



Woolsey Operating Company, LLC

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

Measured Depth Log

Well Name: OHLSON #1
Location: Section 16 - Township - 35 South - Range 12 West
License Number: 15-007-24110-00-00 **Region:** Barber County, Kansas
Spud Date: November 20, 2013 **Drilling Completed:** December 1, 2013
Surface Coordinates: NE1/4 NE1/4 NE1/4
400' FNL & 600' FEL
Bottom Hole Coordinates:
Ground Elevation (ft): 1389' **K.B. Elevation (ft):** 1401'
Logged Interval (ft): 3500' **To:** 5523' **Total Depth (ft):** 5523'
Formation: Kansas City Group ----> Simpson Group
Type of Drilling Fluid: Chemical Mud displaced at 3433'
Printed by WellSight Log Viewer 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: Bill Klaver, Joel Gearhart
Company: Woolsey Operating Co. LLC
Address: 125 N. Market, Wichita Kansas, 67202

COMMENTS

Surface Casing: Spud at 2:30 pm on November 20, 2013, ran 5 joints of new 13 3/8" X 48#/ft casing to 221' KB (tally 206.7') with 300 sx Class A cement, 2% gel, 3% cc. Plug down at 9:15 pm on November 20, 2013. Cement did circulate.

Production Casing: 5 1/5" X 15.5#/ft

Deviation Surveys: .5 at 221', 1/4 at 2038', 1/2 at 2513', 1/2 at 3021', 1/2 at 3559', 3/4 at 4065" 1/2 at 4605', 1/4 at 4924', 1 at 5523'

Pipe Strap @ 4924', Board: 4954.06', Strap 4951.79'. Strap 2.27' short to the board, no correction was made to the board.

Fossil Drilling Rig 3 Bit Record:

- 1) 17 1/2" Reed RT RR in at 0' out at 221'. 3.25 hours
- 2) 7 7/8" Varel HE-21 in at 221' out at 4924'. 4063'/99.5 hours
- 4) 7 7/8" Varel HE-29 RT in at 4924', out at 5523', 599'/51.5 hours

Gas Detector: Woolsey Operationg Company, Gas Trailer #2

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

DSTs: Trilobite Testing, Jim Svaty, Tester

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

DSTs

DST #1 4760'-4924' Misrun, tool hit bridge 620' off bottom on trip in with the tool, cussed but could not get through.

DST #2 4760'-4924', 30"-60"-60"-120", Fair blow built to BOB 4 minutes into IFP. BOB 11 minutes into FFP. Recovered: 508' GIP, 112' Mud, 124' OSM (1% Oil, 99% Mud), 120' OCWM (3% Oil, 40% Mud, 57% Water). IHP 2351, IFP 100-133, ISIP 980, FFP 145-191, FSIP 986, FHP 2273. BHT 115 degrees. Chlorides 60,000 ppm, (mud system was 8,000 ppm) API Rw .280 @ 32 degrees

DST #3 Simpson 'F' Dolomite. 5362'-5384', 30"-60"-60"-90", Fair blow built to 7" during IFP. SB BOB immediately on FFP. Recovered: 957' GIP, 40 OCM (15% Oil, 85% Mud). IHP 2695, IFP 17-25, ISIP 1080, FFP 26-33, FSIP 1831, FHP 2539. BHT 129 degrees.

CREWS

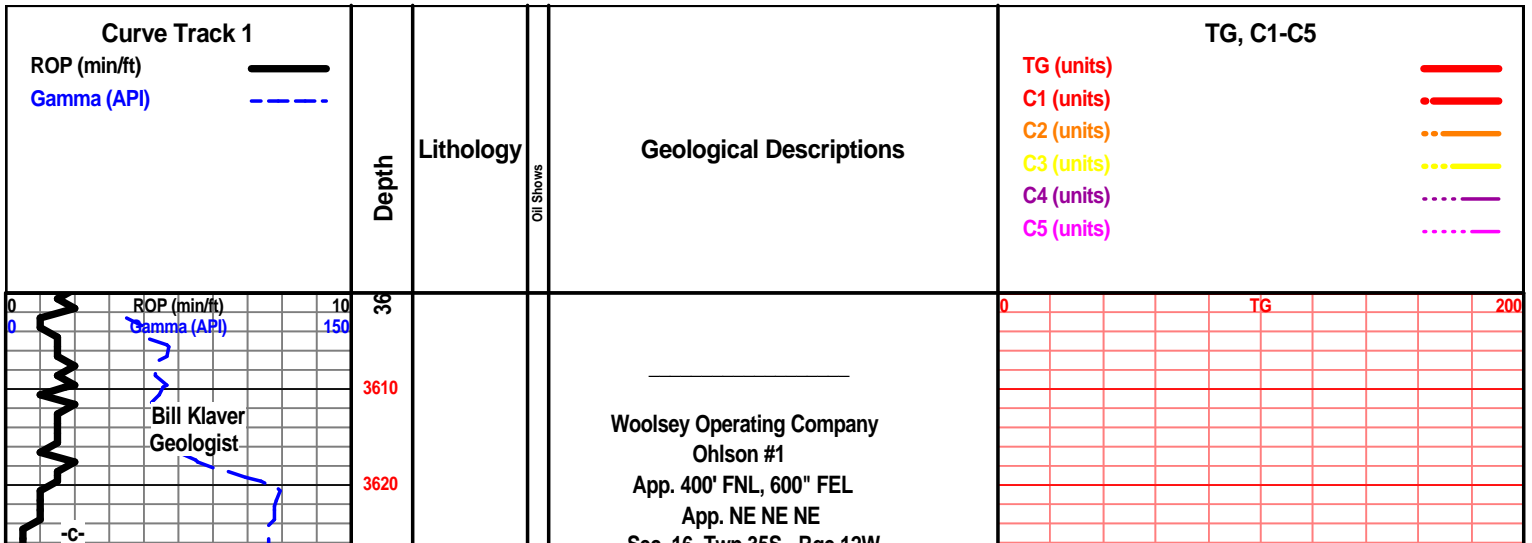
Jim Wenrich, Toolpusher
 Daniel Orrantea, Days
 Ron Burns, Evening
 Andres Maestas, Morning
 Terry Christenson, Relief

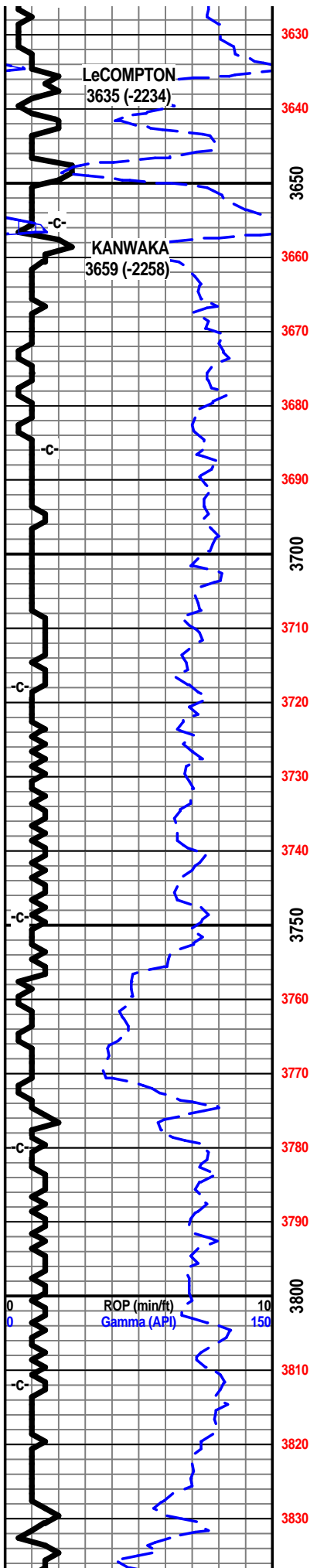
ROCK TYPES

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ACCESSORIES

MINERAL 		FOSSIL 	
			TEXTURE
			STRINGER





Sec. 10 Twp 35S Rge 12W
 Hardtner Field
 Barber County, Kansas
 API # 15-007-24110-00-00

Offset comparison wells for structural control included Woolsey Operating Co's Platt GU #4, S 1/2 SE SE, 9-35S-R12W and Redland Petroleum's Gregory 16-2, C NW NE, 16-35S-R12W.

One minute drill time was recorded from 3600' to rotary total depth. Ten foot drilling and circulating samples were gathered from 4500' to rotary total depth. All samples were delivered to the Survey at the completion of the test.

7 am Progress:

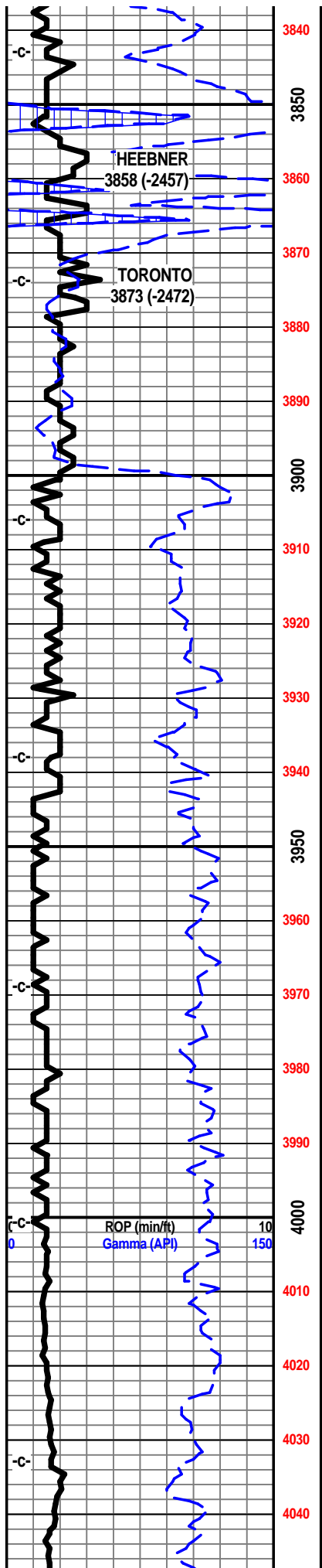
November 20, 2013 MIRT/SPUD
 November 21, 2013 Drilling at 251'
 November 22, 2013 Drilling at 1720'
 November 23, 2013 Drilling at 2670'
 November 24, 2013 Drilling at 3425'
 November 25, 2013 Drilling at 4302'
 November 26, 2013 Drilling at 4757'
 November 27, 2013 DST #1 at 4924'
 November 28, 2013 Drilling at 4992'
 November 29, 2013 Drilling at 5250'
 November 30, 2013 DST #3 at 5384'
 December 1, 2013 RTD of 5523' at 8 am
 E-logs out at 3:30 pm

Scale Change
TG

E-Log Tops:

Herington 1939 (-538)
 Onaga 2814 (-1413)
 Wabaunsee 2874 (-1473)
 LeCompton 3633 (-2232)
 Kanwaka 3656 (-2255)
 Elgin Sand 3752 (-2351)
 Heebner 3856 (-2455)
 Toronto 3867 (-2466)
 Douglas Group 3896 (-2495)
 Douglas Shale 3940 (-2539)
 Haskell not developed
 Stalnaker 4205 (-2804)
 Quindaro 4396 (-2995)
 Kansas City 'F' 4406 (-3005)
 Kansas City 'G' (Iola) 4429 (-3028)
 Kansas City 'H' (Drum) 4482 (-3081)
 Kansas City 'I' (Dennis) 4511 (-3110)
 Stark Shale 4558 (-3157)
 Kansas City 'J' (Swope) 4573 (-3172)
 Hushpuckney Shale 4590 (-3189)
 Kansas City 'K' (Hertha) 4603 (-3202)
 B/Kansas City 4637 (-3236)
 Pawnee 4737 (-3336)
 Cherokee Group 4790 (-3389)
 Cherokee Sand 4821 (-3420)
 Mississippian Unc. 4852 (-3451)
 C3 4852 (-3451)

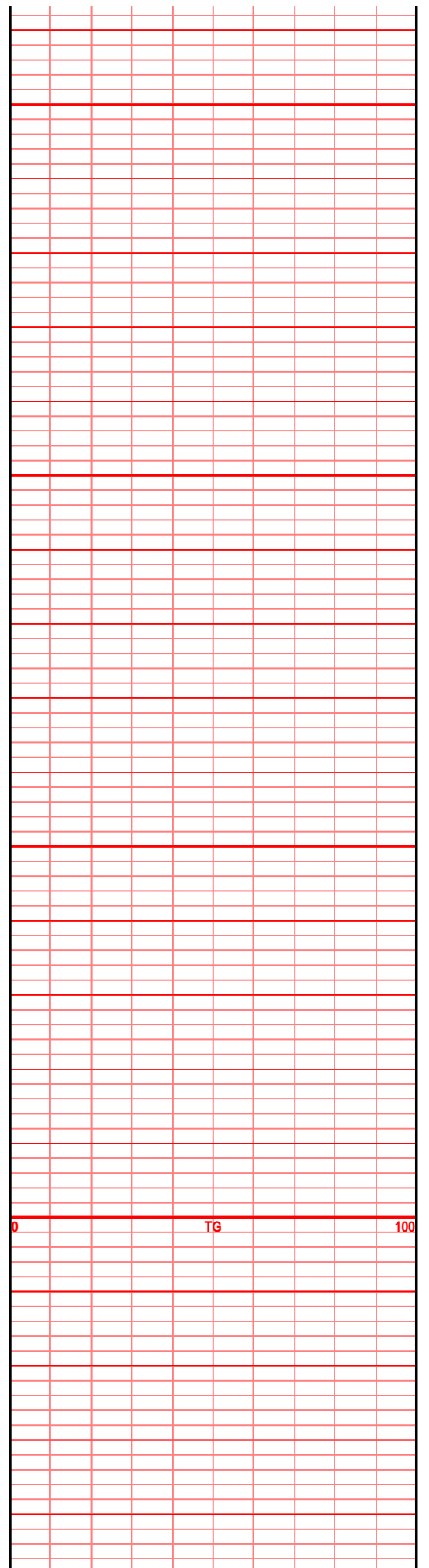
TG

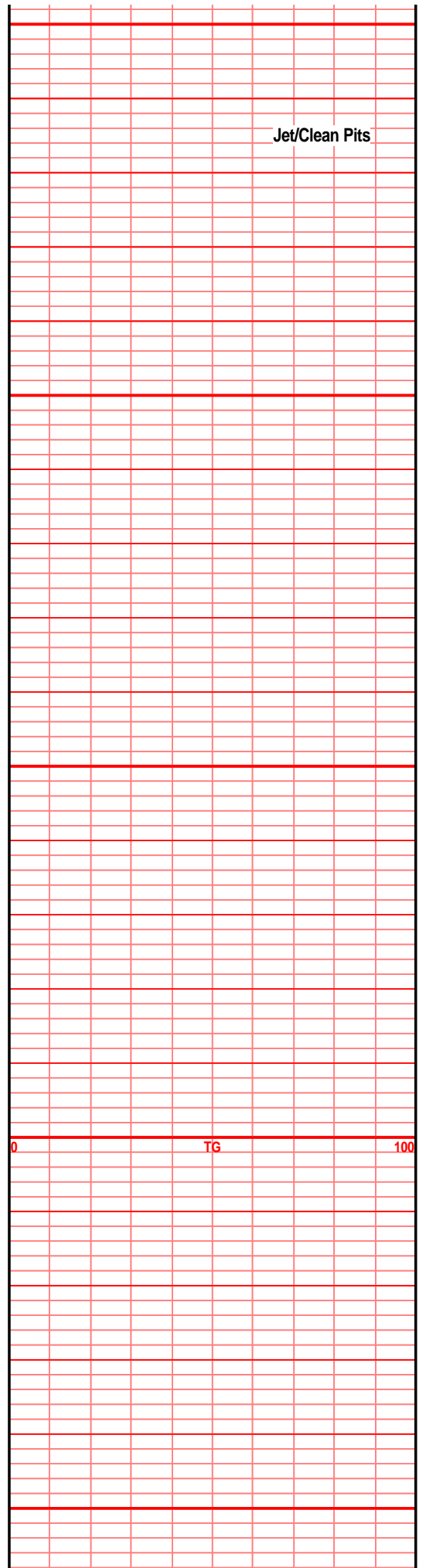
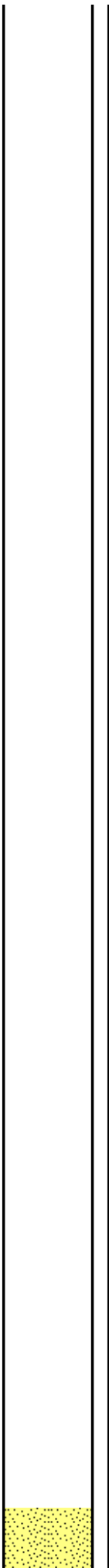
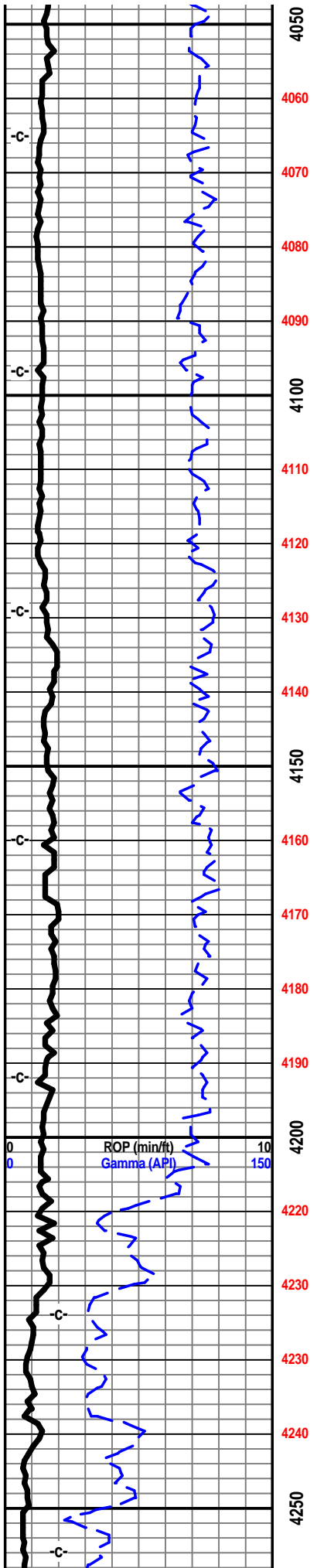


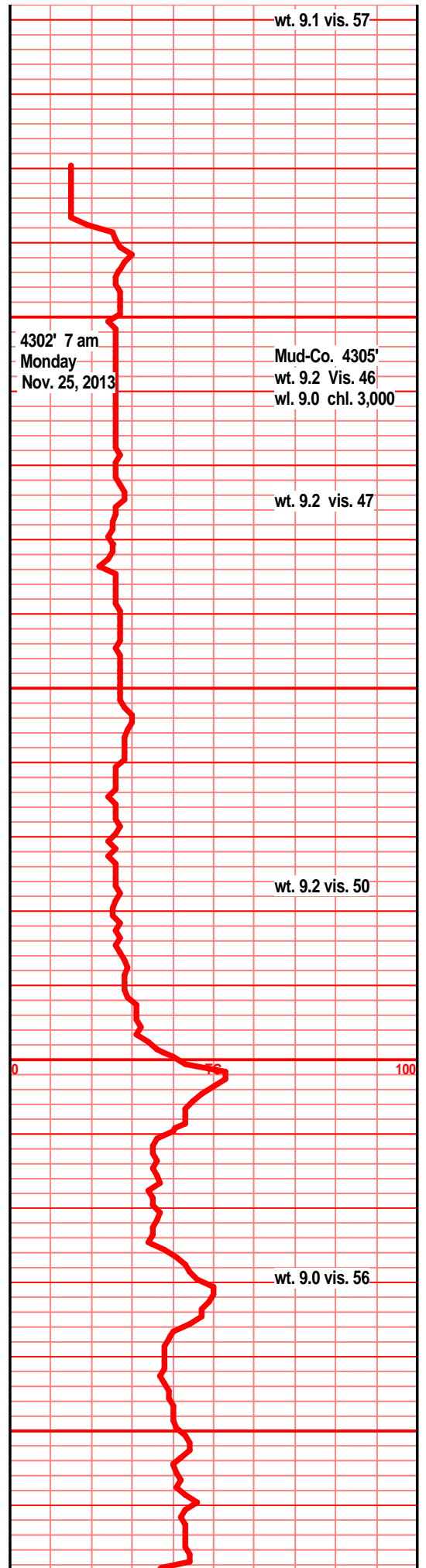
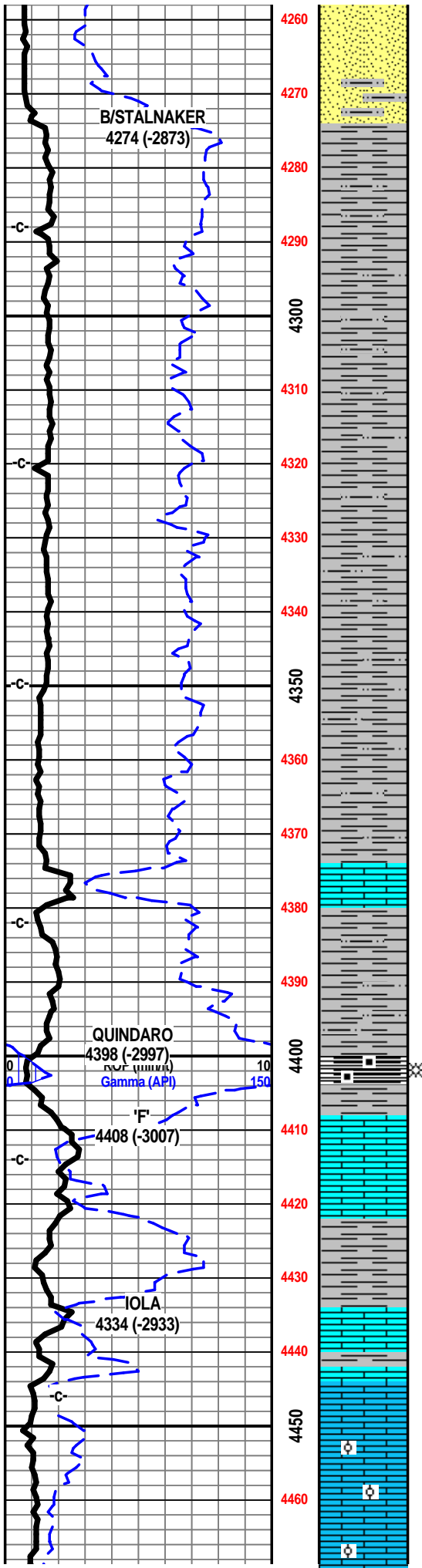
- C2 4924 (-3523)
- C1 5005 (-3604)
- Osage 5078 (-3677)
- Northview Shale 5098 (-3697)
- Compton 5116 (-3715)
- Kinderhook 5134 (-3733)
- Woodford 5207 (-3806)
- Misener Zone 5230 (-3829)
- Viola 5263 (-3862)
- Simpson Group 5376 (-3975)
- Simpson "F" Dolomite 5378 (-3977)
- Simpson "D" Sand 5390 (-3989)
- Simpson "Wilcox" 5397 (-3996)
- McLish Shale 5480 (-4079)
- LTD 5522 (-4121)

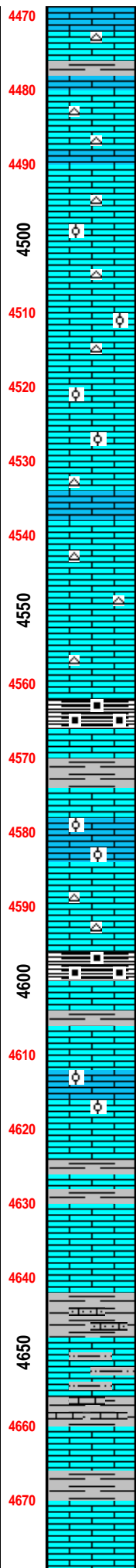
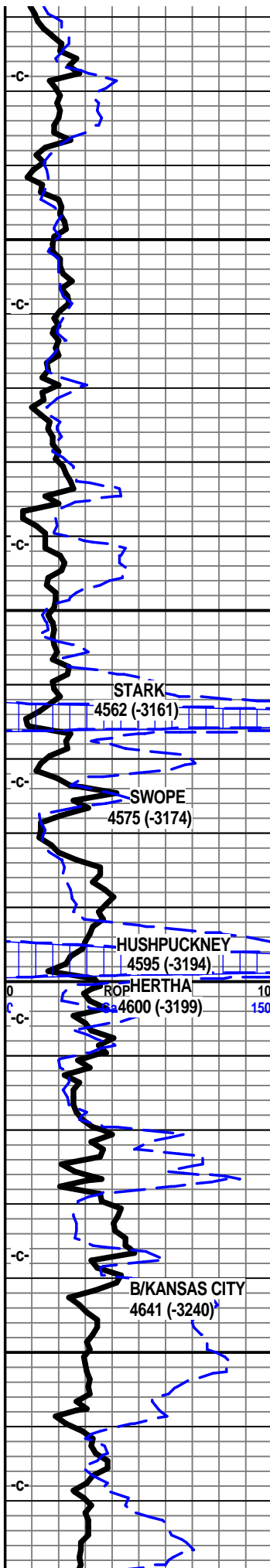
Oil and Gas Show Legend

- ⊗ Gas
- Even Stain/Saturation
- ◐ Spotted Stain/Saturation
- Questionable
- ◑ Dead/Gilsonitic









4470
4480
4490
4500
4510
4520
4530
4540
4550
4560
4570
4580
4590
4600
4610
4620
4630
4640
4650
4660
4670

Ist off wht crm off tan f sli med xln gran soft sub chlky foss frags, foss mold por, tr chrt, chrt off wht tan shrp frsh

Ist wht crm tan f xln blk ang sub chlky, foss frags, foss ool, foss mold, inter xln por,

Ist wht off wht crm f xln, blk ang sub chlky foss frags, foss ool, inter xln, mstly dns hrd, chrt wht off wht shrp frsh

Ist off wht crm tan, f xln blk ang sub chlky foss frags foss ool, chrt off wht lt gry shrp frsh

Ist off wht crm tan f xln blk ang sub chlky mstly dns hrd foss frags, inter xln por tr moldic por

Ist crm off tan lt gry f xln gran blk ang hrd dns, sub chlky foss frags tr ool, inter xln por, chrt tan drk gry shrp frsh

Ist tan crm off wht, f sli med xln in prt, sub chlky, foss frags, foss ool, inter xln por foss mold por, tr tan drk brn ool/oomoldic f sli med xln Ist

shl drk gry blk, blk carb, gas bubs on brk, Ist tan crm gry f xln blk ang dns hrd foss frags

Ist crm tan lt tan/gry f sln gran blk ang sub chlky foss frags, moldic pp por, chrt tan gry shrp frsh opa

Ist crm tan tr lt brn f sli med xln, gran blk ang dns, sub chlky, foss frags, foss ool, oomold, inter xln por, pp por, chrt off wht lt gry shrp frsh opa

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

Ist crm tan lt gry in prt, f xln blk ang dns, tr sub chlky, foss frags, foss ool, calc xln fill, pp moldic por

Ist crm tan off wht, f sli med xln gran blk ang sub chlky foss frags, calc xln fill

Ist crm buff tan lt brn f xln blk ang hrd dns, tr sub chlky, foss frags, gran, chrt gry brn shrp frsh opa

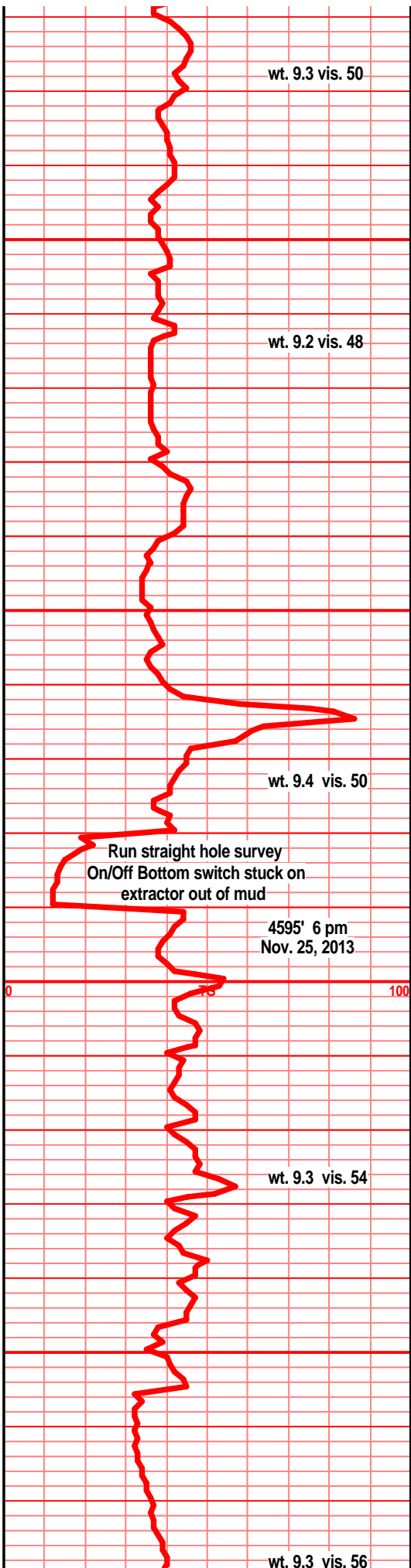
Ist grn gry tan f vr xln dns hrd blk ang arg, tr sub chlky, micro foss frags, chrt drk gry brn shrp frsh foss opa

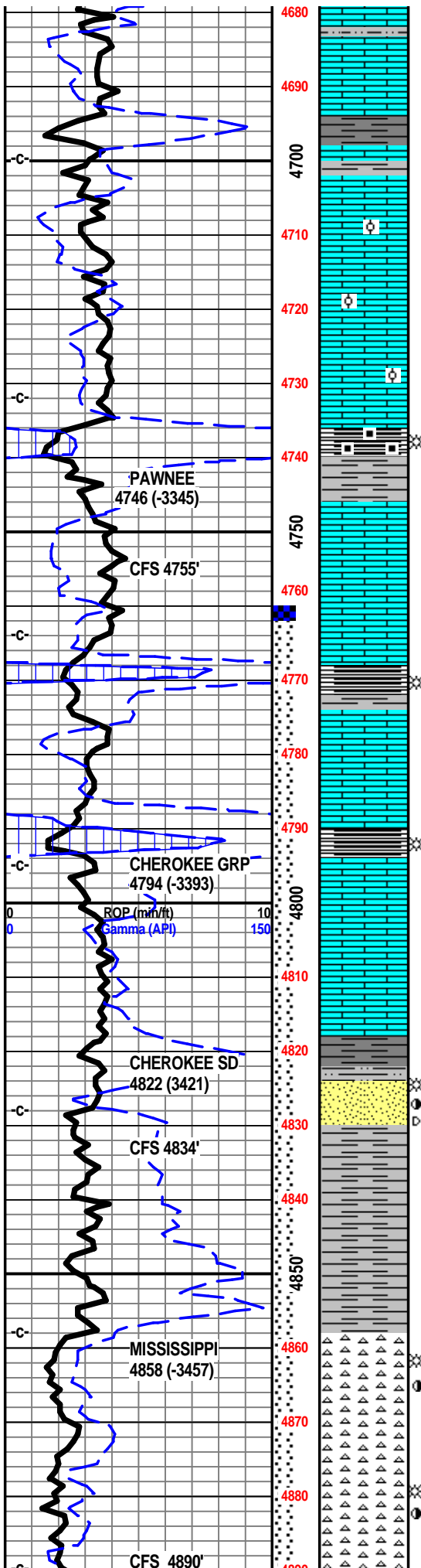
shl gry med gry brn, silty gritty calc, Ist tan gry lt brn f xln dns hrd blk ang arg

shl gry brn, gry brn, silty gritty calc, Ist tan gry brn f vf xln dns gritty arg silty

Ist cm tan brn f vf xln dns hrd blk ang arg, tr silty, shl gry green silty gritty calc

Ist crm tan lt brn/gry f vf xln dns hrd blk ang dns, tr foss frags, tr silty gritty arg, chrt tan brn shrp frsh





lst crm buff tan f xln, dns blk ang tr micro xln, tr sub chlky, some micro foss frags,

shl gry med/drk gry, silty, gritty, firm,

lst buff crm lt tan f vf xln blk ang dns, tr sub chlky, micro foss frags, micro ool in prt

lsr buff crm lt tan, f vf xln dns hrd blk ang, tr sub chlky, tr micro foss frags, micro ool/pelletal,

lst buff crm tan lt tan f vf xln blk ang dns hrd, tr sub chlky, mstly hrd firm, micro foss frags,

lst crm buff tan f vf xln dns hrd blk ang, tr sub chlky, micro foss frags, foss ool

shl gry dkr gry blk, blk carb, wxy grsy text, abun gas bubs on brk

lst crm semi buff tan, f tr vfn xln, blk ang dns hrd, tr sub chlky, foss frags, micro ool/pelletal, tr inter xln por, mstly calc xln fill, NS

lst off tan lt gry tan f sli vf xln blk ang dns hrd, foss frags, micro foss frags, calc xln fill, some sub chlky

shl gry, drk gry blk, blk carb in prt, silty gritty blk ang pcs, lst aa in sample

lst crm tan lt gry/brn f vf xln dns hrd blk ang pcs, micro foss frags/ool, tr sub chlky, calc xln fill

lst crm lt gry tan f vf xln dns hrd blk ang, tr sub chlky, foss frags, micro ool/pelletal,

shl gry, drk gry blk, blk carb, wxy grsy text, lst tan lt gry f vf xln, dns hrd blk ang, foss frags, micro ool, tr arg,

lst tan crm lt gry/brn f vf xln dns hrd blk ang arg, micro foss frags, incr gry green silty gritty shls

lst as above, and shl gry med gry green, tr blue gry to vary color, silty gritty, gran

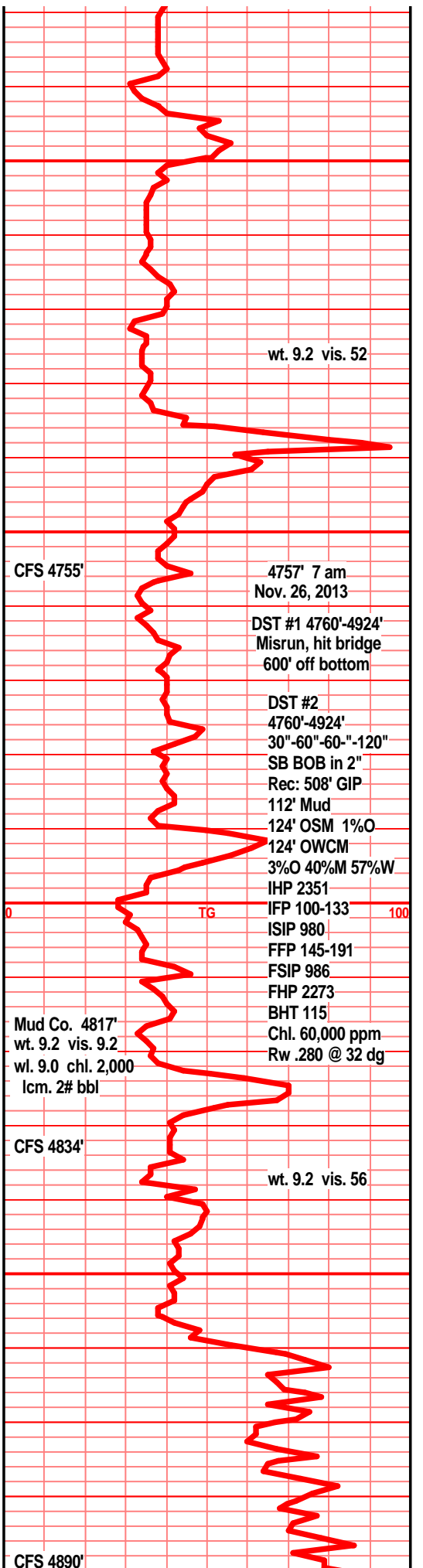
sst brn drk brn clstrs, f vf grnd, sub ang grns, w/srted, w/cem, tr sub fria, mstly tite, blk ang hrd clstrs, tr quartzitic text, ques odor, filmy SFO on brk, sli sho gas bubs on brk, gilsonitic stain

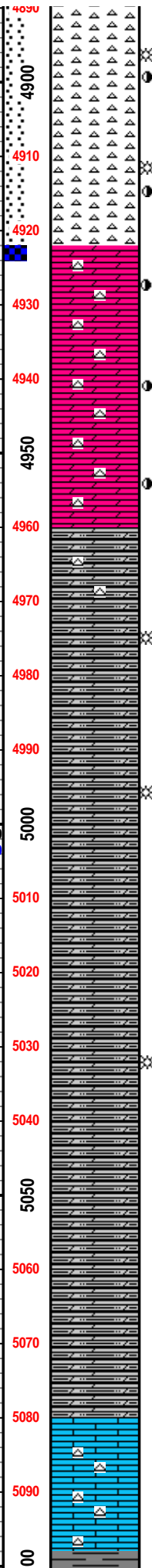
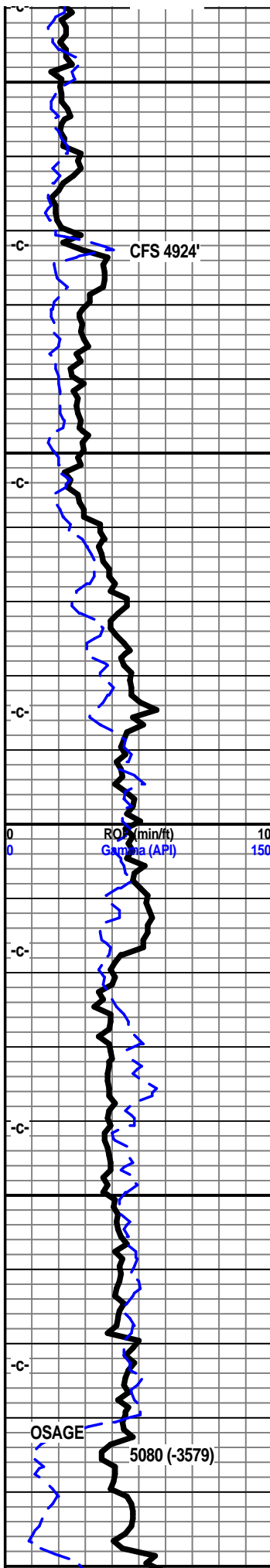
shl gry, gry brn green, reddish, tr yellow, vari color, lst tan brn f mic xln dns hrd blk ang arg silty

shl gry brn silty gritty, splintery, shls gry blue green silty gritty

chrt wht off wht, bone wht, shrp frsh blk ang pcs, tr off wht tan sli orange/yellow tinted, chrt wht off wht bone wht with sli weath edges/inclusions, pp sli moldic por, drk brn/blk stain, filmy RBSFO, filmy SFO, abun gas bubs, good odor

chrt wht off wht shrp frsh blk ang pcs, sub opa, with drk brn/blk stained sli weath edges/sides, pp moldic por, drk brn blk stain, drk brn blk SFO, tr sli grsy SFO, less odor, gas bubs, chrt off wht sli tan to vry lt brn, weath gran text, weath pp moldic por, tan brn stain, fair gas/SFO on brk, odor on brk, abun drk brn/blk oil droplets floating on spl water.





chrt wht off wht tr bone wht, tr off wht tan, shrp frsh blkly ang cloudy, sub opaq pcs, NVP/NS, chrt off wht lt tan shrp blkly ang with gran weath text edge/sides, weath pp moldic por, weath text inclusions, tan brn stain, fair gas/SFO on brk, lt transl SFO on gas bub brk, sli odor in all, abun drk brn/blk sli dead sli grsy oil droplets floating on spl water

chrt off wht tr bone wht, shrp frsh blkly sub opaq, chrt wht off wht shrp frsh with weath gran text edge, pp moldic por, drk brn/blk stain, fair to good odor, chrt wht/gry green brn mott, weath gran trip text, pp moldic gd vug por, drk tan brn/blk stain, gd sho gas bubs/SFO on break, much drk brn hvy floating oil droplets on spl wtr

dolo crm tan lt gry/tan f vf xln gran blkly and dns hrd, tr soft/chlky/silty, tr vf ang sd grn inclu, tr glau, tr sli inter xln por, tan brn stain, drk tan/brn SFO, odor, floaters, tr tan/wht sli weath chrt inclu w/pp moldic por, drk tan brn stain, SFO

dolo crm tan lt off gry f vf xln gran, tr silty, blkly ang pcs, tr vf ang snd grn inclu, tr sub chlky/soft, tr inter xln por, drk tan brn stain, odor, drk tan brn SFO, w/tan off wht sli weath text chrt inclu, pp moldic por, drk tan brn stain

dolo tan off wht lt gry f vf xln, gran, silty, gritty, snd grn inclu, tr glau, tr inter xln por, mstly tite dns, tr tan brn stain, faint odor, chrt wht tan shrp frsh opaq

dolo tan off wht, tan/gry, bec drk w/depth f vf xln dns hrd blkly ang pcs, sli clkly/silty text, tr glau, vf sub ang snd grn inclu,

dolo, silty dolo, gry bec gry med drk gry, silty gritty blkly ang pcs, shls silts, drk gry, dolo text, tr chrt lt gry shrp frsh opaq

dolo silty shly dolo, drk gry, f vf xln gran gritty silty arg

dolo, silty dolo, med/drk gry silty gritty arg, shls drk med drk gry silty gritty

dolo silty dolo, gry med/drkk gry silty gritty, silts/shls drk gry med drk gry

dolo silty dolo, drk med drk gry silty gritty, arg,

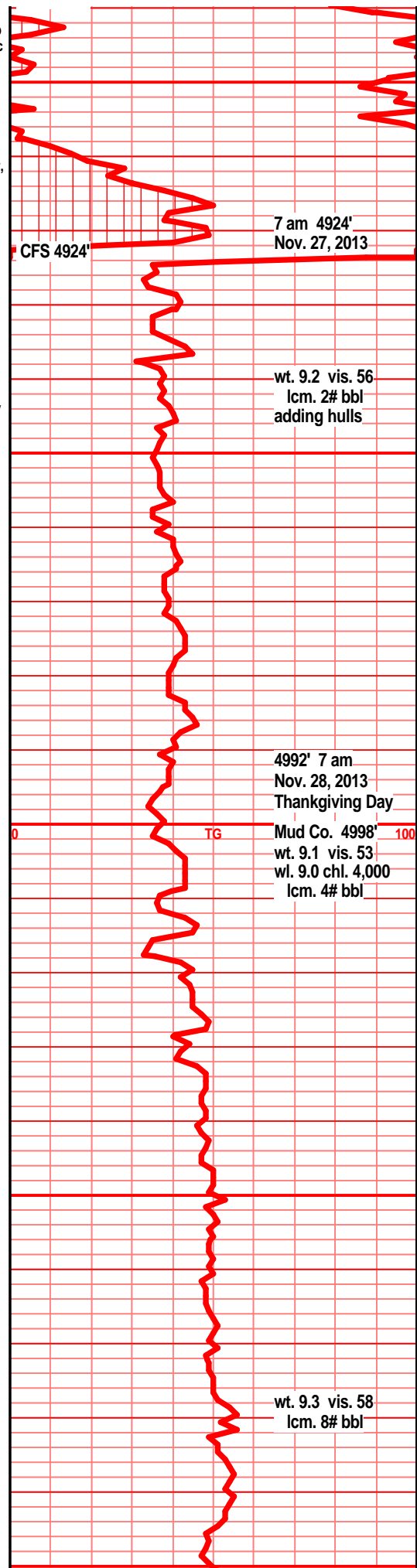
dolo silty dolo, shly silty gritty gran dolo, silts

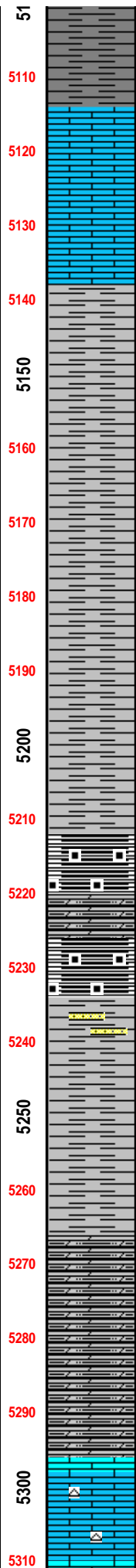
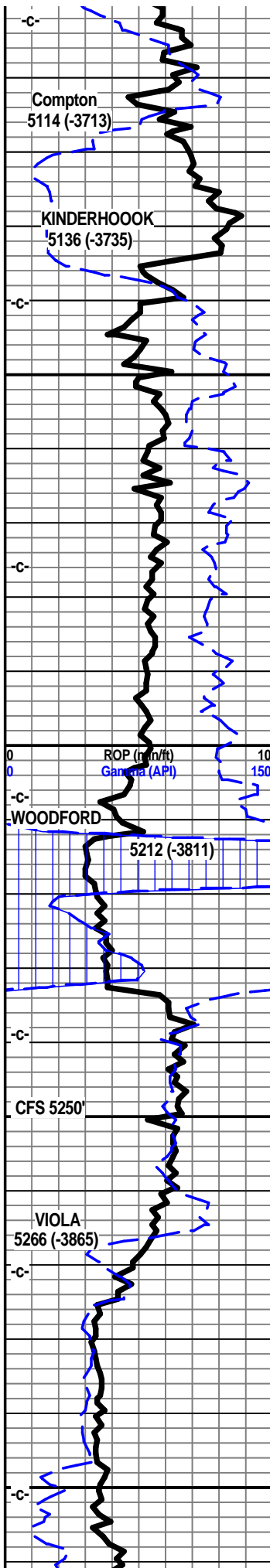
drk gry med drk gry silty dolo, fnly xln text, gritty ang arg pcs

dolo, silty dolo, med drk gry, gritty silty, micro xln text, arg, shls drk gry silty gritty

dolo, silty gritty dolo, vf/micro xln text, drk med/drk gry silty gritty, arg tr gas bubs

lst wht off wht crm f sli med xln dns hrd blkly ang tr sub chlky, tr glau, tr foss mold calc filled, much crs calc xln fill, chrt wht shrp opaq





shl gry green, drk blue/green slick grsy, silty in prt

5110
1st crm dull tan w/sl gry lt green tint, f xln blk ang dns hrd, tr micro foss frags, tr sli sub chlky, tr calc xln fill

5120
1st crm off wht lt gry tan, tr gry green tint, f xln msly dns massive, tr sub chlky, tr micro foss frags,

5130
1st off wth, dull gry wht f xln blk and dns hrd, tr sub chlky, tr calc xln fill

5140

5150
shl gry pale gry silty, med gry greenish, sli gritty, tr spintery, tr gas bubs, vfn clr sub ang snd grn inclu

5160
shl gry drk med gry, brn tint, silty soft gritty pyritic

5170
shl drk med drk gry silty soft gritty, vf sub ang snd grn inclu, gas bubs

5180
shl gry med drk gry green, tr red tinted, silty gritty, platy, flky tr splintery

5190
shl drk gry, med gry, reddish tint in prt, silty gritty, soft, gas bubs

5200
shl gry drk med drk gry, reddish tint, silty soft, tr gritty, platy bedded, gas bubs

5210
shl gry med drk gry silty gritty. platy, bedded,

5220
shl, dolo shl, drk gry, blk, mstly blk, deep/drk brownish blk, tr blk carb text, silty, gritty, blk ang soft pcs, pyritic, dull min copper grains, abun gas bubs, filmy cond show on brk,

5230
shl drk gry blk, deep red/brn/blk, blk ang pcs, silty dolo text in prt, soft gran in prt, abun gas bubs, filmy cond sho on brk

5240
shl gry lt/med gry, silty gritty, silty dolo text, tr sndy text, tr w/small snd grn inclu, msly soft, tr gas bubs, sst (1-2 clstrs) wht f grnd, sub ang grns, prly srted, soft, gran, hvy calc/dolo fill, blk ang pcs, NS

5250
shl sli dolo shl, lt gry, lt gry greenish, silty gritty. tr vry fn grnd subang sd grn inclu

5260
shl gry lt med gry dilty soft mushy, gritty silty

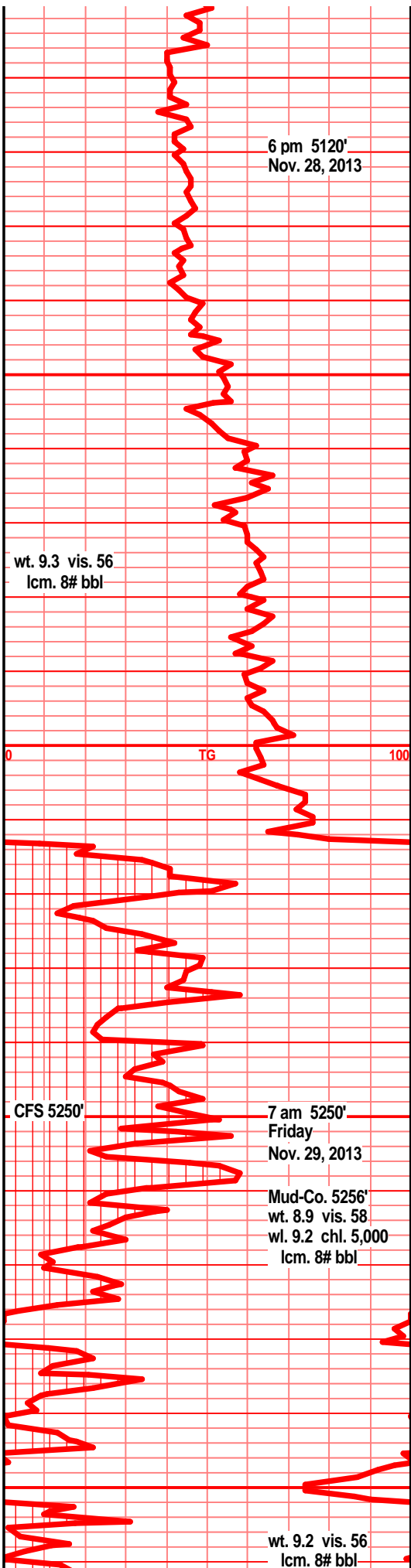
5270
dolo, shly dolo, gry red brn vfnly xln sub text, gritty silty, tr gas bubs

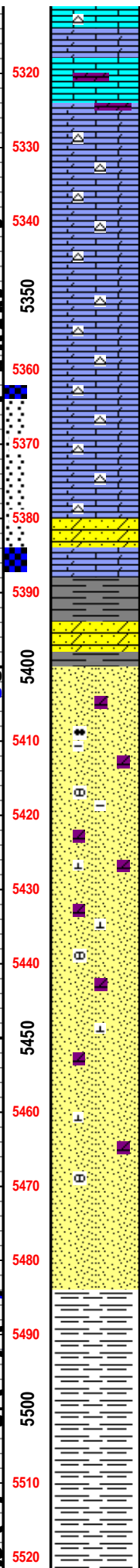
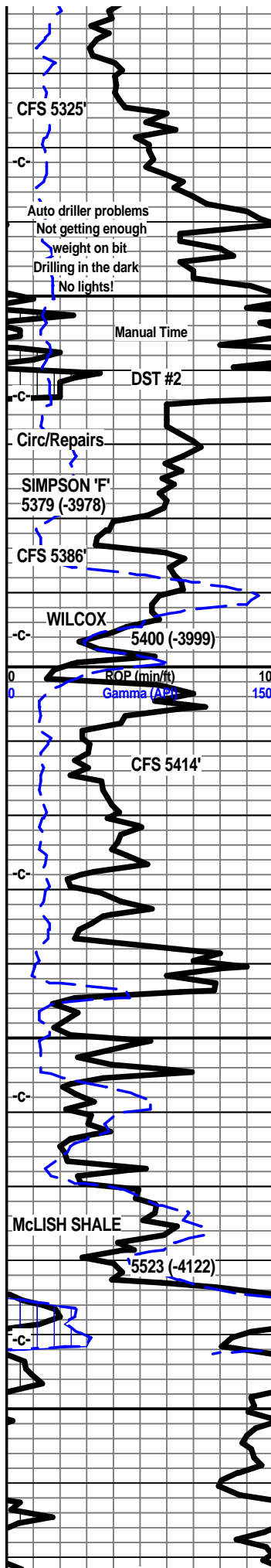
5280
dolo, silty shly dolo, gry tan lt red/brn, silty gritty soft much, tr gas bubs

5290
dolo silty dolo, lt med gry gran gritty, soft mushy in prt, pyritic, gas bubs

5300
1st wht off wht, wht lt gry mott, f med xln, blk ang pcs, calc xln fill, crs calc xln fill in prt, tr foss frags, tr pyritic, calc filled foss molds, fair inter xln por, chrt wht lt gry shrp frsh foss, ool, frags NS

5310





5320 - 5330: Ist wnt orr wnt it gry r xin gran sort musny sub chlky, Ist tr dolo, off wht lt gry/gry mott, f sli med xln, blk ang pcs, tr crs calc xln text, inter xln por, pyritic in prt, foss frags, calc fill foss molds, tr chrt wht tan shrp frsh opa q foss frags NS
 5330 - 5340: Ist, dolo in prt, tan dull tan brn f vf xln blk ang dns hrd pcs, dull tan brn shrp frsh semi opa q chrt inclu, chrt dull tan brn shrp frsh opa q
 5340 - 5350: Ist, dolo in prt, off wht tan dull brn, tr sub chlky soft gran, mstly dull tan brn f vf xln dns hrd blk ang chrty pcs, dull tan brn chrt inclu, chrt dull tan brn shrp frsh opa q, tr with tan brn dolo f xln edge
 5350 - 5360: dolo Ist, tan drk tan dull brn f vf xln dns hrd blk ang, tr foss frags, tan brn chrt inclu, chrt tan dull brn shrp frsh opa q
 5360 - 5370: dolo Ist, tan drk brn dul tan brn f vf xln dns hrd blk ang, chrty aa, chrt dull gry tan brn shrp frsh semi opa q
 5370 - 5380: dolo, sndy dolo, drk brn, drk reddish brn, f med xln, sli suc text, sndy text, clr sub ang f grnd sd grn inclu, gd inter xln, bleeding gas bubs, fair/gd odor, fair sho lt transl SFO, gd gas & transl SFO on brk
 5380 - 5390: shl gry blue/gry teal green, snd grn inclu, sst lt gry grn, tr gry clr, f grnd, sub ang grns, prly srted, vw/cem, tr sub fria, arg, pyritic, silic cem blk ang dns clstrs
 5390 - 5400: sst wht off wht clstrs, sub ang/sub rded grns, fair to well srted, sub fria to tite, prly cem, silic cem, inter grain por, dolo in prt, dead flky gilsonit stain, tr filmy dead oil smear
 5400 - 5410: sst wht frosted, off wht lt tan/gry clstrs, f grnd, sug and/sub rded grns, fair/well srted, sub fria to tr tite blk ang, fair/well cem silic cem, tr rare gas bub, dead gilsonitc flakes
 5410 - 5420: sst wht, off wht tr tan, tr tan lt gry f grnd, sub ang/sub rded grns, fair, tr prly srted, sub fria to tite, msly prly cem, silic cem, tr min fill, tr dead flky gilson stain, rare gas bub
 5420 - 5430: sst wht f tr vf grnd, sub rded to rded grns, tr sub ang, mstly w/srted, sub fria and tite, tr inter gran por, mostly tite, silic cem, tr w/flky gilson stain, tr mineral fill/specks
 5430 - 5440: sst wht off wht, f tr vf grnd, sub ang/sub rded grns, fair to msly w/srted, fair to prly cem, inter gran por, sub fria and tite, mineral fill, tr dolo text fill, silic cem, tr chlorite,
 5440 - 5450: shl gry green silty gritty sndy, w/snd grn inclu, sst wht crm/wht clstrs, f tr vf grnd, sub ang to sub rded grns, fair to well srted, fair to prly cem, inter gran por, silic cem, tr calc fill, tr glau, some dolo xln fill,
 5450 - 5460: sst aa, shl drk gry. gry/blk, green, dark teal green, pyritic, silty, much snd grn inclu
 5460 - 5470: shl gry, drk gry blk, drk gry green, drk teal green, silty, slick wxy text
 5470 - 5480: shl gry dkr gry green teal green, silty wxy sli grsy test, snd grn inclu, pyritic
 5480 - 5490: shl drk gry/green, drk gry blk teal green silty gritty in prt, slick wxy grsy text in prt, snd grn

