



## Woolsey Operating Company, LLC

Scale 1:240 (5"=100') Imperial

Measured Depth Log

**Well Name:** KIRKBRIDE A-1  
**Location:** Section 21 - Township 32 South - Range 12 West  
**License Number:** 15-007-24121-00-00 **Region:** Barber County, Kansas  
**Spud Date:** January 6, 2014 **Drilling Completed:** January 16, 2014  
**Surface Coordinates:** 330' FNL & 582' FWL  
N 1/2 NW NW  
**Bottom Hole Coordinates:**  
**Ground Elevation (ft):** 1579' **K.B. Elevation (ft):** 1591'  
**Logged Interval (ft):** 3000' **To:** 4840' **Total Depth (ft):** 4840'  
**Formation:** Topeka ----> Simpson Group  
**Type of Drilling Fluid:** Chemical Mud, Displaced at 3300'  
Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

### OPERATOR

**Company:** Woolsey Operating Company, LLC  
**Address:** 125 N. Market, Suite 1000  
Wichita, KS 67202

### GEOLOGIST

**Name:** Joel Gearhart  
**Company:** Woolsey Operating Co. LLC  
**Address:** 125 N. Market, Wichita Kansas, 67202

## COMMENTS

Surface Casing: Spud at 6 pm on January 6, 2014, set 5 joints of 13 3/8" X 48#/ft new casing at 222' KB (tally 209.14') with 300 sx 60/40 poz mix, 2% gel, 3% cc. (Cement by Allied) Plug down at 6 am January 7, 2014, cement did circulate.

Production Casing:

Deviation Surveys: 2 at 224', 3/4 at 730', 1/2 at 1238', 1/4 at 1748', 1/2 at 2250', 1/2 at 2758', 1/2 at 3200', 1 at 3738', 1 at 4248', 1 1/2 at 4428'

Pipe Strap @ 4428', Strap; 4439.15', Board; 4437.82', Strap 1.33' long. No corrections were made to the board.

Fossil Drilling Rig 3 Bit Record:

- 1) 17 1/2" Reed RT RR in at 0', out at 224'. 4.5 hours
- 2) 7 7/8" Varel HE-21 in at 222', out at 4428', 103 1/4 hours
- 3) 7 7/8" Varel he-29 RR in at 4428' out at 4685'
- 4) 7 7/8" HTC GX 20 C RR in at 4685' out at 4840'

Gas Detector: Woolsey Operating Company, Gas Shack #2

Mud System: Mud-Co. Brad Bortz, Engineer

DSTs: Trilobite Testing, Gary Pevoteaux, Tester

E-Logs: Nabors Completion and Production Services, Dual Induction Laterolog w/SP, CNL-FDC w/PE, Gamma Ray and Caliper.

## DSTs

### DST #1

Mississippi 4394'-4428', 30-60-60-120

(1) SB BOB 6.5">WB 1/4-1/2", (2) SB BOB 5 sec.>WB 1/4-3/4", 1790' GIP, 70 GOCM (23%G 35%O 42%M), 60 GM&WCO (36%G 33%O 17%W 14%M), IHP 2122, FHP 2069, ISIP 1078, FSIP 1143, IFP 28-36, FFP 35-64, BHT 121

### DST #2

Mississippi 4394'-4454', 30-60-60-120

(1) SB BOB 12"> WB 1/4"-12", (2) SB BOB 30 sec>WB SURFACE DIED IN 15", 1470' GIP, 65' GOCM (11%G 18%W 18%M), 60' GM&WCO (34%G 30%O 18%W 18%M), IHP 2137, FHP 2048, IFP 24-37, FFP 34-64, ISIP 1075, FSIP 1143, BHT 116

DST #3 Misener/Viola 4550'-4685', SB BOB in 20 seconds, GTS 22 minutes into 2nd flow period, TSTM.

Recovered: 100' Drilling Mud w/ a few oil specks. IHP 2227, IFP 53-37, ISIP 725, FFP 43-56, FSIP 591, FHP 2139. BHT 120 degrees.

## CREWS

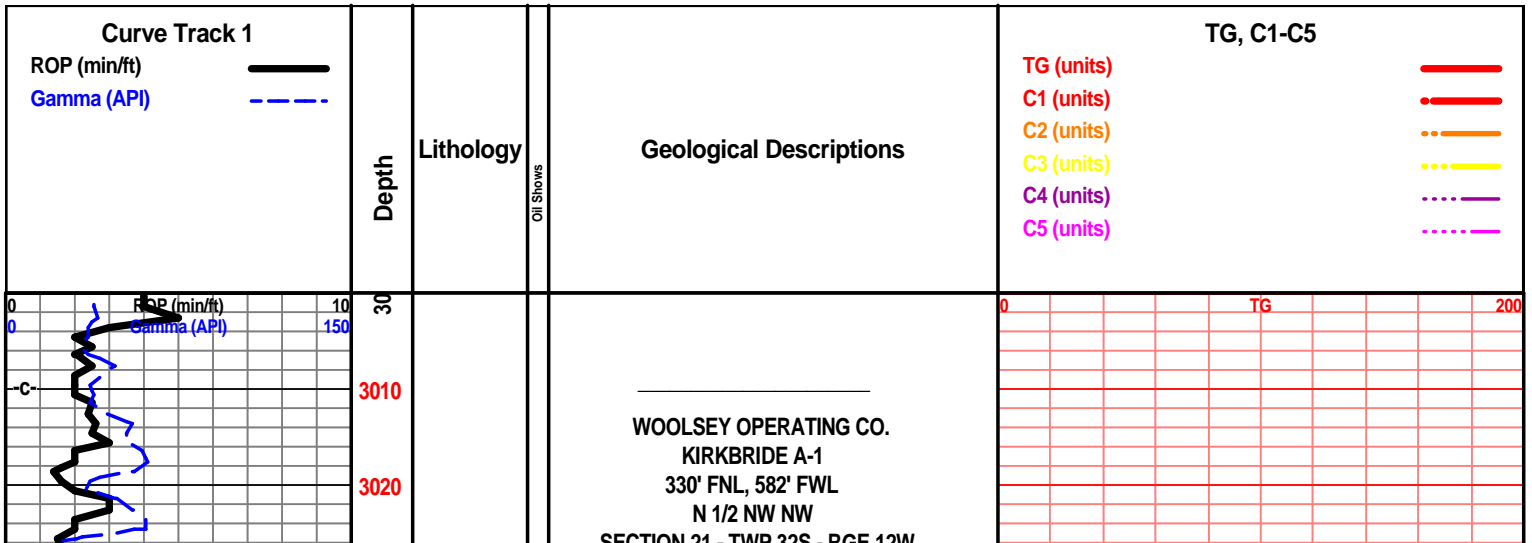
Jim Wenrich, Tool Pusher  
 Daniel Orrantea, Daylights  
 Ron Burns, Evening  
 Andres Maestas, Morning  
 Terry Christenson, Relief

## ROCK TYPES

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## ACCESSORIES

<b>MINERAL</b> 			<b>FOSSIL</b> 	<b>STRINGER</b> 	<b>TEXTURE</b> 
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SECTION 21 - TWP 26S - R06E 12W  
 MEDICINE LODGE NORTH FIELD  
 BARBER COUNTY, KANSAS  
 API# 15-007-24121-00-00

Offset comparison wells for structural control included Dixon Energy's Lonker #1, SW SW SW, 16-32S-12W, American Energies Snyder #2, E 1/2 NW NE NE, 21-32S-12W.

One minute drill time was recorded from 3000' to rotary total depth. Ten foot and circulating samples were gathered from 3400' to rotary total depth. All samples were delivered to the Survey at the completion of the test.

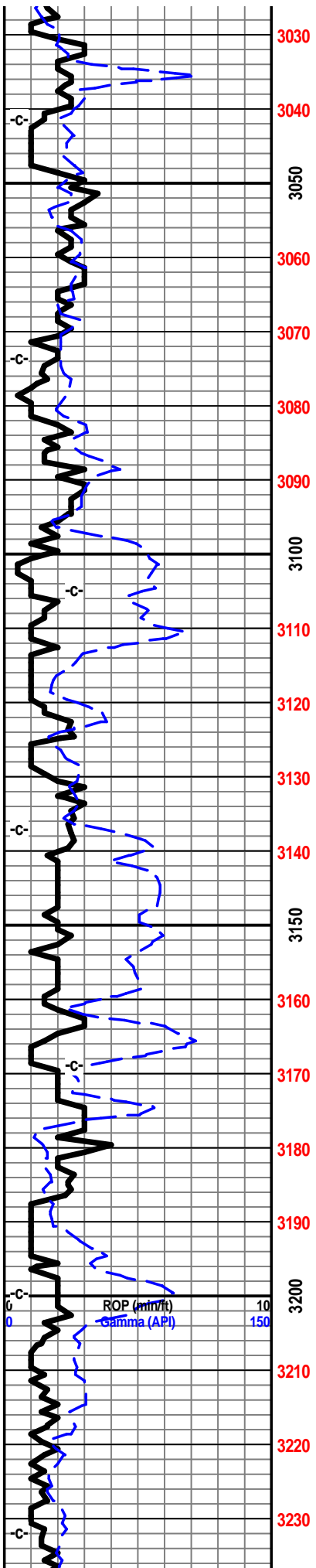
7 am Progress:

- January 6, 2014 MIRT/SPUD cold -5 deg
- January 7, 2014 WOC, plug down 6 am
- January 8, 2014 Drilling at 1430'
- January 9, 2014 Drilling at 2357'
- January 10, 2014 Drilling at 3158'
- January 11, 2014 Drilling at 3764', Joel G. relieves Bill @ 8:00 am
- January 12, 2014 Drilling at 3994'
- January 13, 2014 DST, at 4428'
- January 14, 2014 DST, at 4454'
- January 15, 2014 Drilling at 4633'
- January 16, 2014 Drilling at 4732'

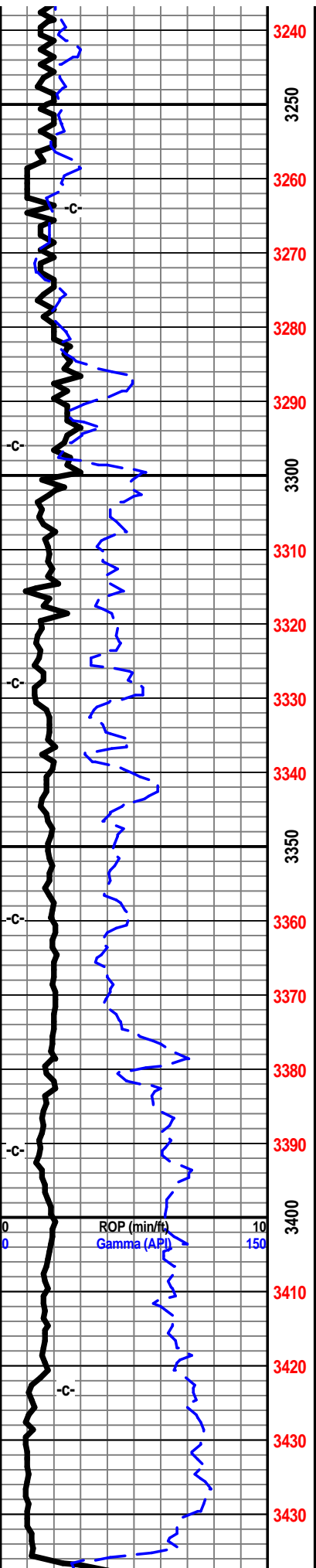
January 17, 2014

E-log Tops:

- Herington
- Onaga
- Wabaunsee
- LeCompton
- Kanwaka
- Elgin Sand
- Heebner
- Synderville
- Toronto
- Douglas Grp
- Douglas Shale
- Brown Lime
- Lansing
- Kansas City 'Iola'
- Kansas City 'Drum'
- Kansas City 'Dennis'
- Stark Shale
- Kansas City 'Swope'
- Hushnucknev



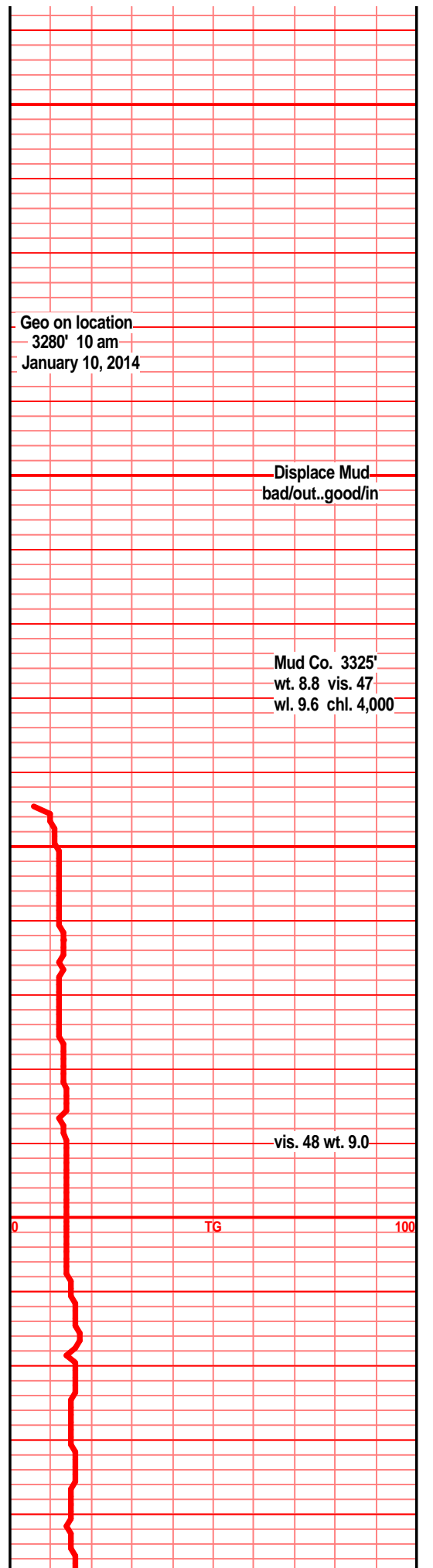
Scale Change  
 TG 0 100

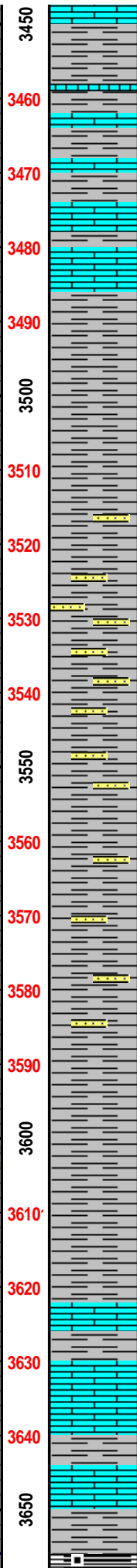
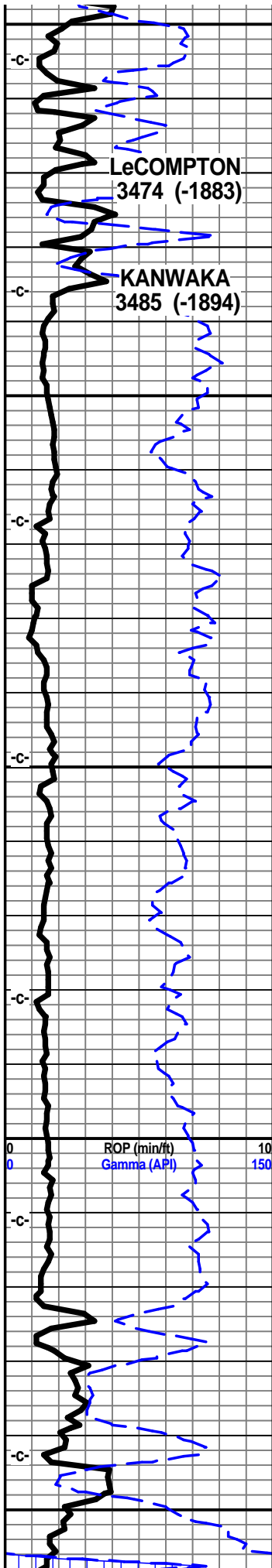


Kansas City "Hertha"  
 B/Kansas City  
 Cherokee Group  
 Mississippian  
 Miss Osage  
 Compton  
 Kinderhook  
 Woodford  
 Viola  
 Simpson Group  
 Wilcox  
 McLish Shale

Oil and Gas Show Legend  
 ☒ Gas  
 ● Even Stain/Saturation  
 ● Spotted Stain/Saturation  
 ○ Questionable Show  
 □ Dead/Gilsonitic

shl gry drk gry, drk gry/brnsh gry, silty gritty, calc text  
 shl calc shl, drk gry, drk gry brn silty gritty  
 shl drk gry, drk gry/brn silty gritty, calc text,  
 shl gry drk gry, drk brnsh gry, silty gritty, calc text.  
 shl drk gry, gry blk, tr blk semi carb text, gran soft to blk ang hrd pcs





shls, drk gry blk, tr blk carb text, lst tan gry, drk brn f mic xln, dns hrd blk arg, arg, silty gritty, tr sndy text,

lst tan drk tan gry brn f vf xln dns hrd blk arg arg, tr sub chlky, tr calc fill, sndy gritty text, arg in most, tr foss frags, calc filled voids

shl gry med lt gry, silty sndy gritty, sst shly sst, f grnd, sub ang grns, prly srted, mic, blk carb flks

shl, silty sndy shl, gritty, f grnd sub ang grns, prly srted, sub fria, arg, silty, blk carb flks

shl gry lt gry silty gritty sndy, sst lt gry, wht/gry f grnd sub ang, prly srted, sub fria, to blk arg clstrs, arg, silty, mic, blk carb flx

shl gry lt gry silty sndy gritty, sst off wht lt gry f grnd sub ang grns prly srted, sub fria, mic, arg, blk carb flxs,

sh gr med lt med gry silty gritty, sst off wht lt gry/tan, fgrnd, sub ang/ang grns, prly srted, sub fria to tite blk arg arg silty clstrs

shl gry lt med gry soft silty, tr gritty,

shl gry med gry soft gran muddy, spls wsh med/drk gry

lst drk gry, drk tan mstly grn, fn sli med xln, gran blk arg arg, calc frags, tr crs foss frags, tr sub chlky

shl gry gritty gran calc, lst drk tan brn f sli med xln gran blk arg sub chlky, calc frags, arg silty in prt

shl gry blk, drk gry blk, carb, wxy grsy text, blk arg arg arg hube

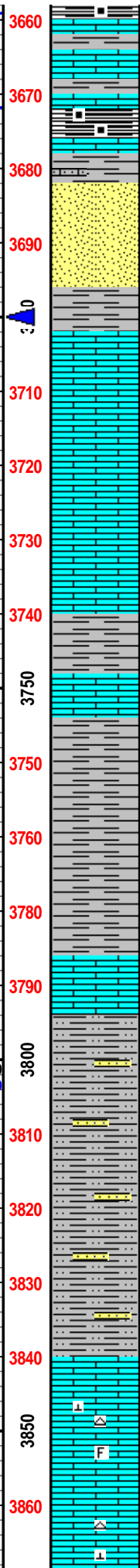
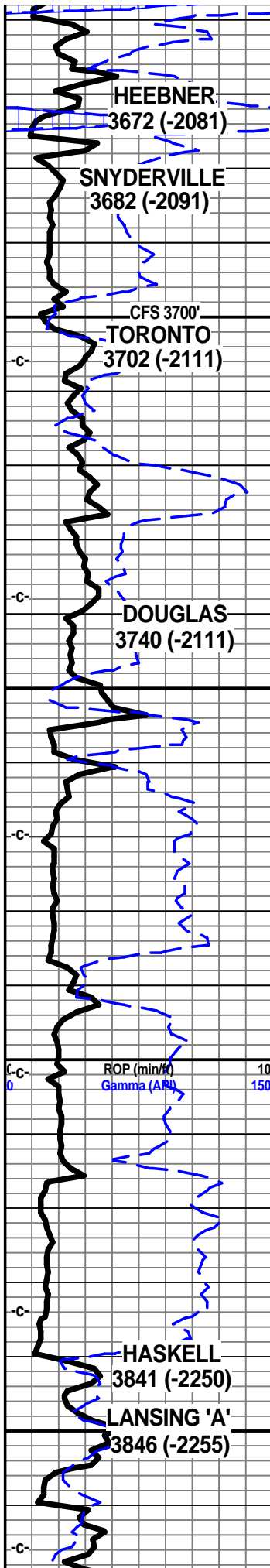
wt. 9.0 vis. 50

3520' 7 pm  
Friday  
January 10, 2014

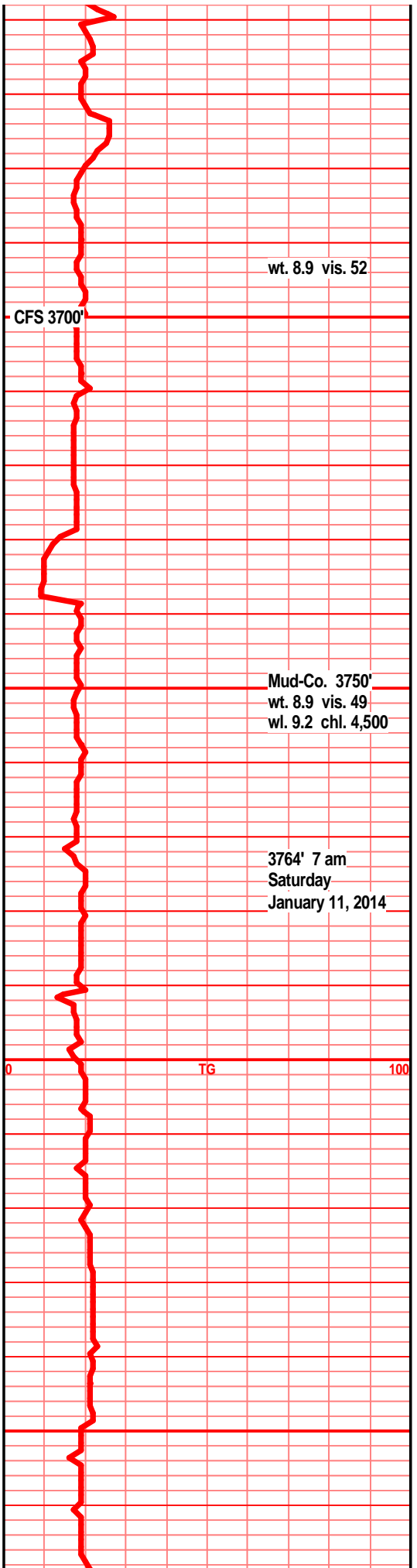
wt. 8.9 vis. 50

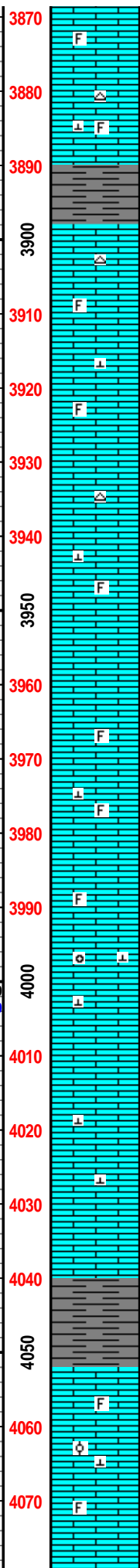
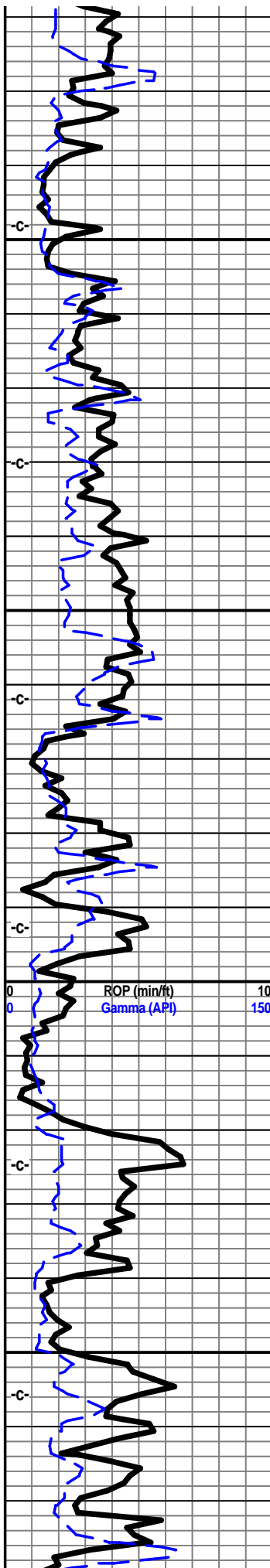
wt. 9.0 vis. 52

TG



drky ang pcs, gas bubs  
 lst drk tan brn f vf xln dns hrd blk ang tr arg, calc frags, tr foss frags, arg, silty tr gritty text  
 shl gry blk, drk gry blk, blk, carb text, wxy grsy text, blk ang pcs, tr gas bubs  
 sst off wht tan clstrs, f vf grnd, sub ang/ang grns, fairly srtd, w/cem, calc cem, non fria, firm, blk ang dns gran clstrs NVP NS  
 shl gry lt gry, off wht lt gry, silty gritty, soft gran, tr sm clr sub ang prly srtd snd grn inclu, blk soft sli carb shl beds  
 lst crm off wht tan, tr buff, f xln, gran, soft, sub chlky, tr micro foss frags,  
 lst wht off wht tan f xln gran soft, sub chlky, tr foss frags, tr calc xln fill,, micro foss frags,  
 shl gry, med gry soft calc, lst tan off wht f xln gran arg sub chlky foss frags, micro xln in prt, calc xln fill  
 gry-drk gry shl, mica, brittle, blk  
 gry shl, soft, lam of blk shl, tabular  
 shl gry-drk gry, micas, brittle, lst tan, sub ang, xln, foss frags, calc fill, hrd, lttl chlky  
 gry-drk gry shl, very mica, hrd  
 gry shl, very mica, soft, gritty texture, silty-vfn sand, sub ang, blk  
 gry silty shl, micas, blk, soft, vfn sand inclusions, pyritic  
 lt brn-brn lst, ang, blk, xln, hrd, foss frags, calc fill, off wt lst, xln, sub ang, chlky, hrd  
 gry-drk gry shl, micas, tabular, pyritic, sub ang





3870 F  
 off-wt lst, xln, chlky, chrty, sub ang, soft, drk  
 brn tan lst, ang, blk, hrd, foss frags, calc fill,  
 hard

3880 A F

3890

3900 c  
 It gry lst, hrd, sub ang, blk, xln, foss frags,  
 calc fill, lttl chrt, off wt lstn, chlky, sub ang,  
 calc xls

3910 F

3920 A

3930 F  
 It crmy tan lst, aub ang, hrd, foss frags, calc  
 fill, hrd, lttl chrt, lt gry shl, pyritic, tabular,  
 waxy on break

3940 A

3950 F  
 tan lst, xln, sub ang, lttl chly, calc xls, foss  
 frags w/ calc fill, hrd, lt brn lst, hrd, blk, sub  
 ang, xln, foss frags, pyritic, lttl micas, calc fill,  
 lttl chrty

3960 c

3970 F  
 tan lstn, xln, sub ang, lots of foss frags, calc  
 fill, hrd, brittle, lt tan lst, calc xls, foss frags w/  
 calc fill, sub ang, hrd, lttl chrty

3980 A F

3990 F  
 tan-brn lst, lots of foss frags, oolmoldic, sub  
 ang, hrd, calc fill and xln, lttl chrty, lt gry-tan  
 lst, sub ang, lttl micas, lttl pyritic, hrd, lttl chrty

4000 O A  
 0 ROP (min/ft) 10  
 0 Gamma (API) 150

4010 A

4020 A  
 tan lst, xln, hrd, vlttl micas, calc xls, sub ang,  
 blk, gry shl, tabular, waxy on brk, hrd, blk shl  
 lam, lt tan-off wt lstn, soft, xln, chrty, sub ang

4030

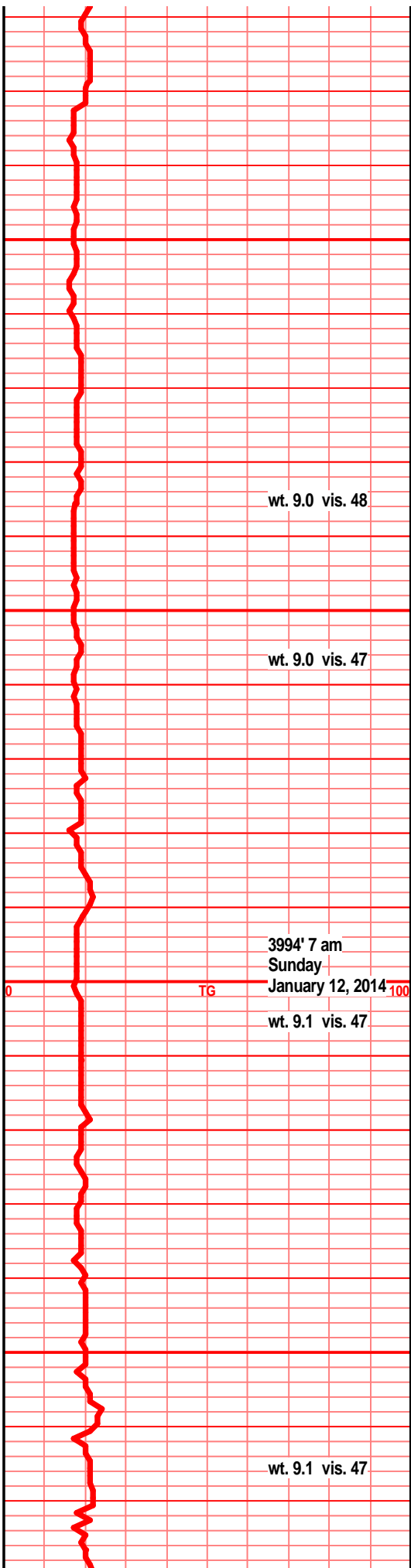
4040

4050  
 gry-drk gry shl, tabular, sub ang, brittle, pyritic

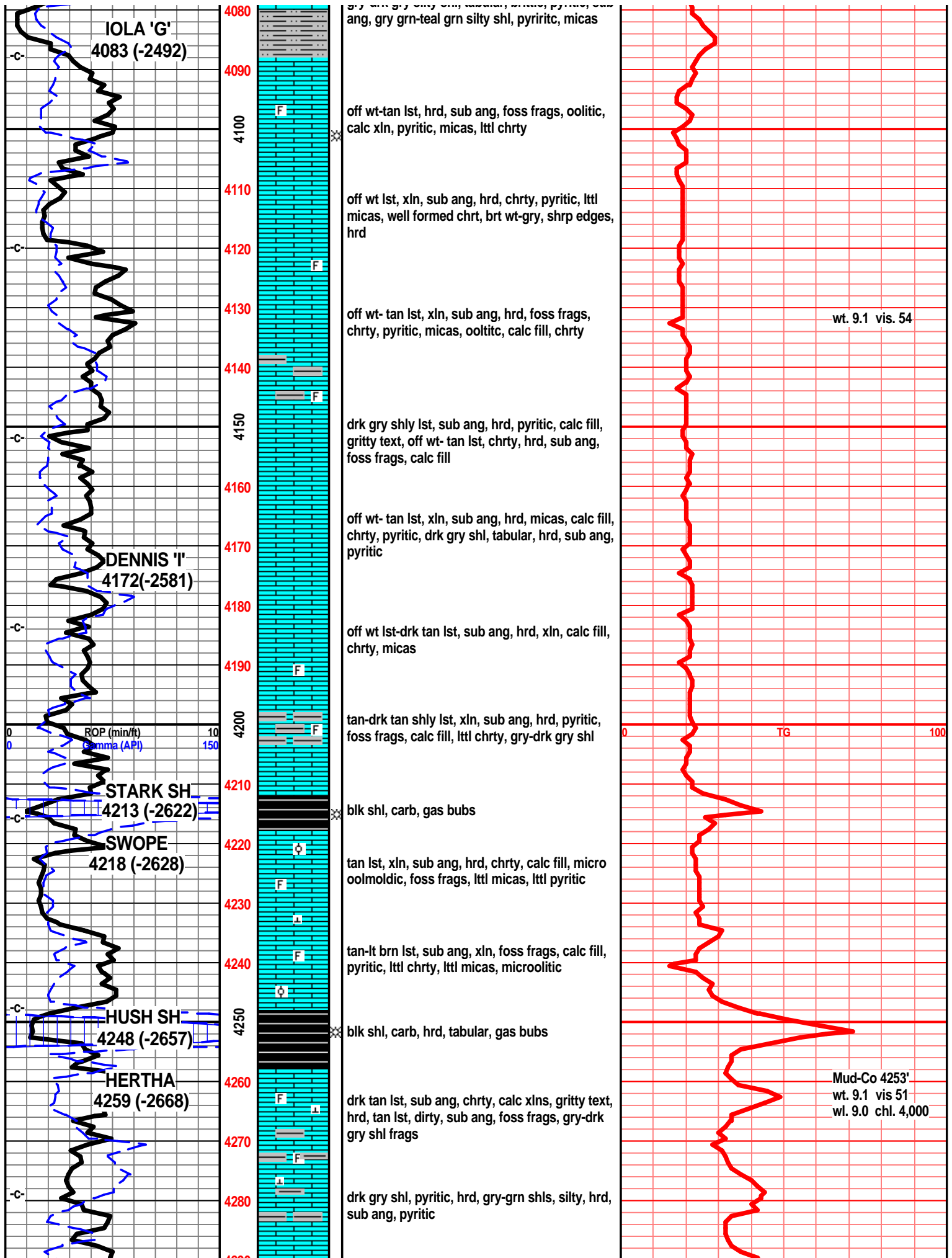
4060 F

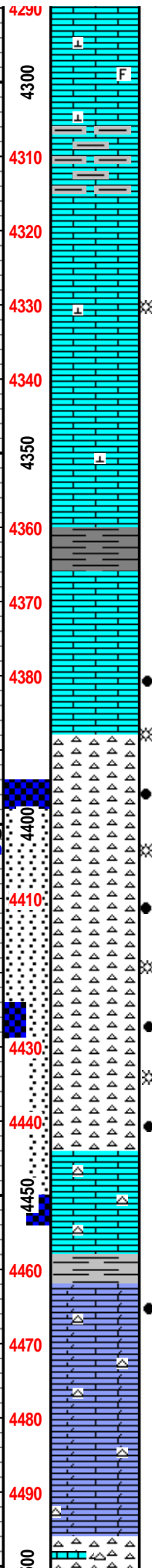
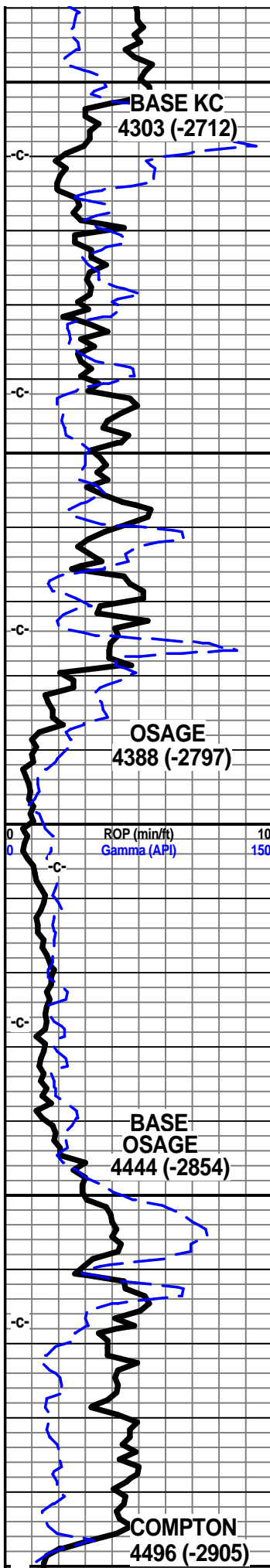
4070 O A  
 It brn-tan lst, xln, sub ang, hrd, calc xls, lttl  
 chrty, pyritic, lttl micas, foss frags, oolitic

4070 F  
 arv-drk arv siltv shl. tabular. brittle. pyritic. sub









tan-gry lst, sub ang, xln, brt wt chrt, hrd, foss frags, calc fill, lttl micas, lttl pyritic, gritty text

tan gry- drk tan gry lst, sub ang, xln, hrd, calc fill, pyritic, micas, gritty-dirty text, gry-drk shls, pyritic, tabular, hrd

lt tan lst, sub ang, soft, lttl chrt, chlky, fn xln, calc fill, brks into mush

tan-lt tan lst, sub ang, fn xln, lttl calc fill, chrt, chlky on brk, gry shl, sub ang, blk, gritty text, micas

gry-drk gry shl, tabular, pyritic

lt tan- tan lst, rough gritty weathered text, sub ang, hrd, calc xln, lttl chrt, oil stain, gas bubs

lt tan chrt, brt wt on brk, calc, hrd, shrp edges on brk, show of free flowing oil, oil stain, gas bubs on brk, good odor

brt wt chrt, weathered spongy text, sub ang, drk oil stain, sfo, gas bubs, spits oil w/ gas bubs, good strong odor

brt wt chrt, sub ang, weathered text, glauc, hrd, drk oil stain, strong odor, gas bubs on brk, sfo, wt-lt tan chrt, ang, shrp edges, smooth text, xln, brn oil stain

wt chrt, sub ang, hrd, rough weathered text, spongy por, drk brn oil stain, lttl gas bubs, sfo, good odor, wt-lt tan chrt, smooth, shrp edges, ang

gry wt-lt grn cht, shrp edges, sub ang, spotted drk brn oil stn, no sfo, no gas bubs, almost tar like

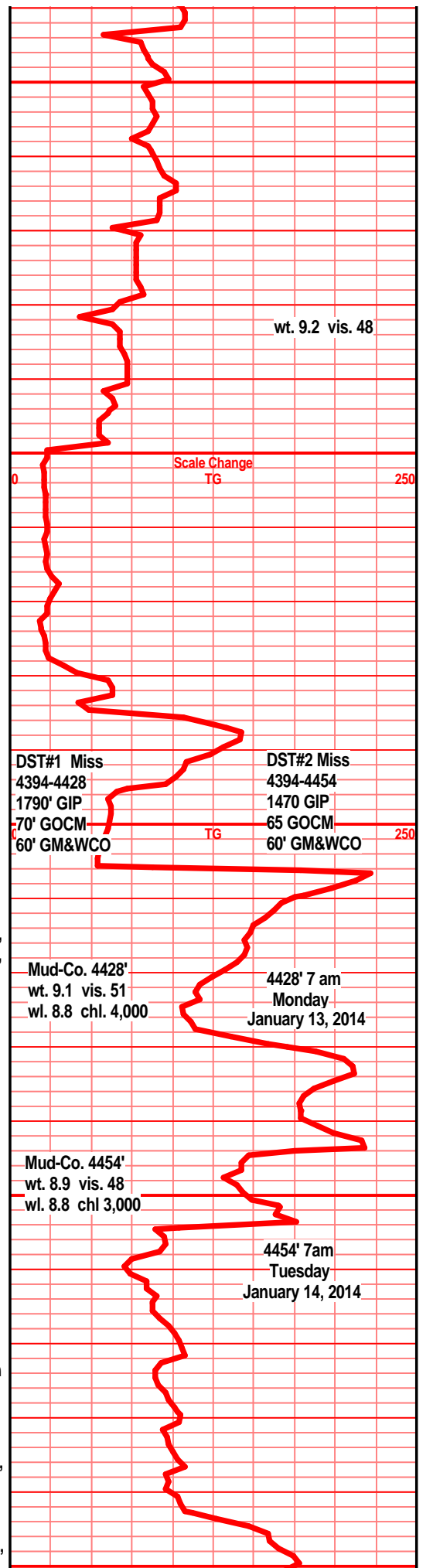
lt tan chrt, xln, sub ang, hrd, lt tan-brn transparent chrt on edges, brt wt on brk

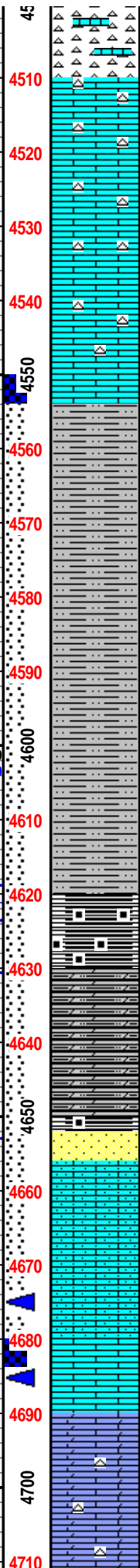
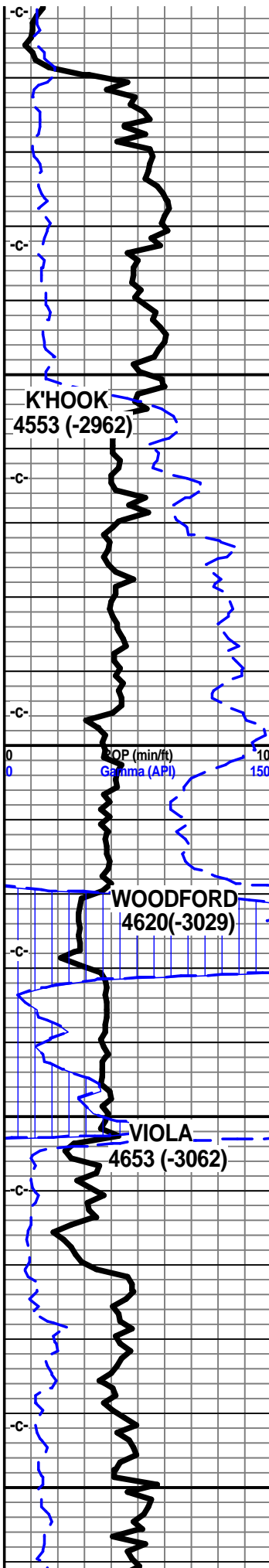
grn-grn gry shl, lttl pyritic, lams of black shl, sub ang, tabular, lt grn-teal green shl, waxy look, soft, sub ang, tabular

tan dolomitic lst, xln, sub ang, hrd, calc fill, brn chrt, golden brn edges, sub ang, little transparent, brks into brt wt pieces

tan brn-lt brn dolomitic lst, fn xln, hrd, sub ang, lttl chrt looking edges on break

wt-lt blu/wt chrt, sub ang, weathered, crumbles, lt brn-drk brn stain, nsfo, no odor, no gas





wt-blue wt lst, xln, chrty, hrd, sub ang, weathered mottled text, drk oil stain, nsfo, no gas, no odor, tar like stains

tan-off wt lst, fn xln, lttl trace foss, sub ang, hrd, rough gritty text, interbedded chrt, tan-lt brn, transparent, shrp edges, hrd, w/ well developed shrp blk pieces of chrt

some wt-off wt chrt, hrd, ang, shrp edges

tan-gry tan lst, chrty, hrd, xln, sub ang, tan-dirty brn chrt, shrp edges, ang, hrd, lttl transparent, dirty look

drk gry shl, silty, gritty, pyritic, sub ang, tabluar, gry shl, silty, w/ blk shl lams

drk gry shl, reddish hue, silty, gritty, tabular, sub ang, gry shl, silty w/ blk shl lams

drk gry shl, reddish hue, silty, gritty, w/ lam of blk shl, pyritic, sub ang, gry shl, silty, w/ blk lams

blk shl, silty, pyritic, tabular, sub ang

drk gry shl, silty, silt bedding, stingers of vfn sand, pyritic, blk shl lams

drk gry shl, silty, reddish hue, gry shl, silty, blk shl lams, blk shl, silty, pyritic

blk shl, carb, hrd, sub ang, tabular

blk silty dolomite, carb, reddish tint, pyritic, shly lams on brk, lttl bedded wt chrt inclus

lt brn sst, hrd, ang, dnse clusters, blk poorly sortd, pyritic, clay nodules, dead filmy show oil, occasional gas bub, no odor, brn stain

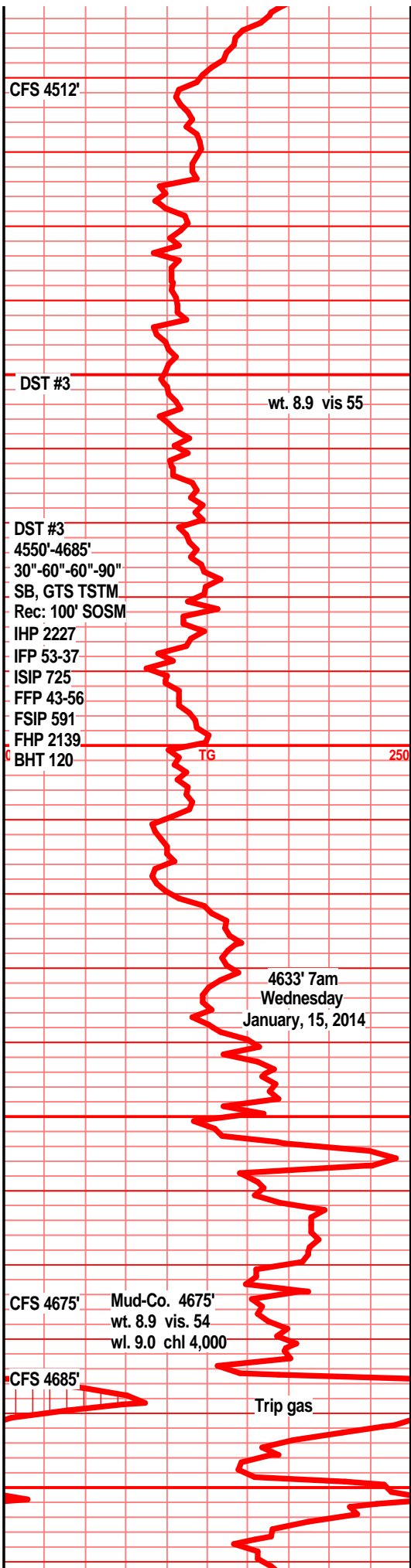
off wt-lt gry brn sndy lst, fn-med xln lst, hrd, sub ang, blk, hrd, dnse clusters, fn grn, occassional gas bub, lt brn stain, slight odor, intercrystalline porosity, light translucent show free oil

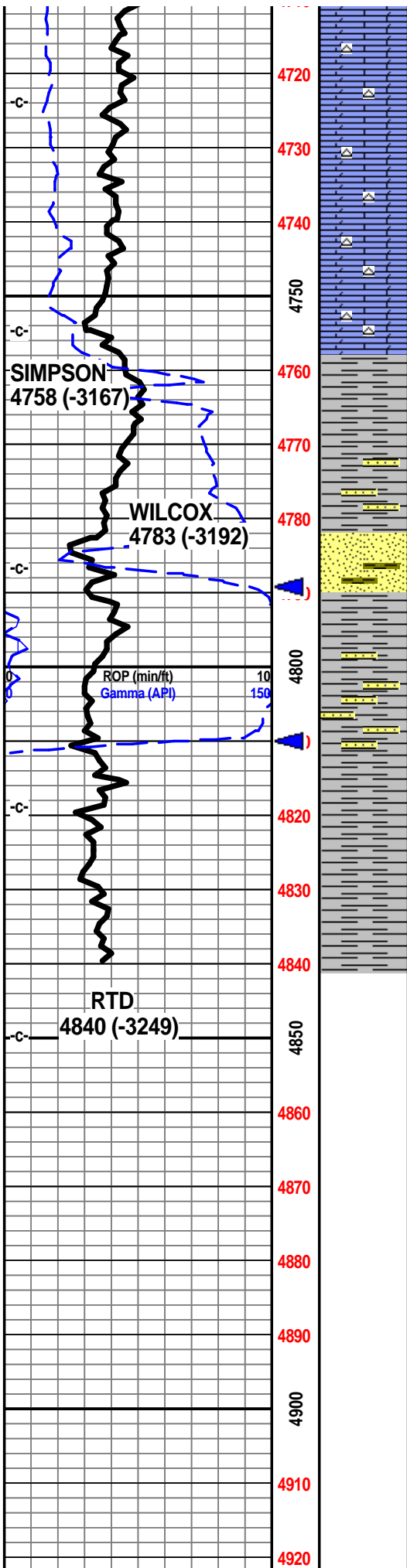
wt gry-grn gry lst, sub ang, vfn-fn sand inclus, hrd, dnse clusters

off wt lst, xln, lttl chlky, brittle, micas, quartz xln

lst off wht lt gry, gry/wht mott, f sli med xln, blk ang, tr foss frags, tr pyritic, crs calc xln in prt

lst aa inc ls, tr dolo text, t tan dull tan lt brn f xln gran gritty, sndy text, blk ang dns tr sub chlky text, chrty in prt, chrt dull tan lt brn shrp frsh opa, pyritic





lst, dolo in prt, dull tan brn f xln gran gritty sndy text, tr chlky gran text, chrt in prt, chrt dull tan brn shrp frsh opa

lst/dolo tan brn f xln gran gritty sndy text, tr sub chlky, chrty, chrt dull brn tan shrp frsh sub opa

lst/dolo drk tan dull brn f vf xln dns hrd blk ang, chrty, incr chrt, drk tan dull brn shrp frsh sub opa,

lst/dolo drk brn f mic xln gritty sndy, dns hrd blk, much chrt, drk brn shrp frsh blk ang sub opa

shl drk gry green, blue gry teal green, some w/clr f grnd sub ang snd grn inclu, pyritic, silic cem/contact

shl aa, w/gry green f grnd sst inclu, sub ang, prly srtd w/cem, pyritic, silic, dns, hrd, arg, clay fill, sst drk gry blue/green, f grnd sub ang prly srtd, pyritic, hrd

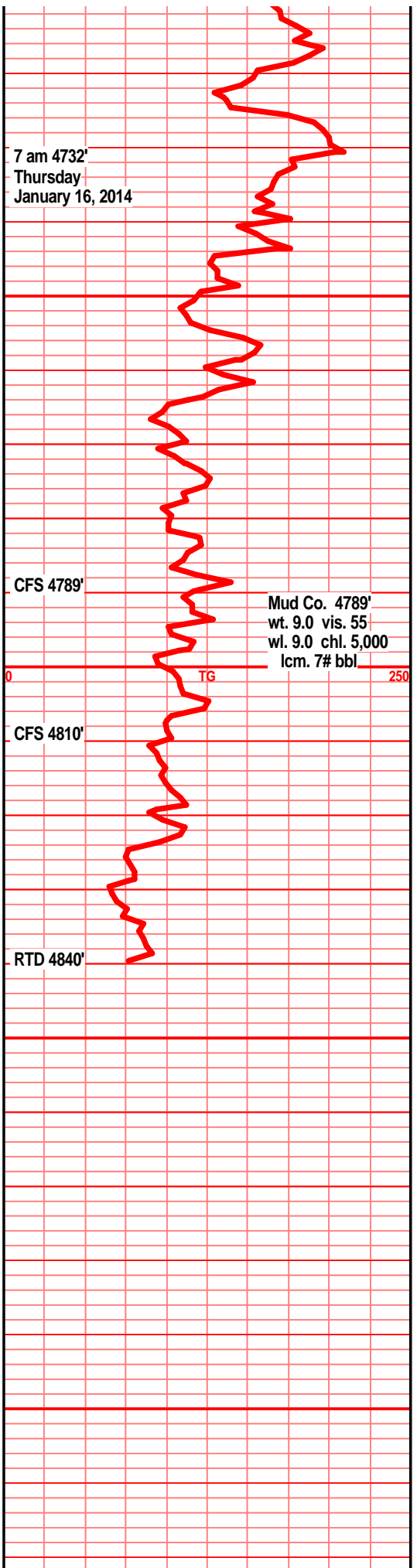
sst tan lt brn clstrs, f grnd, sub ang grns, fair srtd, fair cem, sub fria, inter gran por, filmy oil smears, tr hvy blk stain, nodor

shl drk gry, drk gry green, blue green, gritty pyritic, w/sst inclu, clr grns, f grnd, prly srtd, pyritic, sub fria to tite, glau in prt, mstly hrd blk ang arg pyritic clstrs

shl drk gry green, drk blue green, silty gritty, sndy, w/sd grn and sd clstrs inclusions aa

shl gry green, blue green, teal green silty gritty, snd grn inclu, pyritic, bedded, tr sst wht off wht clstrs, f grnd, sub ang/sub rd, prly srtd, w/cem, sub fria, arg, clay clasts, pyritic,

shl gry green deep gry green teal blue gry green silty gritty sndy, pyritic, sst clstrs aa



A grid with a vertical axis on the right side. The axis is labeled with the following values from top to bottom: 4930, 4940, 4950, 4960, 4970, 4980, 4990, and 00. The grid consists of 10 columns and 10 rows.

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WOOLSEY OPERATING COMPANY  
KIRKBRIDE 1-1  
330' FNL & 582' FWL  
N 1/2 NW NW  
SEC 21 - TWP 32S - RGE 12W  
MEDICINE LODGE NORTH FIELD  
BARBER COUNTY, KANSAS  
API# 15-007-24121-00-00

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A grid with a horizontal red line across the middle. The grid consists of 10 columns and 10 rows.