



**GEOLOGICAL
REPORT
AND
DRILLING TIME
SAMPLE LOG**

OPERATOR McCoy Petroleum Corporation

LEASE Richardson Trust 'A' WELL # 1-15

FIELD Wildcat

LOCATION 2310' FNL & 2010' FWL

SECTION 15 TOWNSHIP 27S RANGE 29W

COUNTY Gray STATE KS

API # 15 - 069 - 20414

CONTRACTOR Sterling Drilling Co. RIG NO. 5

COMMENCED DRILLING November 16, 2012

COMPLETED DRILLING November 26, 2012

RTD 5,150 FEET LTD 5,151 FEET

MUD UP AT 3,100 FEET MUD TYPE Chemical

SAMPLES SAVED FROM 3,060 TO 5,150

DRILLING TIME KEPT FROM 2,500 TO 5,150

SAMPLES EXAMINED FROM 3,060 TO 5,150

GEOLOGICAL SUPERVISION FROM 3,060 TO 5,150

GEOLOGIST ON WELL Evan Stone

DRILL STEM TESTING BY Trilobite Testing, Inc.

GAS DETECTOR TookeDAQ System

ELEVATIONS

K.B. 2754 FEET

G.L. 2741 FEET

ALL MEASUREMENTS
FROM K.B.

CASING

Surface: 8-5/8" @ 1837'

Production: 4-1/2" @ 5149'

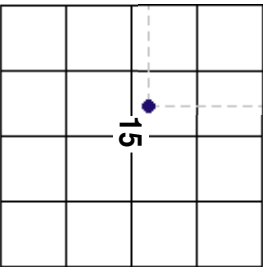
ELECTRICAL SURVEYS

Weatherford Wireline

Neutron-Density

Dual Induction

Microlog



ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal

- Congl
- Dol
- Gyp
- Igne
- Lmst
- Chtlm

- Sandy
- Shly
- Meta
- Mrst
- Salt
- Shale

- Carb shale
- Red shale
- Brn shale
- Grn shale
- Shcol
- Shgy

- Sltst
- Ss
- Till

ACCESSORIES

- MINERAL**
- Anhy
 - Arggrn
 - Arg
 - Bent
 - Bit
 - Brecfrag
 - Calc
 - Carb
 - Chtdk
 - Chtlt
 - Dol

- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr

- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

- STRINGER**
- Anhy
 - Arg
 - Bent
 - Coal

- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

- TEXTURE**
- Boundst
 - Chalky
 - Cryxln
 - Earthy

- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

OIL/GAS SHOW

-  Gas show
-  Good

-  Fair
-  Poor
-  Dead

- Fair
- Poor
- Dead

INTERVAL

-  Porosity
-  Dst

Richardson Trust 'A' 1-15
ROP (Min/Ft) 

TOTAL GAS
TG (Units) 

DEPTH

LITHOLOGY

OIL SHOWS

SAMPLE DESCRIPTIONS

REMARKS

0 ROP (Min/Ft) 5

0 TG (Units) 100

McCoy Petroleum Corporation
Richardson Trust 'A' #1-15
2310' FNL & 2010' FWL
Sec. 15 - T27S - R29W
Gray County, KS

Sterling Rig #5
Elevation 2754' KB

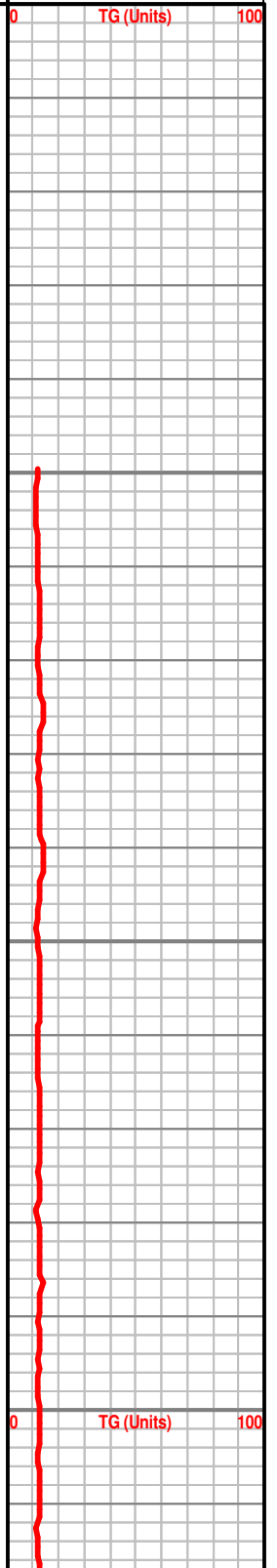
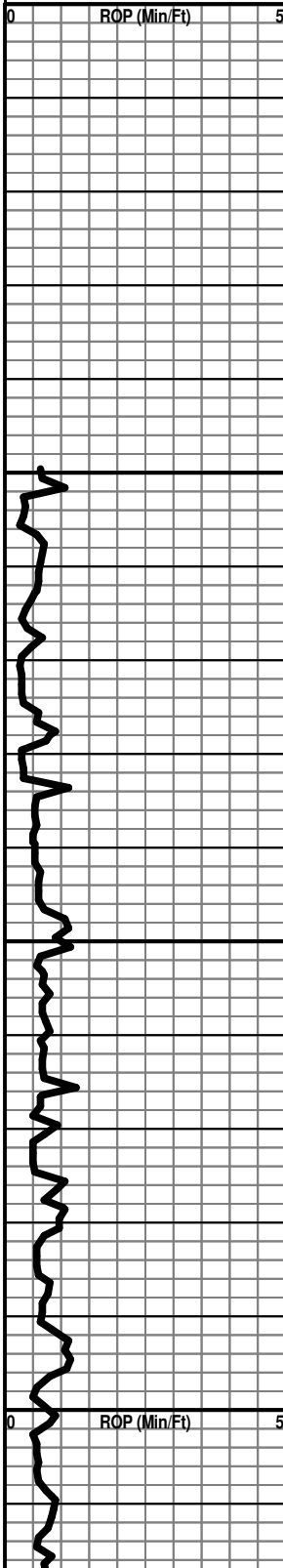
2500

2550

2600

0 ROP (Min/Ft) 5

0 TG (Units) 100



2650

HERINGTON

2670' (+84)

KRIDER

2691' (+63)

2700

WINFIELD

2736' (+18)

2750

Mud-Co Mud Ck
@ 2788'
10:40 AM
11/19/2012
WT: 9.6 VIS: 31
PV: -- YP: --
CHL: 91,000 LCM: 1#

TOWANDA

2794' (-40)

2800

ROP (Min/Ft)

TG (Units)

ET PILEV

FT. RILEY

2840' (-86)

2850

FLORENCE

2900

2898' (-144)

WREFORD

2950

2931' (-177)

COUNCIL GROVE

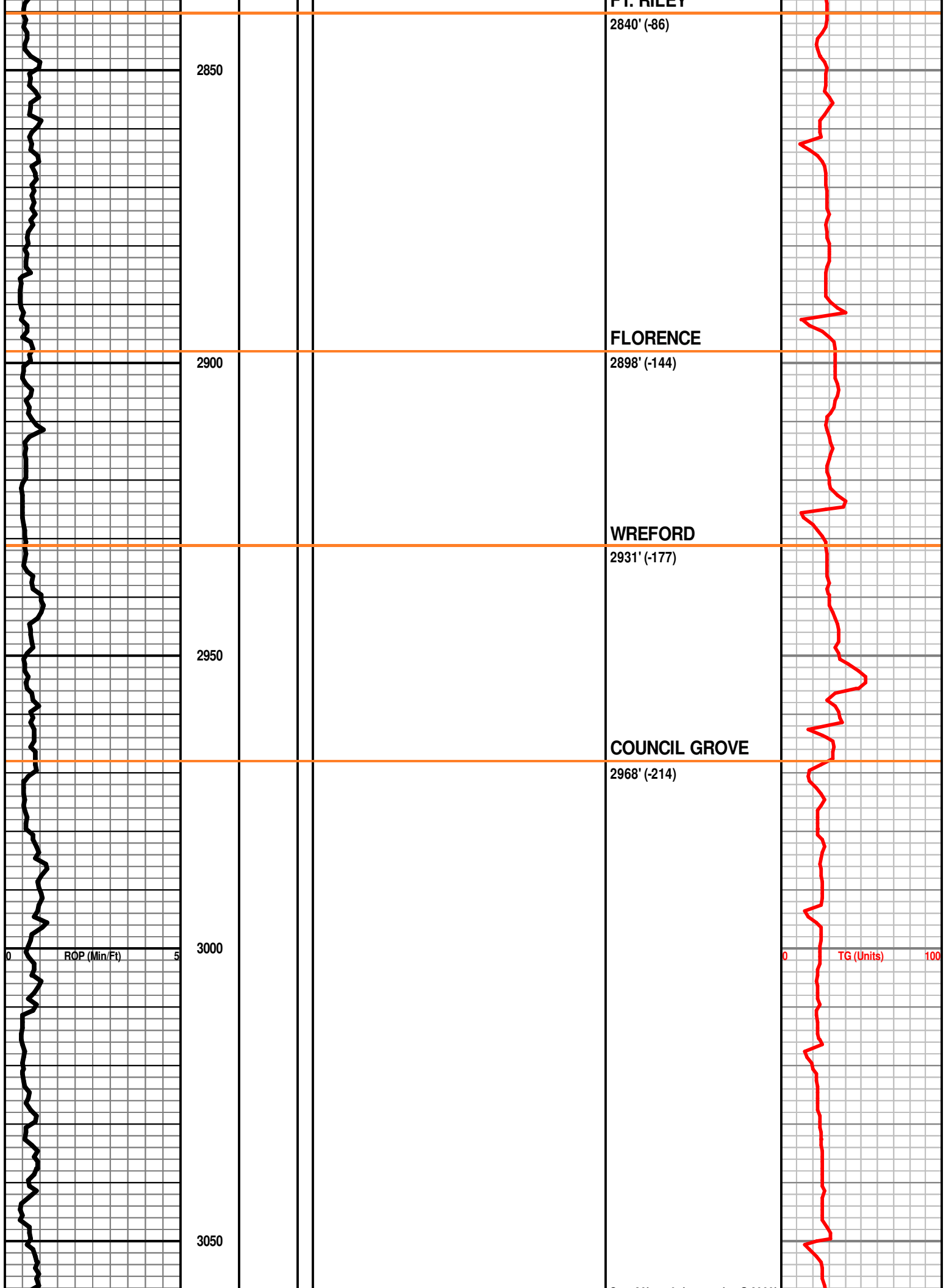
3000

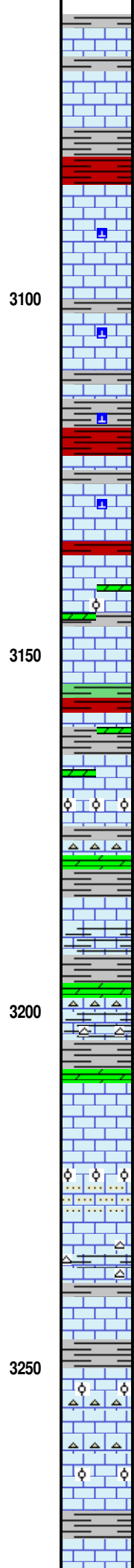
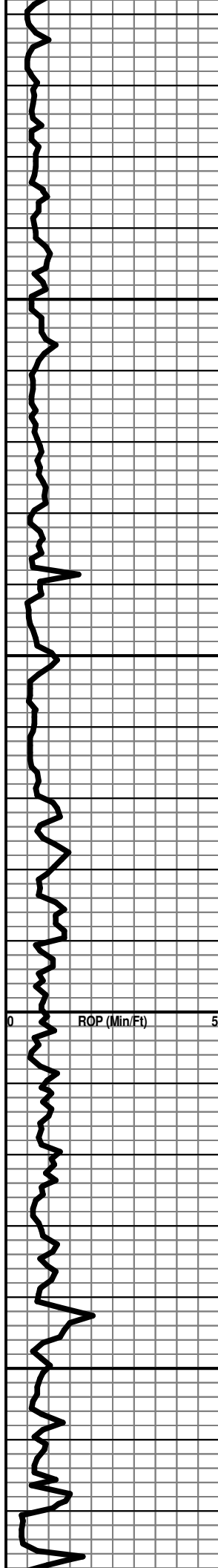
2968' (-214)

3050

ROP (Min/Ft)

TG (Units)





Very fine mix of red shale and white-gray fxln limestone, no vis porosity

3100

Very fine mix of red-gray shale and white- gray limestone, trc calcite, no vis porosity

Very fine mix of red-gray shale and white- gray limestone, trc calcite, no vis porosity

3150

Limestone: white-tan-gray, fxln, mottled, oolitic in part w/ poor oolitic porosity, scattered tan-gray dolomite and red-green shale, no shows

Limestone: tan-white-gray, fxln, mottled, oolitic, trc black oolites, fossiliferous, no vis porosity, scattered dark gray dolomite and tan-gray fxln dolomitic limestone, trc gray chert and red shale

3200

Limestone: off white-tan, vfxln, some mottled, soft, shaly, scattered gray chert and tan-gray fxln dolomite, no vis porosity

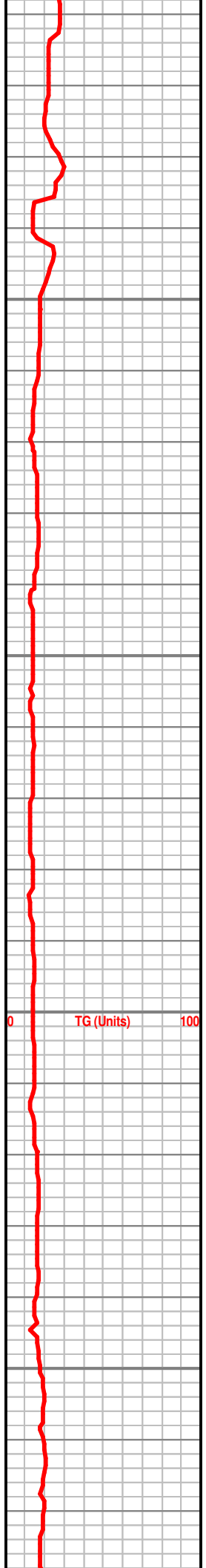
Limestone: off white-tan-gray, vfxln, oolitic w/ poor-fair oolitic porosity, some black oolites, sl fossiliferous, sl chalky

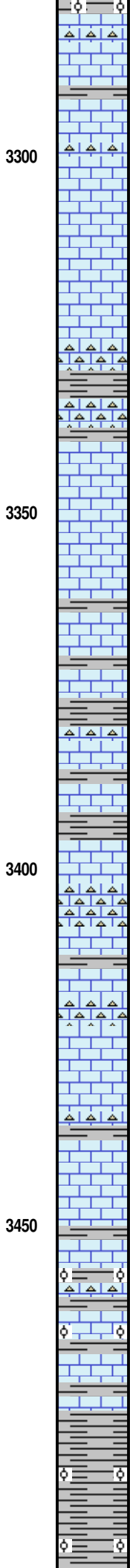
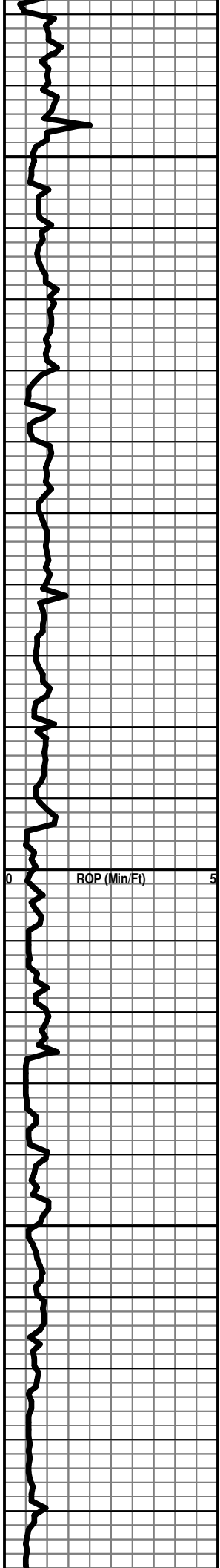
A.A. w/ scattered tan-opaque chert and silty gray shale.

3250

Limestone: white-tan-gray, vf-microxln, oolitic in part, poor vis porosity, chalky, scattered dk gray chert

Limestone: gray-tan-off white, microxln, some oolitic, poor pp porosity, chalky, fossiliferous, scattered dk gray chert





Scattered dk gray chert

3300 Limestone: white-tan, microxln, dense, no vis porosity, sl chalky, scattered white-gray chert,

Limestone: off white-tan, vfxln w/ scattered granular, dense, no vis porosity, sl chalky, scattered gray-tan chert and gray shale

3350 Limestone: white-tan, granular, some mottled, dense, no vis porosity, sl chalky, scattered white-tan-gray chert

Limestone: off white-tan-gray, granular, mottled, no vis porosity, fossiliferous, arenaceous, sl chalky, trc lt gray-opaque chert

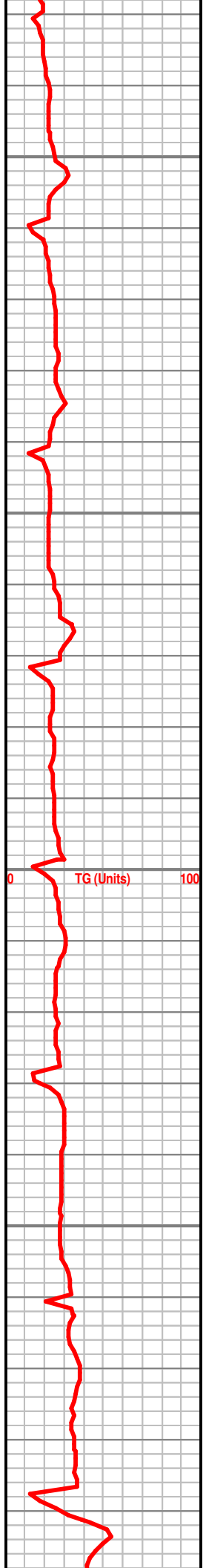
3400 Limestone: gray-dk gray-tan, granular, mottled, no vis porosity, sl fossiliferous, arenaceous, scattered gray-opaque chert

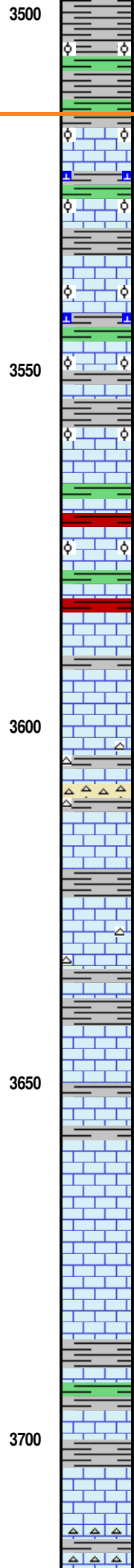
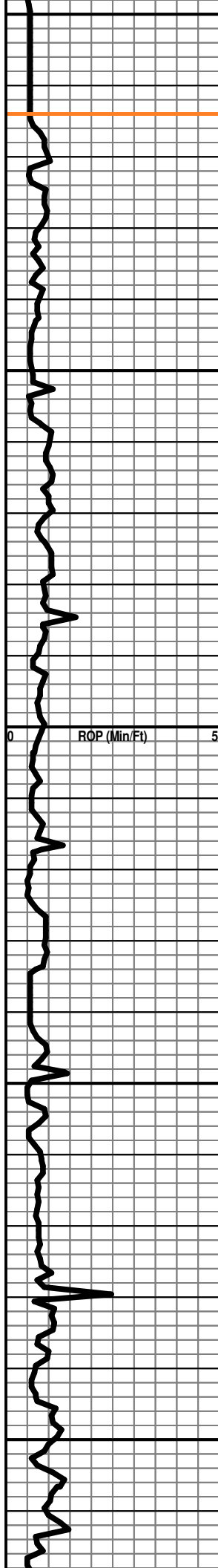
Limestone: dk gray-gray, granular, no vis porosity, v fossiliferous, scattered lt gray chert, trc red shale

3450

A.A. w/ abundant black ooids

Limestone: white-tan, microxln, no vis porosity mixed with Limestone: dk gray, vfxln, oolitic, fossiliferous, poor vis porosity





3500

STOTLER

3514' (-760)

Limestone: tan-white, f-microIn, oolitic, fossiliferous, few pieces with poor oolitic porosity, trc calcite and shale

Same as above w/ no vis porosity and scattered gray-tan chert

3550

Limestone: white-tan-dk gray, microIn-granular, sl fossiliferous, oolitic in part, no vis porosity, scattered off white chert and red-green shale

3600

Limestone: white-tan, micro-vfxIn, sl fossiliferous, poor pp-vuggy porosity, scattered lt brown chert and gray shale

Limestone: off white-tan, mixed granular and vfxIn, no vis porosity, trc lt brown chert

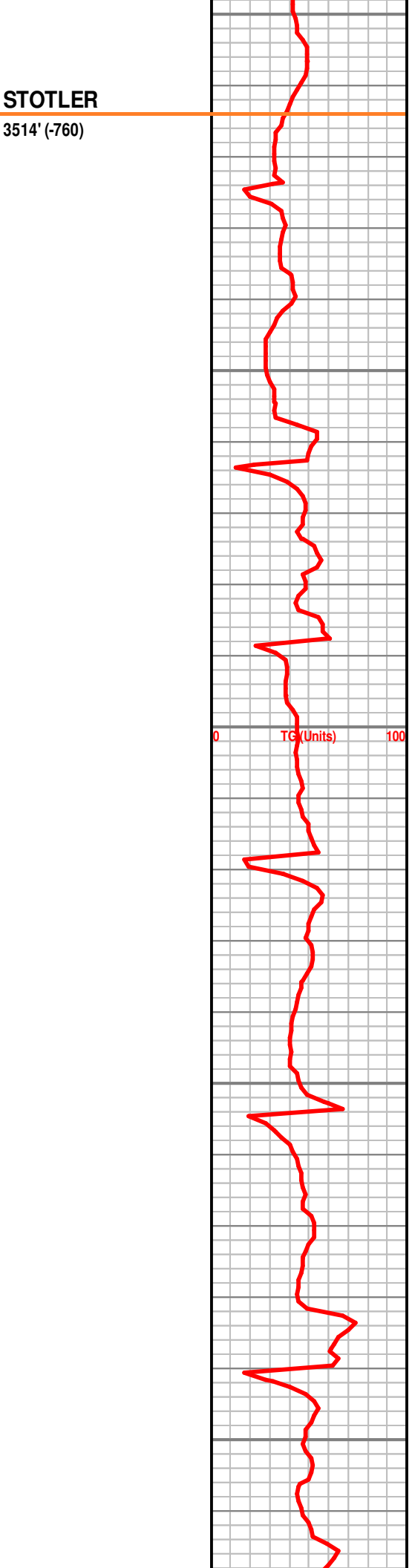
3650

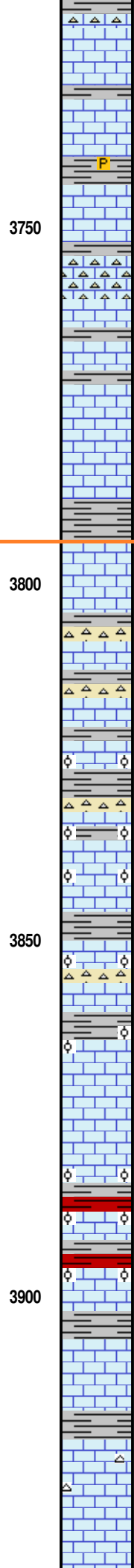
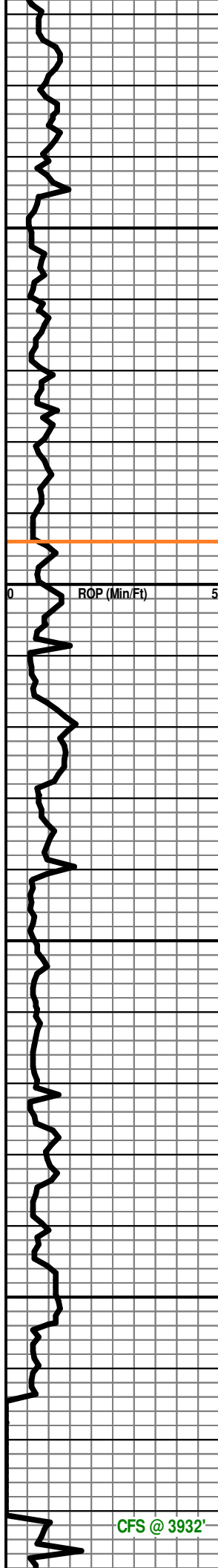
Limestone: tan, vfxIn, dense, no vis porosity, sl fossiliferous, trc gray shale

Limestone: tan-off white-gray, microIn, fossiliferous, dense, no vis porosity, sl chalky, trc gray-green shale

3700

Limestone: lt gray-white-tan, microIn, no vis porosity, sl fossiliferous, trc gray chert





Limestone: tan-off white, microxn, dense, no vis porosity, sl fossiliferous
 Shale: gray-green-red, silty, pyritic

3750

Limestone: tan-lt gray, microxn, poor pp porosity, sl fossiliferous, sl chalky, scattered lt gray-opaque chert

Limestone: white-tan, vf-microxn, scattered poor pp porosity, fossiliferous

TOPEKA

3794' (-1040)

3800

Limestone: white-lt gray, microxn, no vis porosity, fossiliferous, scattered gray chert and shale

Limestone: white-tan-gray, microxn, sl fossiliferous, poor pp porosity, oolitic in part w/ good oolitic porosity, no shows, scattered gray shale and trc tan-gray chert

3850

Limestone: white-tan-gray, microxn, some mottled, sl fossiliferous, poor-fair pp porosity, oolitic in part w/ no vis porosity, no shows, no fluorescence, scattered gray-red shale and trc gray chert

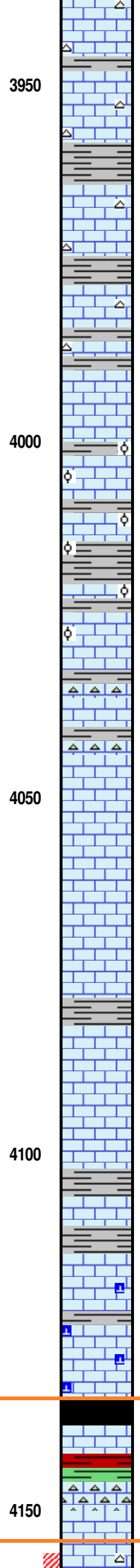
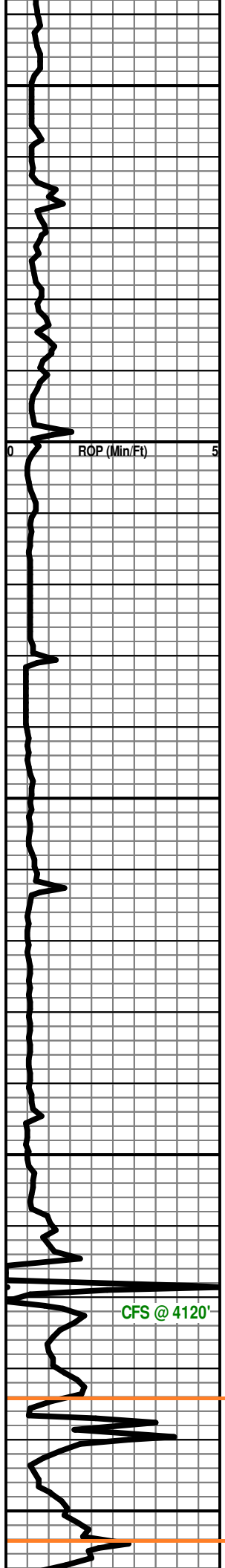
Limestone: white-tan, vfxln, some arenaceous and mottled, fossiliferous, good pp porosity, no shows, no fluorescence, oolitic in part w/ poor vis porosity, trc red-gray shale

3900

Limestone: white, vfxln, mottled-oolitic, fossiliferous-bioclastic, fair pp porosity, scattered gray shale, trc off white chert, no shows



CFS @ 3932'



Limestone: white-tan, fxln, oolitic, fossiliferous-bioclastic, chalky, poor vis porosity in bioclasts and oolites, scattered gray shale, trc tan chert, chalky, no shows

Limestone: white-tan, fxln, mottled, poor oolite development, no vis porosity, fossiliferous, some bioclastic, scattered gray shale and tan chert

Limestone: white-tan, fxln, mottled, poor pp porosity, sub-oolitic, fossiliferous, with Limestone: dk gray, oolitic w/ trc black oolites, no vis porosity, scattered dk gray shale

A.A. w/ dk gray chert

Limestone: white-tan-dk gray, fxln, mottled-granular, some oolitic, sl fossiliferous, no vis porosity, scattered gray chert

Limestone: white-tan-lt gray, f-microxln, granular, some oolitic, no vis porosity, fossiliferous, trc gray-opaque chert and red-green shale

Limestone: white-tan, f-microxln, granular-sucrosic, chalky, oolitic w/ poor-fair oolitic porosity, no shows, scattered brown-gray shale, trc white chert

Limestone: off white-gray, f-microxln, dense, no vis porosity, some granular, chalky, fossiliferous, trc dk gray shale

Shale: black, carbonaceous

Limestone: gray-off white, fxln, fossiliferous, chalky, black carbonaceous shale, trc gray chert and red-green shale

Start 10' wet & dry samples @ 4000'

T_g (Units) 0 100

TookeDAQ System Down

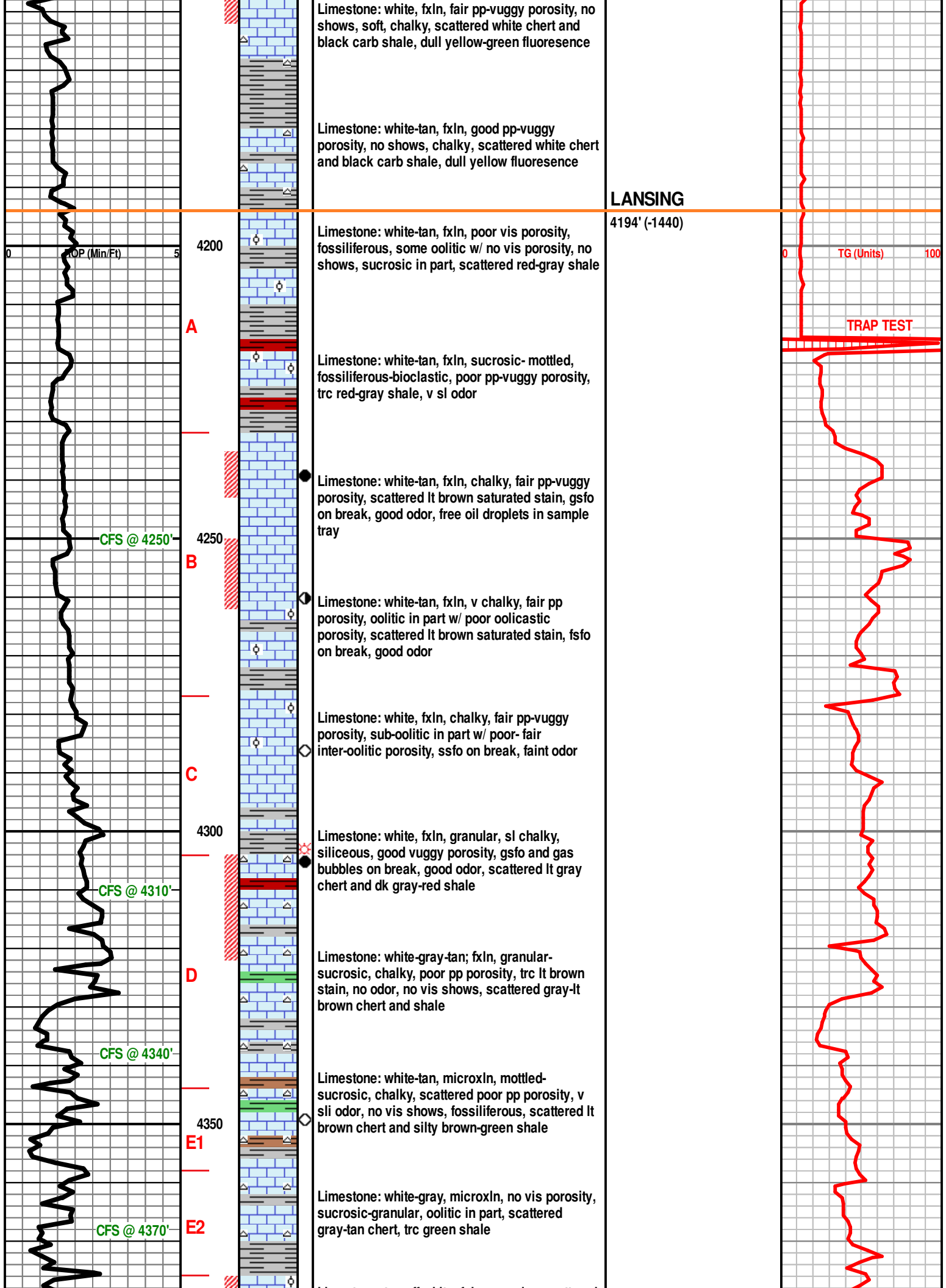
Mud-Co Mud Ck @ 4119' 12:25 PM 11/20/2012 WT: 9.2 VIS: 61 PV: 16 YP: 16 CHL: 5,500 LCM: 2#

HEEBNER

4134' (-1380)

TORONTO

4154' (-1400)



Limestone: white, fxln, fair pp-vuggy porosity, no shows, soft, chalky, scattered white chert and black carb shale, dull yellow-green fluorescence

Limestone: white-tan, fxln, good pp-vuggy porosity, no shows, chalky, scattered white chert and black carb shale, dull yellow fluorescence

LANSING

4194' (-1440)

Limestone: white-tan, fxln, poor vis porosity, fossiliferous, some oolitic w/ no vis porosity, no shows, sucrosic in part, scattered red-gray shale

A

Limestone: white-tan, fxln, sucrosic- mottled, fossiliferous-bioclastic, poor pp-vuggy porosity, trc red-gray shale, v sl odor

Limestone: white-tan, fxln, chalky, fair pp-vuggy porosity, scattered lt brown saturated stain, gsfo on break, good odor, free oil droplets in sample tray

B

Limestone: white-tan, fxln, v chalky, fair pp porosity, oolitic in part w/ poor oolitic porosity, scattered lt brown saturated stain, fsfo on break, good odor

Limestone: white, fxln, chalky, fair pp-vuggy porosity, sub-oolitic in part w/ poor-fair inter-oolitic porosity, ssfo on break, faint odor

C

Limestone: white, fxln, granular, sl chalky, siliceous, good vuggy porosity, gsfo and gas bubbles on break, good odor, scattered lt gray chert and dk gray-red shale

D

Limestone: white-gray-tan; fxln, granular-sucrosic, chalky, poor pp porosity, trc lt brown stain, no odor, no vis shows, scattered gray-lt brown chert and shale

Limestone: white-tan, microxln, mottled-sucrosic, chalky, scattered poor pp porosity, v sli odor, no vis shows, fossiliferous, scattered lt brown chert and silty brown-green shale

E1

Limestone: white-gray, microxln, no vis porosity, sucrosic-granular, oolitic in part, scattered gray-tan chert, trc green shale

E2

TG (Units) 0 100

TRAP TEST

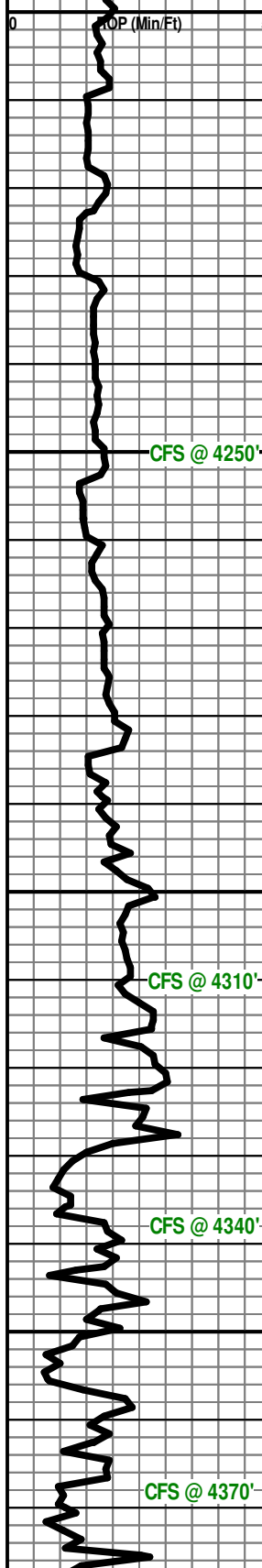
ROP (Min/Ft) 0 5

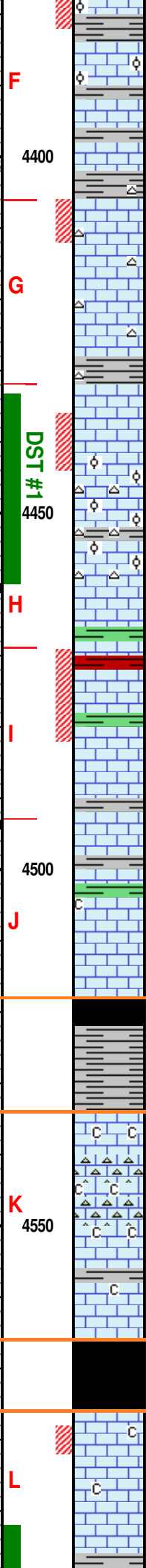
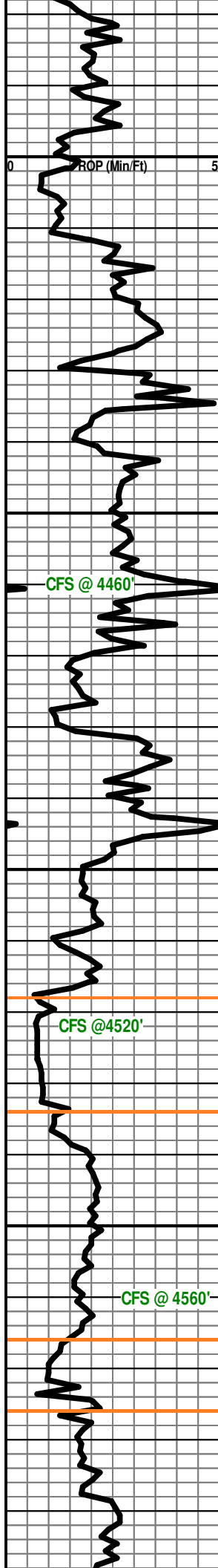
CFS @ 4250'

CFS @ 4310'

CFS @ 4340'

CFS @ 4370'





Limestone: tan-off white, fxl, granular, scattered lt brown oolites, no vis porosity, trc gray-tan chert

Limestone: tan-off white, fxl, chalky, poor vis interln porosity, ssfo on break, scattered spotty lt brown stain, faint odor, trc tan chert and gray silty shale

Limestone: tan-off white, fxl, some oolitic, chalky, poor vis pp-interln porosity, v faint odor, no vis shows, scattered tan chert

Limestone: tan-off white, microxln, some oolitic, chalky, poor vis porosity, no odor or vis shows, scattered tan-gray chert, trc gray shale

Limestone: white-tan, microxln, chalky, v oolitic, good interln/channel porosity, some pieces w/ even brown saturated stain and gsfo w/ strong odor on break

Limestone: white-tan, f-microxln, some oolitic, dense, no vis porosity, fossiliferous, sl chalky, trc green-red shale

Limestone: tan-off white-lt brown, f-microxln, some mxln, no vis porosity, dense, fossiliferous, sl chalky

Limestone: tan-off white, microxln, poor-no vis porosity, scattered fossiliferous, sl chalky, trc gray-green silty shale

Shale: black, carbonaceous

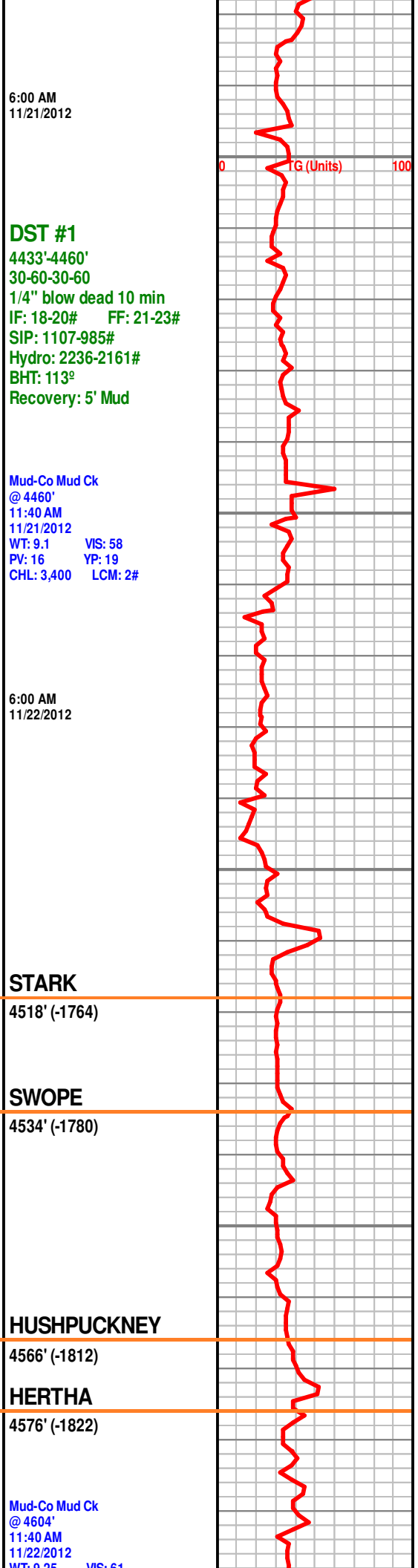
Limestone: lt gray-tan, microxln, brittle, v chalky, some fossiliferous, scattered lt brown stain, poor-no vis porosity, v faint odor, no vis shows

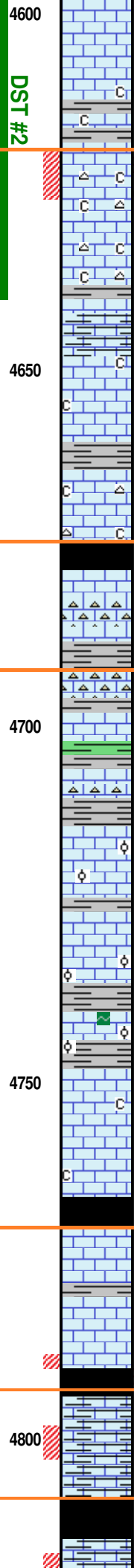
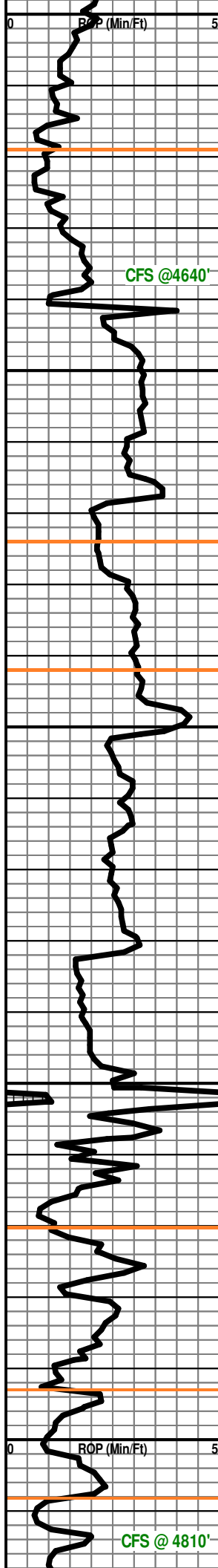
Limestone: lt gray-tan, microxln, poor vis pp-vuggy porosity in a few pieces, less chalky and fossiliferous than above, trc brown stain, v faint odor, no vis shows

Shale: black, carbonaceous

Limestone: off white-lt gray-tan, microxln, sl chalky, scattered vuggy porosity mostly poor pp porosity, scattered lt brown stain, fair odor, trc tan chert

A.A. w/ no vis porosity and faint odor





NOTE GAS CURVE SCALE CHANGE @ 4602'

Limestone: lt gray, f-microIn, dense, chalky, fossiliferous, poor pp porosity, ssfo on break, good odor, spotty lt brown stain

Limestone: lt gray-off white, microIn, chalky, oolitic w/ good oolitic porosity, gsfo on break, strong odor, spotty lt brown sat stain, some fossiliferous-bioclastic, trc black shale and tan-gray chert

Limestone: lt gray-tan, fxIn, no vis porosity, chalky, oolitic in part w/ poor vis moldic porosity, no vis shows, trc dk gray shale

Shale: dk gray-lt gray, blocky-rounded, some platy-fissile

Mix of Shale: as above and Limestone: gray-tan, fxIn, no vis porosity, chalky, trc tan chert

Limestone: tan-lt gray-brown, vfxIn, dense, cherty, no vis porosity, sub-fossiliferous, trc lt gray-green-black shale

Limestone: tan-gray-brown, vfxIn-granular, dense, cherty, no vis porosity, fossiliferous, scattered spotty dk brown-black stain, no vis shows or odor, interbedded red-green- black shale

Limestone: tan-gray, vf-fxIn, dense, no vis porosity, oolitic in part, fossiliferous, some glauconitic, interbedded dk gray-red shale

NOTE GAS CURVE SCALE CHANGE @ 4730'

Limestone: tan-gray, vfxIn-granular, oolitic w/ poor-fair oolitic porosity, no shows, some fossiliferous-bioclastic, some sl glauconitic, interbedded green-gray shale

Limestone: gray-white, microIn-granular, fossiliferous, sl chalky, no vis porosity, scattered oolitic w/ good moldic porosity, no shows, no odor

Shale: black, carbonaceous

Limestone: lt gray-dk gray, fxIn-granular, dense, oolitic w/ trc black inter-oolitic stain, poor-no vis porosity, no shows or odor, trc black-dk gray shale

Shale: black, carbonaceous, platy-blocky, v gassy, slow streaming gas bubbles

Limestone: lt gray-tan, microIn, v fossiliferous, poor pp-vuggy porosity, scattered dk brown stain, strong odor, oolitic w/ fair interoolitic- moldic porosity, sso on break of oolites, black gassy carbonaceous shale

Shale: black, carbonaceous, platy-blocky, trc slow streaming gas bubbles

w1: 9.23 vs: 61
 PV: 22 YP: 22
 CHL: 3,400 LCM: 2#

KCC
 4619' (-1865)

DST #2
 4592'-4640'
 30-60-30-60
 1/4" blow built to 1" dead after 10 min
 IF: 20-23# FF: 21-25#
 SIP: 43-40#
 Hydro: 2369-2237#
 BHT: 116°
 Recovery: 10' Mud

BKC
 4674' (-1920)

MARMATON
 4692' (-1938)
 6:00 AM
 11/23/2012

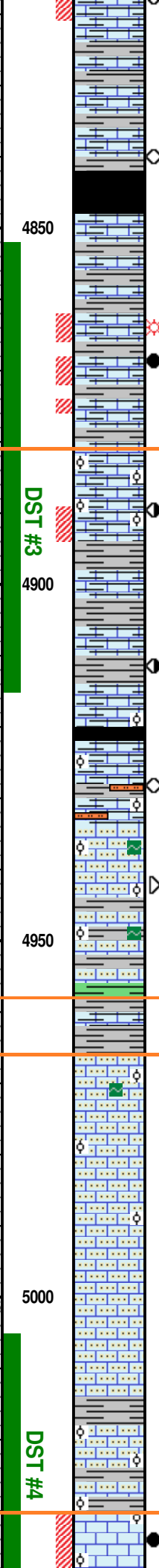
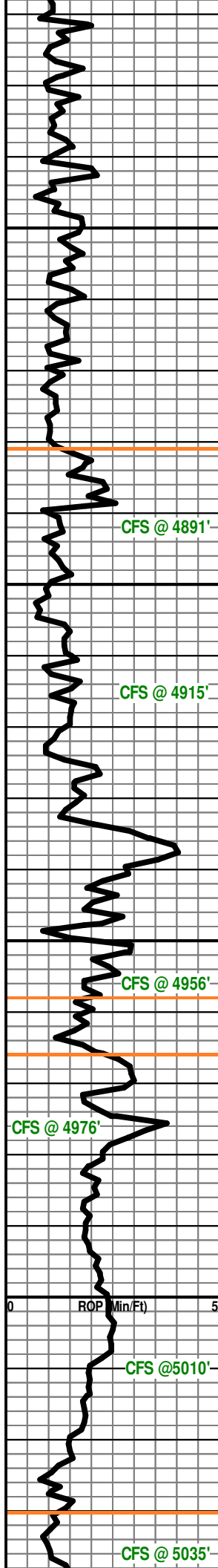
Mud-Co Mud Ck @ 4733'
 7:15 AM
 11/23/2012
 WT: 9.4 VS: 61
 PV: 18 YP: 21
 CHL: 4,700 LCM: 2#

PAWNEE
 4770' (-2016)

FT. SCOTT
 4793' (-2039)

CHEROKEE
 4808' (-2054)





Limestone: gray-tan, microIn, dense, fossiliferous, trc poor pp porosity, vsso on break, fair odor, scattered spotty-saturated lt brown stain, dk brown-black shale

Limestone: lt gray-tan, microIn, dense-chalky, fossiliferous, trc poor pp porosity, vsso on break, good odor, scattered spotty lt brown stain, interbedded w/ dk gray-black-green shale

Limestone: lt gray-brown-tan, vfxIn-granular, good vuggy porosity, some fair channel porosity, gso on break w/ v strong odor, v fossiliferous w/ gso on break of several fenestrate specimens, free lt brown oil droplets in sample cup and tray, interbedded w/ black-dk gray shale

Limestone: gray-tan-brown, vfxIn-granular, sl fossiliferous, sl chalky, fair-good interIn-vuggy porosity, oolitic in part w/ fair moldic porosity and dk brown-black inter-oolitic saturation, s-fso on break w/ strong odor, scattered dk brown-black stain, scattered dk gray pyritic shale and tan chert, trc scattered free oil droplets in sample tray

NOTE GAS CURVE SCALE CHANGE @ 4914'

Limestone: off white-gray-tan-dk brown, microIn-granular-oolitic, fossiliferous, dense, some fair-good vuggy-interIn porosity w/ sso on break, fair odor, scattered lt brown saturated stain, trc free oil droplets in sample tray, Interbedded green-gray shale, black limey fossiliferous shale, tan-dk brown chert, and trc red-brown siltstone

Limestone: off white-gray-tan, fxIn, granular, arenaceous, poor interIn/intergranular porosity, some glauconitic, sl chalky and oolitic, trc dead black oil stain, no vis shows, v faint odor

Interbedded limestones (A.A.) and green-red-dk gray shales

Limestone: gray-tan, v sandy/arenaceous, poor-fair interIn/intergranular porosity, some glauconitic, less chalky and oolitic than above, no vis shows or odor

Limestone: white-tan, arenaceous, poor-no vis interIn/intergranular porosity, trc sub-oolitic w/ no vis porosity

A.A. w/ no vis porosity

Limestone: white-tan, arenaceous, poor-no vis interIn/intergranular porosity, trc oolitic w/ poor moldic porosity, no vis shows

Limestone: white-tan, oolitic, chalky, poor-fair inter-oolitic porosity, gso on break, strong odor, scattered free oil droplets in sample tray

DST #3
 4852'-4915'
 30-60-60-90
 1/4" blow BOB 3 min
 IF: 98-288# FF: 301-527#
 SIP: 1334-1312#
 Hydro: 2463-2410#
 BHT: 125°
 Recovery:
 2142' GIP
 189' OCM (5 O, 95 M)
 504' MCGO (40 G, 50 O, 10 M)
 126' MWCGO (35 G, 30 O, 30 W, 5 M)
 189' MCW (90 W, 10 M)
 315' Water

MIDDLE CHEROKEE LIME
 4881' (-2127)

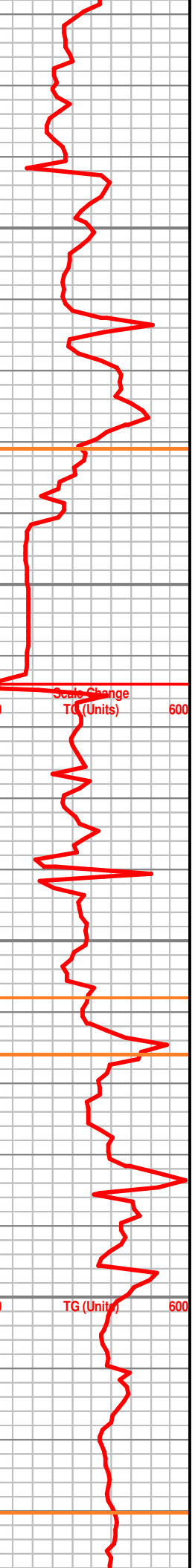
6:00 AM
 11/24/2012

Mud-Co Mud Ck
 @ 4951'
 11:15 AM
 11/24/2012
 WT: 9.1 VIS: 60
 PV: 19 YP: 22
 CHL: 2,800 LCM: 2#

MORROW SHALE
 4958' (-2004)
ST. GENEVIEVE
 4966' (-2212)

DST #4
 5005'-5050'
 30-60-60-90
 1st Open:
 weak blow built to 1"
 2nd Open:
 1" blow built to 6"
 IF: 23-29# FF: 26-39#
 SIP: 263-243#
 Hydro: 2561-2423#
 BHT: 121°
 Recovery:
 210' GIP
 30' OCM (10 O, 90 M)

ST. LOUIS 'A'
 5030' (-2276)



scattered red oil droplets in sample tray

6:00 AM
11/25/2012

ST. LOUIS 'B'

5054' (-2300)

Mud-Co Mud Ck

@ 5050'

10:00 AM

11/25/2012

WT: 8.95

PV: 20

CHL: 3,000

VIS: 65

YP: 22

LCM: 2#

DST #5

5050'-5070'

30-60-30-60

Surface blow died in 6min

IF: 16-18# FF: 12-20#

SIP: 80-63#

Hydro: 2480-2430#

BHT: 119°

Recovery:

5' OCM (5 O, 95 M)

6:00 AM

11/26/2012

CFS @ 5050'

5050

DST #5

CFS @ 5070'

5100

5150

Limestone: white-tan, fxl, sub-oolitic w/ poor vis moldic porosity, sso on break, good odor, trc lt brown saturated stain

Limestone: white-tan, vfxln, sub-oolitic w/ poor vis moldic porosity, trc sso on break, fair odor, some glauconitic

Limestone: lt gray-off white-tan, fxl, sub-oolitic in part w/ no vis porosity, some glauconitic, trc brown chert w/ scattered dead black oil stain, v faint odor

Limestone: gray-white-tan, fxl-granular, dense, some arenaceous and glauconitic, no vis shows, trc interbedded green-dk gray shale

Limestone: off white-tan, vfxln, less dense than above, arenaceous, chalky, some glauconitic, trc red-green-gray shale

Limestone: white-tan, vfxln, arenaceous, poor-no vis porosity, mixed w/ Chert: white-tan, sharp, fresh, trc dk brown stain, no vis shows, less shale than above

RTD 5150' (-2396)

5200