



Woolsey Operating Company, LLC

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

Well Name: STERNBERGER 'B' #5
Location: Section 12 - Township 35 South - Range 12 West
License Number: 15-007-24260-00-00 Region: Barber County, Kansas
Spud Date: December 11, 2014 Drilling Completed: December 16, 2014
Surface Coordinates: Approx. SW SE NE SW
1380' FSL and 2180' FWL

Bottom Hole
Coordinates:
Ground Elevation (ft): 1348' K.B. Elevation (ft): 1360'
Logged Interval (ft): 4200' To: 5065' Total Depth (ft): 5065'
Formation: Kansas City ----> Mississippian
Type of Drilling Fluid: Chemical Mud

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

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

GEOLOGIST

Name: Mr. Bill Klaver
Company: Woolsey Operating Co. LLC
Address: 125 N. Market, Wichita Kansas, 67202

COMMENTS

Surface Casing: Spud at 1 pm on 12/11/14. Set 5 joints of new 13 3/8" X 48#/ft casing at 212' KB (tally 197') with 300 sx Class A, 2% gel, 3% cc. (By Allied). Plug down 7 pm on 12-11-14. Cement did circulate.

Production Casing: 5 1/2" X 16.5#/ft

Deviation Surveys: 1 at 212', 1/4 at 1102', 1/2 at 1610', 0 at 2118', 0 at 2625', 1/2 at 3069', 1/4 at 3607', 3/4 at 4115', 3/4 at 4655', 3/4 at 5065'.

Pipe Strap @ No strap was taken.

Fossil Drilling Co. Rig 3 Bit Record:

- 1) 17 1/2" Smith Tool RR in at 0' out at 212'. 2.5 hours
- 2) 7 7/8" Varel V516BK in at 212' out at 2311'. 21.5 hours
- 3) 7 7/8" Halliburton FX 55M in at 2311' out at 5065', 56.5 hours. Total PDC penetration 62'/hour.

Gas Detector: Woolsey Operating Co. Gas Shack #2

Mud System: Chemical Mud, Mud-Co, Brad Bortz, Engineer

DSTs: No tests were ran.

Company Man: Mike Tharp, Woolsey Operating Company

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

DSTs

No formation tests were ran.

CREWS

Jim Wenrich, Tool Pusher (Ran off)

Craig Eubank (New Pusher)

Daniel Orrentia, Daylights

Ron Burns, Evening

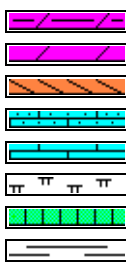
Jessie Reynolds, Morning

Chris Slatts, Relief

ROCK TYPES



Anhy
Bent
Brec
Cht
Clyst
Coal
Congl
Sdy dolo



Shy dolo
Dol
Gyp
Sdy lmst
Lmst
Mrlst
Salt
Shale



Slstst
Ss
Black sh
Gry sh
Shale
Shysltst
Sltlysh
Ss 2



Shale 3
Silty dol
Dol lmst
Dol 2
Granite wash
Lmst
Calc dol
Shale 3

ACCESSORIES

MINERAL

- Anhy
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Ferrpel
- Ferr
- Glau
- Gyp
- Marl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt

- Chlorite
- Dol
- Sand
- Slty

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra

- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomoldic

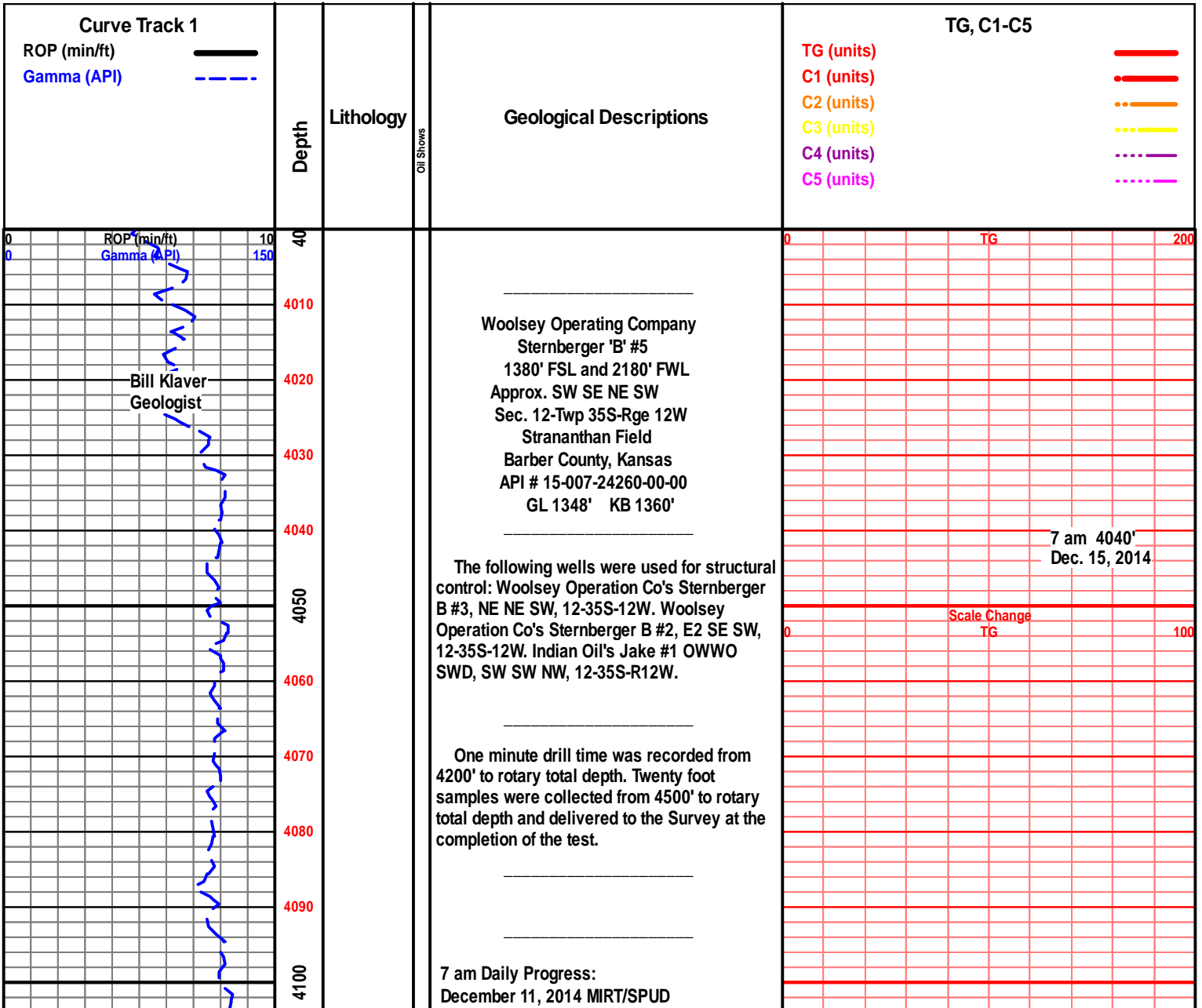
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

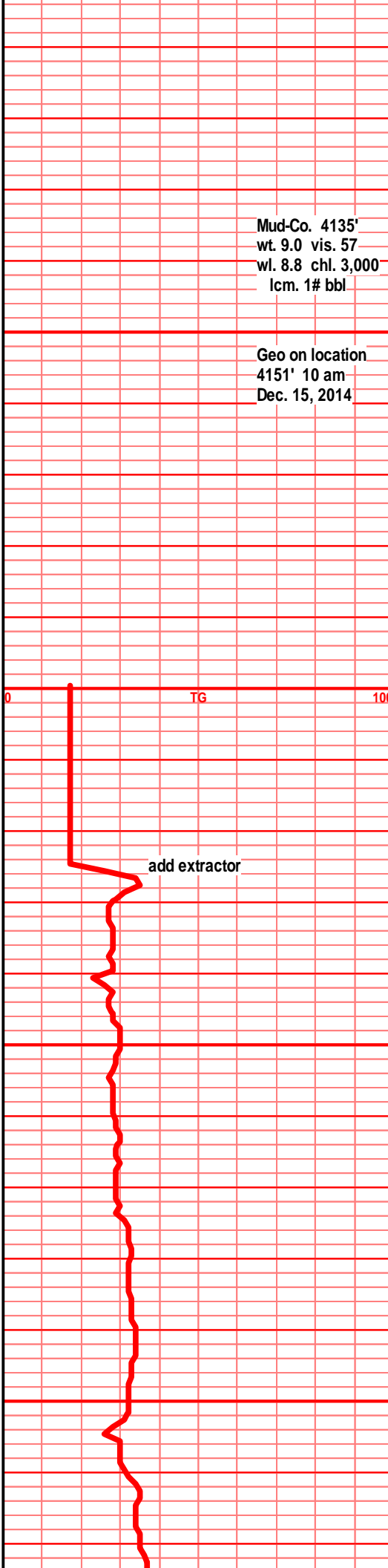
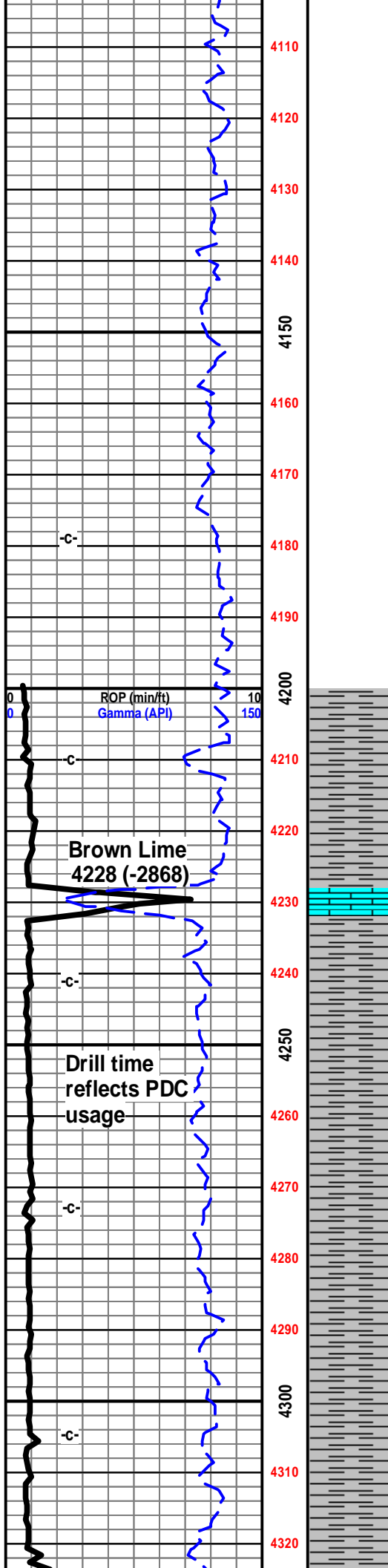


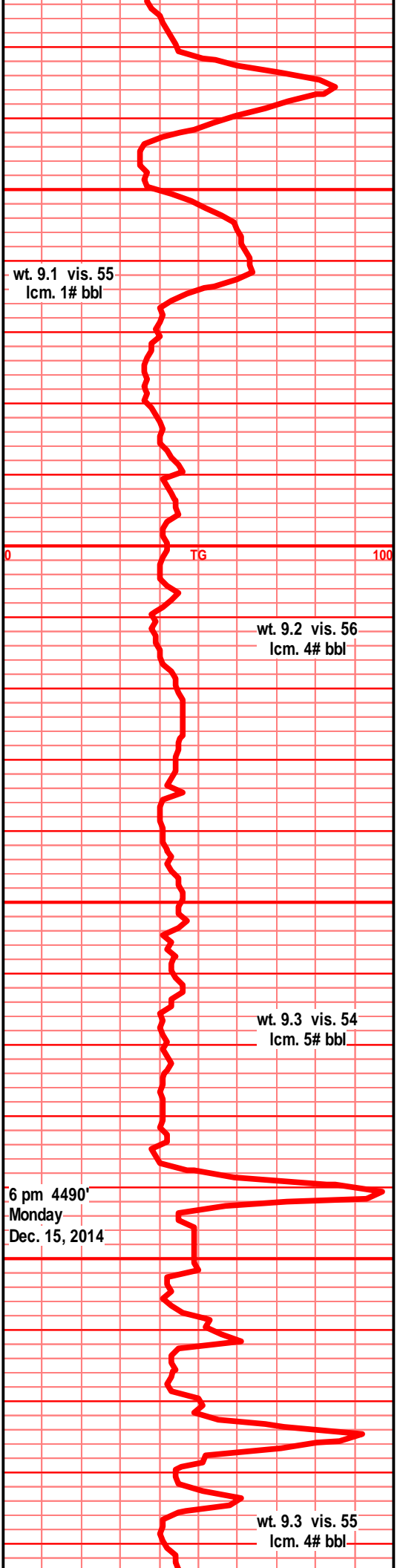
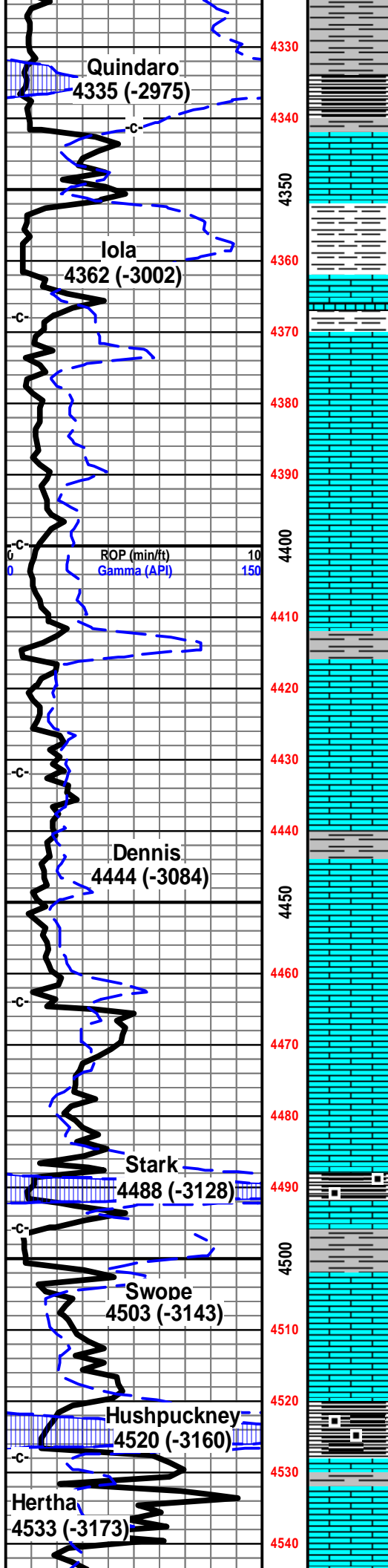
December 12, 2014 Drilling at 345'
 December 13, 2014 Drilling at 2244'
 December 14, 2014 Drilling at 2932'
 December 15, 2014 Drilling at 4020'
 December 16, 2014 Drilling at 4725'
 December 17, 2014 TOOH for logs

Mud-Co. 4135'
 wt. 9.0 vis. 57
 wl. 8.8 chl. 3,000
 lcm. 1# bbl

- E- Log Tops:
- Herington 1860 (-500)
 - Onaga 2722 (-1362)
 - Waubunsee 2780 (-1420)
 - Stotler 2911 (-1551)
 - Topeka 3218 (-1858)
 - LeCompton 3577 (-2217)
 - Kanwaka 3606 (-2246)
 - Heebner 3790 (-2430)
 - Toronto 3800 (-2440)
 - Douglas Group 3827 (-2467)
 - Douglas Shale 3919 (-2559)
 - Haskell 4228 (-2868)
 - Quindaro 4330 (-2970)
 - Iola 4362 (-3002)
 - Drum 4416 (-3056)
 - Dennis 4449 (-3089)
 - Stark 4488 (-3128)
 - Swope 4504 (-3144)
 - Hushpuckney 4520 (-3160)
 - Hertha 4532 (-3172)
 - B/Kansas City 4569 (-3209)
 - Pawnee 4676 (-3316)
 - Cherokee Group 4723 (-3363)
 - Mississippi Unc. 4782 (-3422)
 - C3 4782 (-3422)
 - C2A 4790 (-3430)
 - C2 4867 (-3507)
 - Osage 5020 (-3660)
 - Northview Shale 5023 (-3663)
 - Compton 5028 (-3668)
 - LTD 5065 (-3705)

Geo on location
 4151' 10 am
 Dec. 15, 2014





1st crm tan lt gry f xln gran sub chlky, foss frags, foss ool, calc xln fill

shl gry drk gry blk, blk ang pcs, gassy, wxy grsy text, 1st aa in this sample

shl gry med drk gry, 1st tan gry crm f xln gran soft gran sub chlky, foss frags, calc xln fill

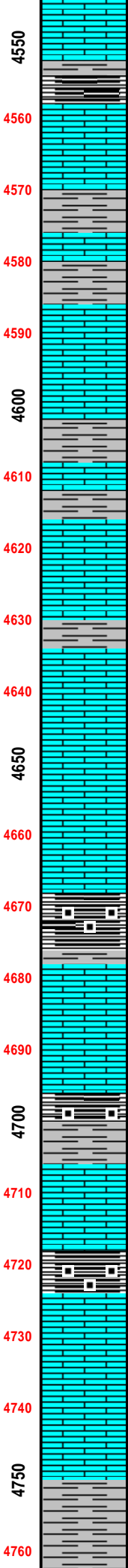
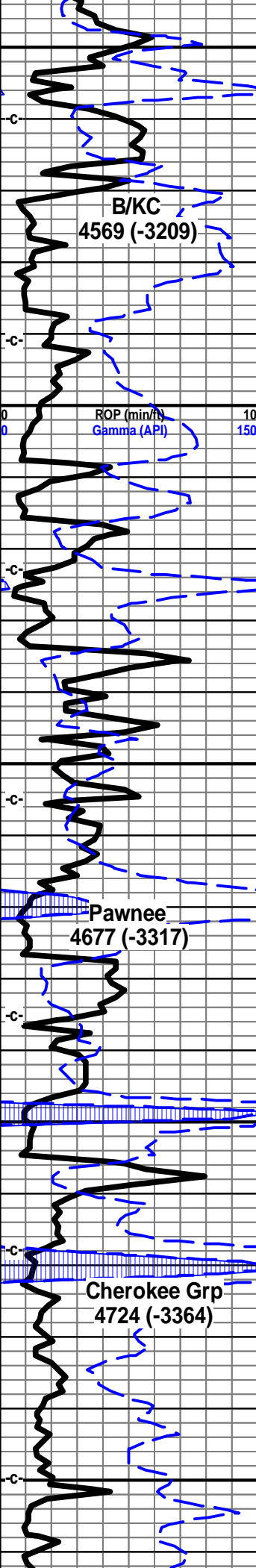
flood blk carb shl, 1st tan crm lt gry f xln blk ang dns sub chlky arg silty

shl gry drk gry blk, blk carb, wxy grsy text, abun gas bubs,

1st crm tan gry f vf xln gran soft sli chlky, sli arg, silty, calc xln fill micro foss frags, shls gry med gry silty gritty, calc

1st tan crm lt gry f xln gran blk ang sub

6 pm 4490'
Monday
Dec. 15, 2014



chlky, foss frags, soft gran

shl, drk gry blk, blk carb text, tr gas bubs, 1st tan lt gry gry/brn f xln gran soft arg silty

1st tan gry brn f vf xln gran blk ang dns hrd, micro foss frags, chlky, spls poor mush, no particular change since spls began

shl gry dkr med gry silty gritty calc in prt, 1st tan gry brn f xln blk ang dns hrd

1st crm buff lt gry f vf xln dns hrd blk ang sli chlky, micro foss frags, calc xln fill

1st crm buff tan lt gry, f vf xln sub chlky, micro foss frags, calc xln fill,

shl gry med gry brn, gry green silty calc, 1st drk gry brn f vf xln dns hrd blk ang calc

1st crm buff f xln blk ang dns hrd, foss frags, sli chlky gran. shls gry med gry gritty silty

shl gry med gry brn silty gritty calc, 1st tan buff crm f vf xln dns hrd blk sub chlky foss frags, calc xln fill

1st crm buff tan f vf xln blk sub chlky in prt, micro foss frags, micro calc, spls remain fnly ground same-o

1st crm buff tan f xln blk ang tr sub chlky, foss frags, micro foss frags, calc xln fill

1st buff tan f vf xln sli chlky, micro foss frags, micro ool, calc xln fill

sh drk gry blk, blk carb, wxy grsy text, blk ang pcs, abun gas bubs

1st buff tan lt gry f vf xln blk ang dns hrd, tr sub chlky, micro foss frags, calc xln fill sample no change!!

1st crm buff lt gry f xln blk ang dns hrd calc fill, sli chlky micro foss frags

shl gry med drk gry, blk carb text, wxy grsy pcs,

1st crm buff lt gry f vf xln blk ang dns sub chlky foss frags, micro ool/frags, calc fill

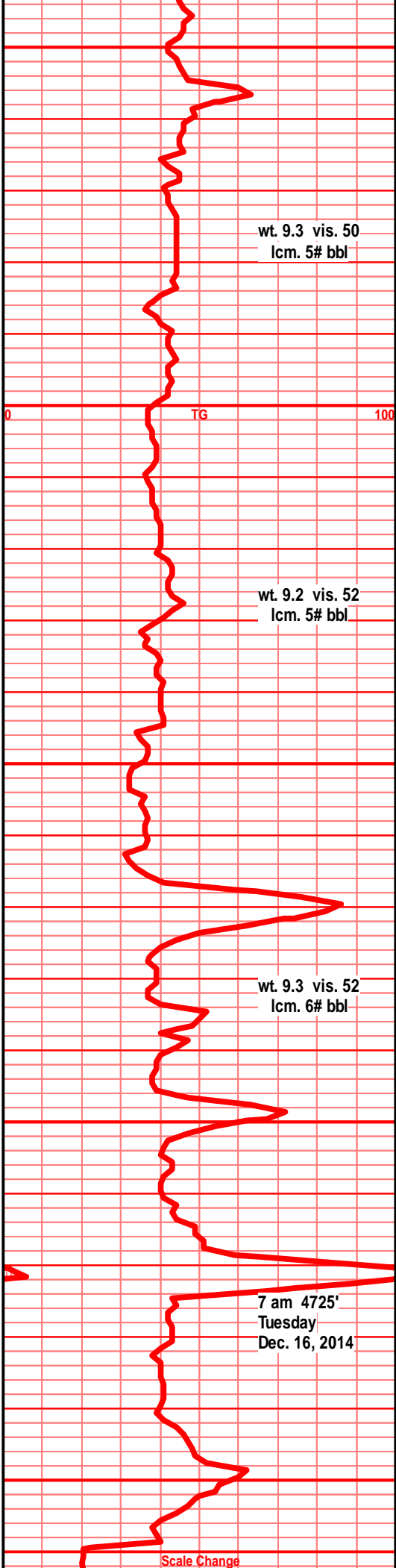
shl gry, drk gry blk, blk carb text, wxy grs pcs, blk ang pcs. 1st crm drk tan gry f vf xln dns hrd blk ang foss sli chlky

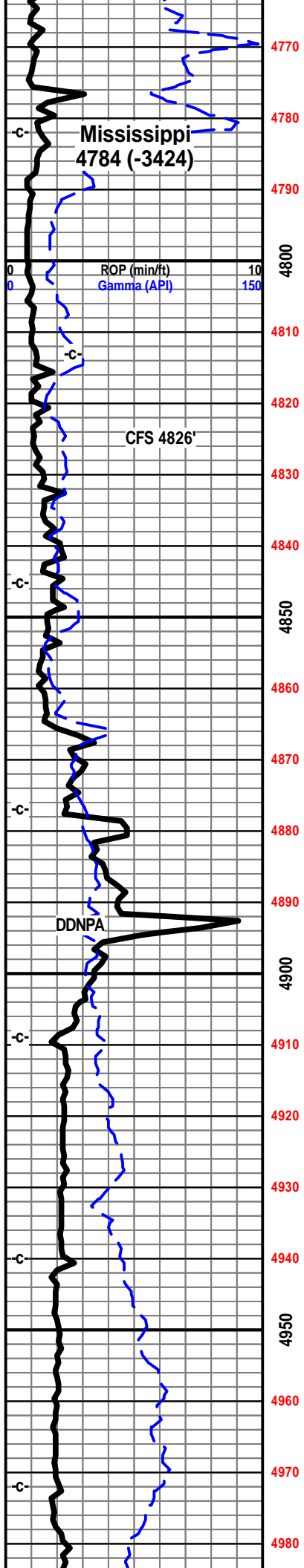
1st crm lt gry tan f vf xln dns hrd blk sli chlky, calc xln fill, micro foss frags

1st crm tan lt gry f vf xln hrd dns blk ang pcs, sub chlky in prt, arg in prt, micro foss frags, calc xln fill

shl gry, lt gry green, tr blue green, silty gritty, sndy, tr spintery shards.

shl gry drk gry blk, gry green, tr blue green





4770 silty gritty, soft, snd grn inclu, ratty, tr yellw/maroon vari color

4780 shl gry drk gry, gry/green, blue/green, silty gritty, soft, ratty, snd grn inclu, tr yllw/maroon vari color

4790 chrt wht, bone wht, tr blue gry, shrp frsh sub opaq, blk ang, tr blk edge stain, pp tr frac por, chrt wht bone wht w/blue gry tint frsh sub opaq w/off wht tan brn mott weath text edge, trip text, sli gran/chlky, gd vis pp moldic por, gd odor, stain, SFO, "spitting" gas

4800 chrt, frsh chrt aa, wht, bone wht, tr lt blue gry tint with weath sli trip text edges, drk stain, SFO, gas, chrt off wht tan brn tr blk mott, weath gran sli spongy trip text, soft, gd pp moldic por, fair/gd odor, SFO, gas bubs, tr hvly blk stain

4810 chrt wht off wht, tr lt gry, shrp frsh, blk, sub opaq, weath gran sli spongy trip text edges, pp moldic por, brn stain, SFO, gas bubs, tr blk hvly stain, chrt wht tan brn/blk mott weath gran sli spongy trip text, gd pp moldic por, stain, SFO, fair odor, tr blk hvly stain

4820 chrt, frsh chrt aa, wht, bone wht, tr lt blue gry tint with weath sli trip text edges, drk stain, SFO, gas, chrt off wht tan brn tr blk mott, weath gran sli spongy trip text, soft, gd pp moldic por, fair/gd odor, SFO, gas bubs, tr hvly blk stain

4830 chrt wht off wht, tr lt gry, shrp frsh, blk, sub opaq, weath gran sli spongy trip text edges, pp moldic por, brn stain, SFO, gas bubs, tr blk hvly stain, chrt wht tan brn/blk mott weath gran sli spongy trip text, gd pp moldic por, stain, SFO, fair odor, tr blk hvly stain

4840 chrt, frsh chrt aa, wht, bone wht, tr lt blue gry tint with weath sli trip text edges, drk stain, SFO, gas, chrt off wht tan brn tr blk mott, weath gran sli spongy trip text, soft, gd pp moldic por, fair/gd odor, SFO, gas bubs, tr hvly blk stain

4850 chrt, frsh chrt aa, wht, bone wht, tr lt blue gry tint with weath sli trip text edges, drk stain, SFO, gas, chrt off wht tan brn tr blk mott, weath gran sli spongy trip text, soft, gd pp moldic por, fair/gd odor, SFO, gas bubs, tr hvly blk stain

4860 chrt, frsh chrt aa, wht, bone wht, tr lt blue gry tint with weath sli trip text edges, drk stain, SFO, gas, chrt off wht tan brn tr blk mott, weath gran sli spongy trip text, soft, gd pp moldic por, fair/gd odor, SFO, gas bubs, tr hvly blk stain

4870 dolo crm lt gry tan f vf xln dns hrd gran, sub suc, arg tr silty, chrt wht shrp frsh opaq

4880 dolo, chrt, chrt dolo, crm tan lt gry f vf xln blk dns, sli silic, sub suc, silty, gran soft text, chrt wht shrp frsh opaq

4890 dolo crm tan lt gry, gry f vf xln gran blk ang dns hrd, silty, silic text, chrt wht shrp frsh opaq very poor samples, much uphole chrt

4900 dolo crm tan lt gry, gry, drker gry, f vf xln gran gran silic, bec silty, arg, gran soft text, chrt wht shrp frsh sub opaq

4910 dolo, silty chrt, dolo, f vf xln dull tan gry silty gritty, sli silic, chrt dull tan gry shrp frsh (samples PDC poor!)

4920 dolo, silty dolo, med gry vf xln dns hrd ang gritty, silic,

4930 dolo, silty dolo, f vf xln gran silty sli silic, gran, gritty

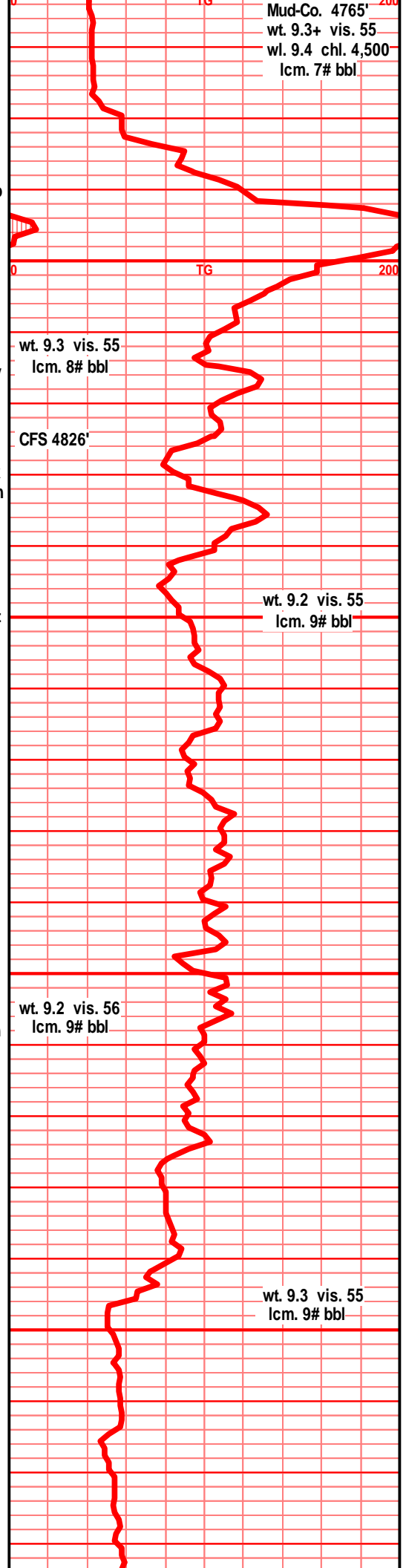
4940 dolo, silty dolo, vf xln gran gritty, shly, sli silic,

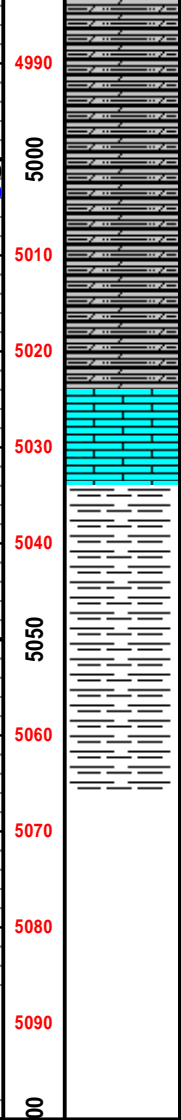
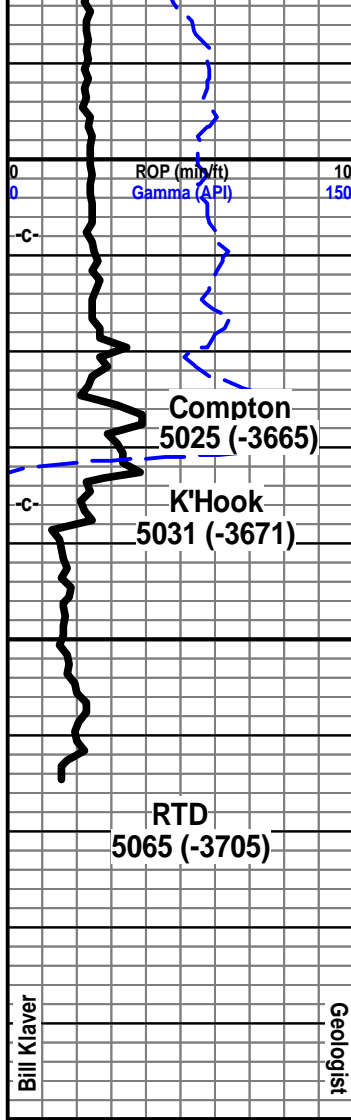
4950 dolo silty dolo, vf xln gran gritty, sli silic, shls gry dns dolo silty

4960 dolo silty dolo, vf xln gran gritty, sli silic, shls gry dns dolo silty

4970 dolo silty dolo, vf xln dns gritty gran, sli silic, shls aa

4980 dolo silty dolo, vf xln gran sli silic, shls drk





gry silty dolo arg

dolo, silty dolo, vf xln gran silty, arg, silic text, blk ang hrd pcs

dolo silty dolo, vf xln gran gritty silty, sli silic text, blk ang dns

dolo silty dolo, shly dolo, vf xln gran gritty sli silic text, hrd dns pcs

aa, no change

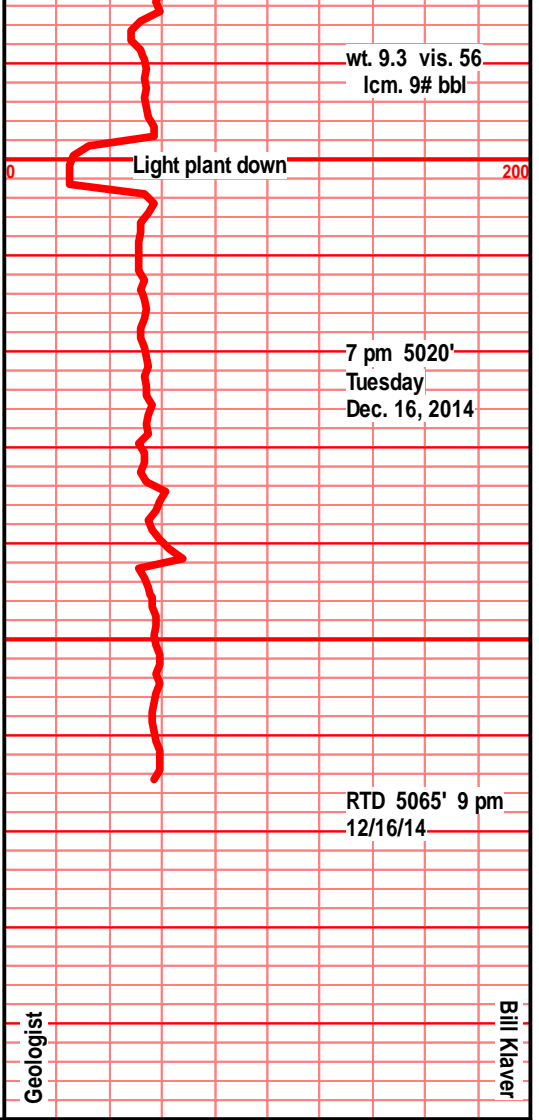
1st off wht dull tan, crm, f sli med xln, blk ang dns, hrd foss frags, tr crs calc xln fill

shl gry drk gry blk, silty fnly gritty

shl gry drk gry blk, blk/brn tint, silty, fnly gritty, bedded, splintery,

Woolsey Operating Company
 Sternberger 'B' #5
 1380' FSL and 2180' FWL
 Approx. SW SE NE SW
 Sec. 12 - Twp 35S - Rge 12W
 Stranathan Field
 Barber County, Kansas

GL 1348' KB 1360'



Bill Klaver

Geologist

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