalky, +_ tan oom LS, good vuggy porosity, no shows

Heebner 3884.0 (-1097.0)

Sh, black carb

LS, tan, brn fxl, dense, poor vis. porosity

Sh, gry sitly few soft

Toronto 3902.0 (-1115.0)

LS, cream to tan, foss, fair scattered porosity, chalky, tr. brn spty stain, nsfo, no odor

Lansing 3928.0 (-1141.0)

LS, tan, buff, foss, poor - fair vuggy porosity, chalky, no shows

LS, tan, opaque chert

LS, tan, buff foss, fair vuggy type porosity, tr. tan opaque chert. no shows

LS, tan, buff, foss good vuggy porosity chalky, no shows,

LS, tan, buff, foss, fair vuggy type porosity, no shows

LS, tan, foss, gran. / suc. p.p. porosity, sl chalky in pts, tr. gry/ brn stain, spty (v. lt.) sfo, stain/sat., ??odor

LS, tank fxl, few gran. dol., white/ gry, boney chert + white chalk

LS, tan, foss, cherty, abund. sparry calcite cem. poor vis porosity, + white chert, no shows

30 Compensated Density 0

30 Neutron Porosity (pu) 0

DST#1 3982-4014

30-45-30-45

1ST OPEN:

Weak blow

2nd Open:

Flushed; surged

Recovery:

60' mud

Pressures:

ISIP 1031 psi

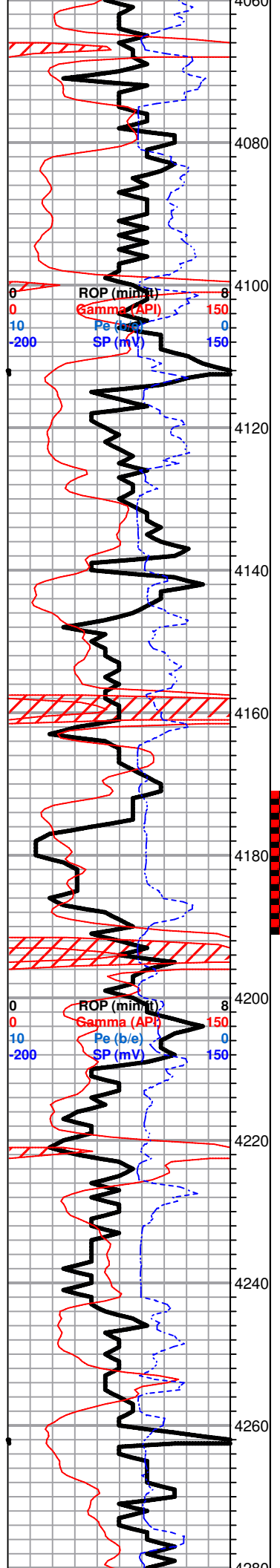
FSIP 995 psi

IFP 36-40 psi

FFP 43-45 psi

HSH 1934-1902 psi

DST#2 4022-4100



Muncie Creek 4071.0 (-1284.0)

Sh, black carb

LS, tan, foss, chalky, poor vis porosity, tr. brn stain, tr. fo, no odor

LS, white, tan, foss, poorly developed. ool, no shows

Tr. LS tan, cherty, (dense)

LS, tan, gry, fxl, scatt. p.p. type porosity, chalky, gry/blk stain, nsfo, no odor

Sh, gry, limey

Stark 4161.0 (-1314.0)

Sh, black carb

LS, tan, white, fxl, ool/ foss, slightly chlky, fr-fine vuggy porosity, brn - golden brn stain, sfo, ft. / fair odor

Tr. black carb Sh

LS, white, crm, fxl, ool, chalky, poor vis. porosity, no shows

Sh, black carb

BKC 4233.0 (-1446.0)

Sh, gry gryish- green soft silty

LS, gry/ white, tan, chalky, few cherty (dense)

Marmaton 4261.0 (-1474.0)

LS, cream, white, fxl, chalky, tr. brn stain, nsfo, no odor

DST#2 4066-4138

30-45-45-60

1st Open:

Weak Open

Rec. 20' Oil Specked Mud

Pressures:

ISIP 86 psi
 FSIP 73 psi
 IFP 20-22 psi
 FFP 21-23 psi
 HSH 2009-1954 psi

DST#3 4171-4190

30-45-45-60

1st Open:

Blow fair

2nd Open:

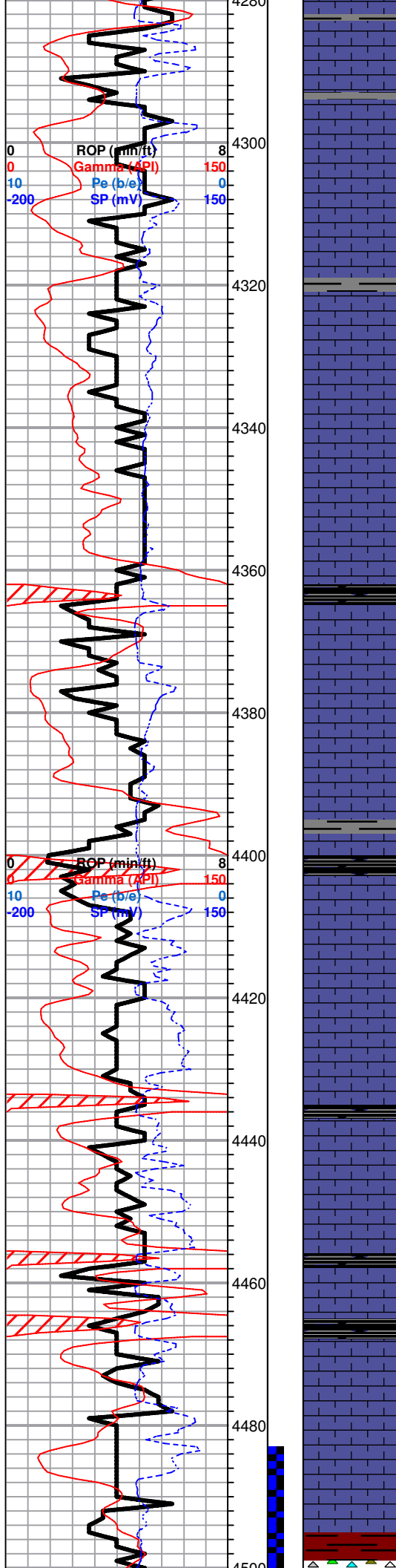
fair blow

Recovery:

1' clean oil
 100' muddy water

Pressures:

ISIP 1158 psi
 FSIP 1134 psi
 IFP 20-36 psi
 FFP 41-61 psi
 HSH 2096-2021 psi



LS, cream, white, gry, honey comb coral , chalky, poor vis. porosity, no shows , no odor

LS, tan, gry, fxl, few gran, chalky, + loose pyrite

Pawnee 4322.0 (-1535.0)

LS, tan, gry, gran. in pt, poor vis. por. no shows

LS, gry fxl, shaley, in pt., few cherty, dense

Sh, black carb

Myrick Station 4375.0 (-1588.0)

LS, tan, slightly ool, chalky in pt, poor vis porosity, tr. brn stain, nsfo, no odor, + white ool chert

LS, tan, gry, fxl, dense

Sh, blk carb

Ft. Scott 4407.0 (-1620.0)

LS, tan, highly ool, poor vis porosity, no shows

LS, dense, cherty

LS, tan, ool in pt, chalky, poorly developed, poor brn stain, nsfo ??? odor

Cherokee Sh. 4434.0 (-1647.0)

Sh. black carb

LS, white, gry, cream, foss, chalky, poor vis porosity,

Tr. gry/ dk gry, blk, dk brn shales

LS, white, gry, fxl, gran. chalky

Johnson 4478.0 (-1691.0)

LS, a/a, few foss, poor porosity, no shows

Conglomerate 4491.0 (-1704.0)

Sh, maroon, green, soft shales,

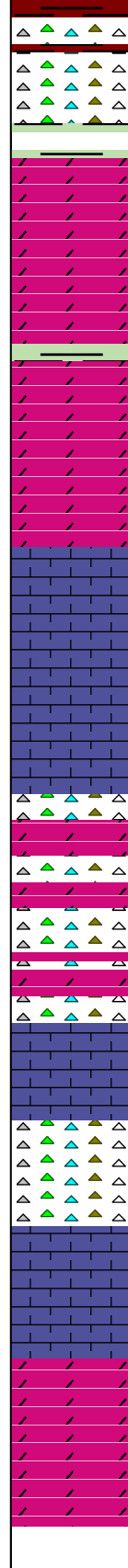
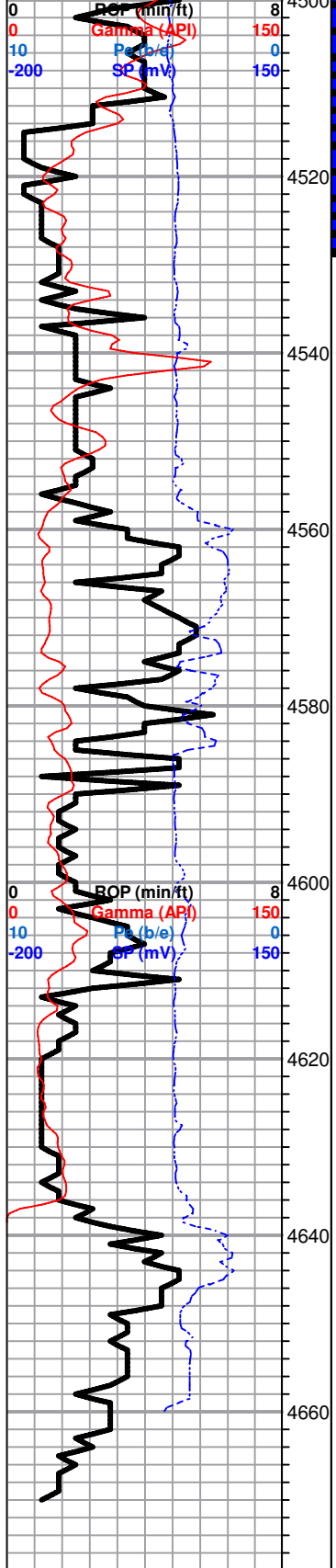
30 Compensated Density 0
 30 Neutron Porosity (pu) 0

30 Compensated Density 0
 30 Neutron Porosity (pu) 0

DST#4 4484-4528
 30-45-60-90

1st Open:
 Strong blow

2nd Open:



Chert, white, boney / yellow, grey

Miss. "Spergen" 4513.0 (-1726.0)

Dol. tan, gry, few suc. foss, fr-good vuggy type por., good dk brn - golden brn stan/sat., sfo, ft/fair odor

Dol. a/a, dec. in stain, tr. fo, + white chalk

Dol, tan, white/cream, fxl, cherty in pt, + white chalk

Tr. sh, white, gry, maroon, + green / cal; silty shale

Miss. "Warsaw" 4561.0 (-1774.0)

LS, gry, white, foss, f- med xln, chalky, poor vis porosity, no shows, a/a

Miss. "Osage" 4587.0 (-1800.0)

Chert, white/ gry, foss, boney, tran, + white, cream dolomite

Clear white, trans chert + white, gry gran. suc. dolomite

LS, tan, foss, glauc, dolomitic

Chert, clear/ white, trans chert + white gry gran. suc. dolomite

Miss. "Gilmore" 4640.0 (-1853.0)

LS, tan, ool, chalky, poor porosity, no shows

Dol. gry trans, suc. + gry/ white, trans chert + Sh, green/ rusty brn maroon silty shales

RTD 4670.0 (-1883.0)

2nd Open:

Same

Recovery:

180' Clean Gassy Oil

250' Mud cut oil

Pressures:

ISIP 982 psi

FSIP 945 psi

IFP 29-86 psi

FFP 91-180 psi

HSH 2223-2147 psi

30	Compensated Density	0
30	Neutron Porosity (pu)	0