



Woolsey Operating Company, LLC

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

Well Name: CUNNINGHAM #7
Location: Section 10 - Township 32 South - Range 12 West
License Number: 15-007-24232-00-00 Region: Barber County, Kansas
Spud Date: October 31, 2014 Drilling Completed: November 9, 2014
Surface Coordinates: 405' FSL and 810' FEL
Apx. NE SW SE SE

Bottom Hole
Coordinates:
Ground Elevation (ft): 1512' K.B. Elevation (ft): 1524'
Logged Interval (ft): 3600' To: 4770' Total Depth (ft): 4770'
Formation: Toronto ----> Simpson Group
Type of Drilling Fluid: Chemical Mud, displaced at 3199'

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

COMMENTS

Surface Casing: Spud at 1:40 pm on 10/31/2014. Ran 5 joints of 13 3/8" X 48#/ft casing to 234' KB, cemented with 300 sx Class A, 2% gel, 3% cc. Plug down 10:30 pm. Cement did circulate.

Production Casing: None OBM

Deviation Surveys: 3/4 at 234', 3/4 at 1012', 1 at 1414', 1/4 at 1896', 1/2 at 2501', 1 at 3008', 3/4 at 3515', 1/4 at 3990', 3/4 at 4498', 1 at 4615', 2 at 4770'.

Pipe Strap @ 4615'

Fossil Drilling Rig #3 Bit Record

1) 17 1/2" Smith RR, in at 0' out at 234', 3 hours.

2) 7 7/8" Varel HE-21 in at 234' out at 4615', 123 3/4 hours

3) 7 7/8" Varel HE-29 RR in at 4615', out at 4770'

Gas Detector: Woolsey Operating Co. Gas Shack #2

Mud System: Chemical Mud, Brad Bortz, Terry Ison Engineers

Company Man: Mike Tharp, Woolsey Operating Co.

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

Pipe Strap at 4616', Board: 4625.06', Strap: 4623.93'. Strap 1.13' short, no corrections were made to the board.


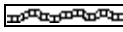
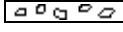
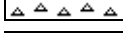




DSTs






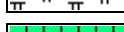


DST #1 Viola, 4481'-4615', 30"-60"-60"-90", FB BOB 9 minutes into IFP, Weak 2" blow during FFP. Recovered: 90' Mud. IHP 2266, IFP 98-51, ISIP 62, FFP 52-55, FSIP 72, FHP 72. BHT 121.





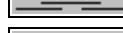
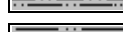
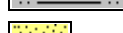

CREWS

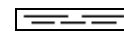







Jim Wenrick, Tool Pusher
 Daniel Orrantia, Daylights
 Ron Burns, Evening
 Kirk Shuman, Morning
 Chris Slatts, Relief

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
-  Shyslstst
-  Sltysh
-  Ss 2

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

ACCESSORIES

MINERAL

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

- Chlorite
- Dol
- Sand
- Sltly

FOSSIL

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

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

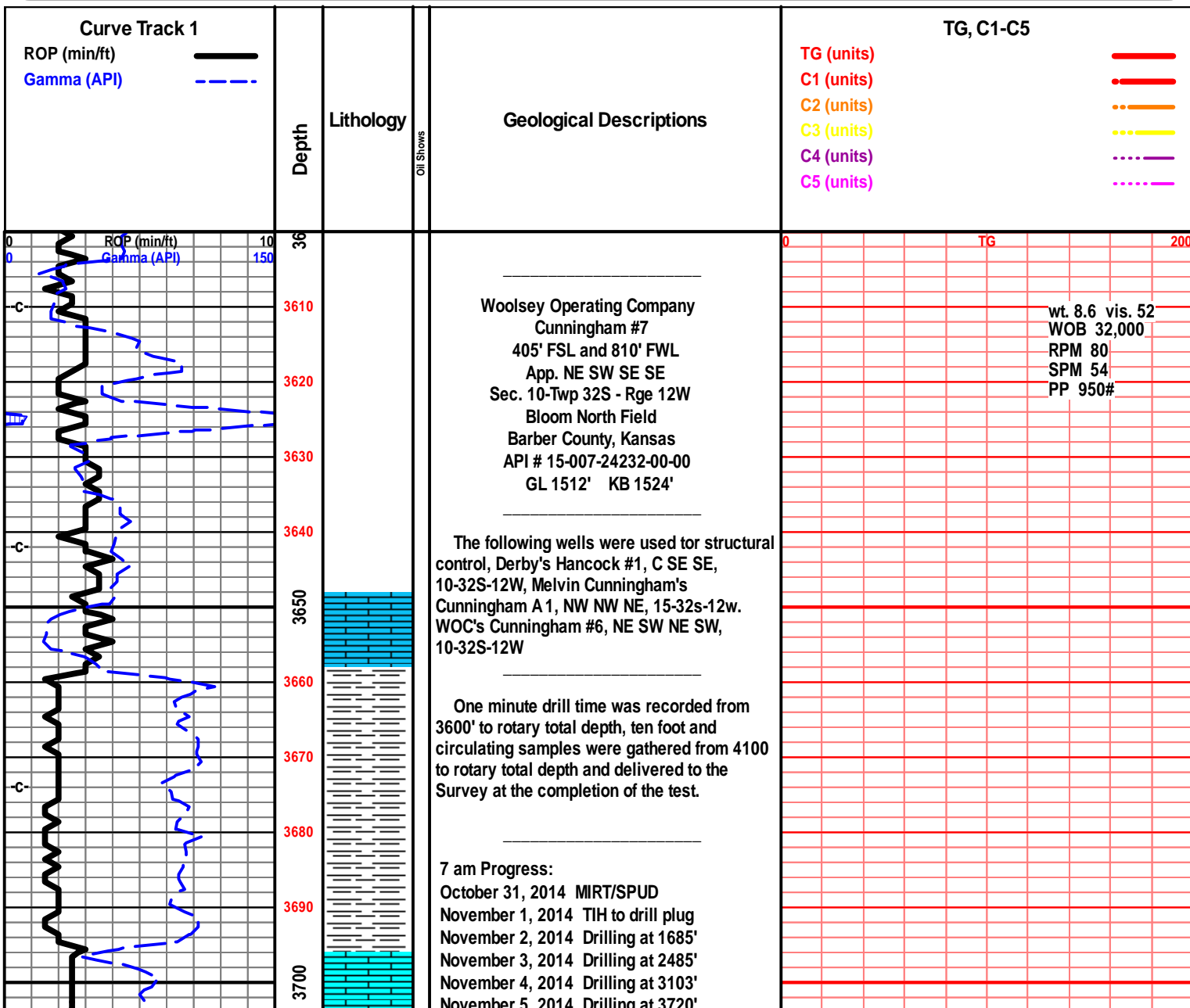
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

STRINGER

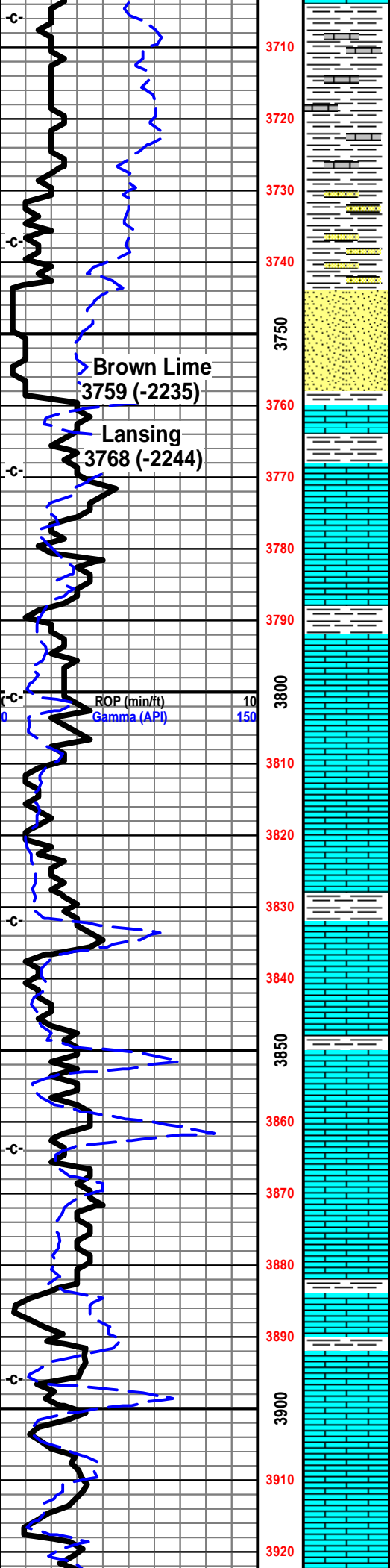
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol

TEXTURE

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



November 6, 2014 Drilling at 4196'
 November 7, 2014 Drilling at 4484'
 November 8, 2014 TIH/bit at 4615'
 November 9, 2014 Logging at 4770'



- E-Log Tops:**
- Herington 1813 (-289)
 - Onaga 2615 (-1091)
 - Wabaussee 2675 (-1151)
 - Stotler 2820 (-1296)
 - Topeka 3084 (-1560)
 - LeCompton 3375 (-1851)
 - Kanwaka 3431 (-1907)
 - Elgin Sand 3438 (-1914)
 - Heebner 3580 (-2056)
 - Toronto 3603 (-2079)
 - Douglas Group 3604 (-2080)
 - Douglas Shl 3659 (-2135)
 - Brown Lime 3760 (-2236)
 - Lansing 3767 (-2243)
 - Iola 4002 (-2478)
 - Drum 4073 (-2549)
 - Dennis 4109 (-2585)
 - Stark 4140 (-2616)
 - Swope 4147 (-2623)
 - Hushpuckney 4176 (-2652)
 - Hertha 4186 (-2662)
 - B/Kansas City 4230 (-2706)
 - Pawnee 4314 (-2790)
 - Mississippi 4322 (-2798)
 - Miss Ero-Rework 4323 (-2799)
 - Northview Shale 4422 (-2898)
 - Compton 4433 (-2909)
 - Kinderhook 4484 (-2960)
 - Woodford 4560 (-3036)
 - Viola 4596 (-3072)
 - Simpson Group 4684 (-3160)
 - Wilcox 4720 (-3196)
 - LTD 4770 (-3246)

wt. 9.0 vis 47

wt. 9.0 vis. 46

Scale Change
TG

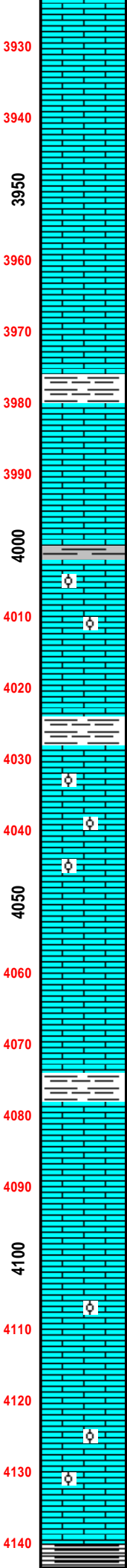
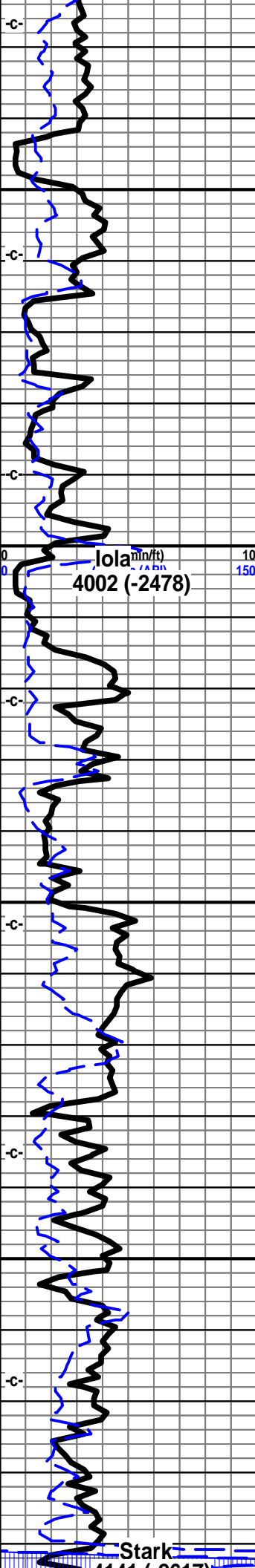
wt. 9.0 vis 45

Mud-Co. 3851'
 wt. 8.9 vis. 45
 w/ 9.2 chl. 2,000
 "Brad" Check

Geo on location
 2 pm @ 3860'
 Nov. 5, 2014

3885' Geolograph/ Tooke

wt. 9.0 vis. 46



Ist crm tan lt gry f xln gran soft in prt, sli chlky, foss frags, calc xln fill

Ist crm lt gry tan f xln blk ang hrd dns, sli chlky, tr foss frags, arg in prt,

Ist crm tan lt gry, off wht f sli med xln gran soft sub chlky foss frags, pp foss mold por calc xln fill

Ist crm gry tan f xln dns hrd blk ang sli foss mold por, calc xln fill, foss frags

shl gry dkr gry, Ist gry tan off wht f xln gran soft sub chlky foss frags, calc xln fill foss mold por

Ist crm tan off wht lt gry f xln gran sli soft, sub chlky foss frags, foss mold inter xln por, calc xln fill

Ist crm tan off wht f xln gran soft sub chlky foss frags, foss mold por, inter xln fill

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

Ist crm tan off wht, lt gry f vf xln dns hrd blk ang sli chlky, foss frags, calc xln fill,

Ist lt gry tan f vf xln dns hrd blk ang sli sub chlky, foss frags, foss mold por, calc xln fill

Ist crm lgr tan f xln dns blk ang hrd, micro foss frags, inter xln por, calc xln fill, sub chlky in prt

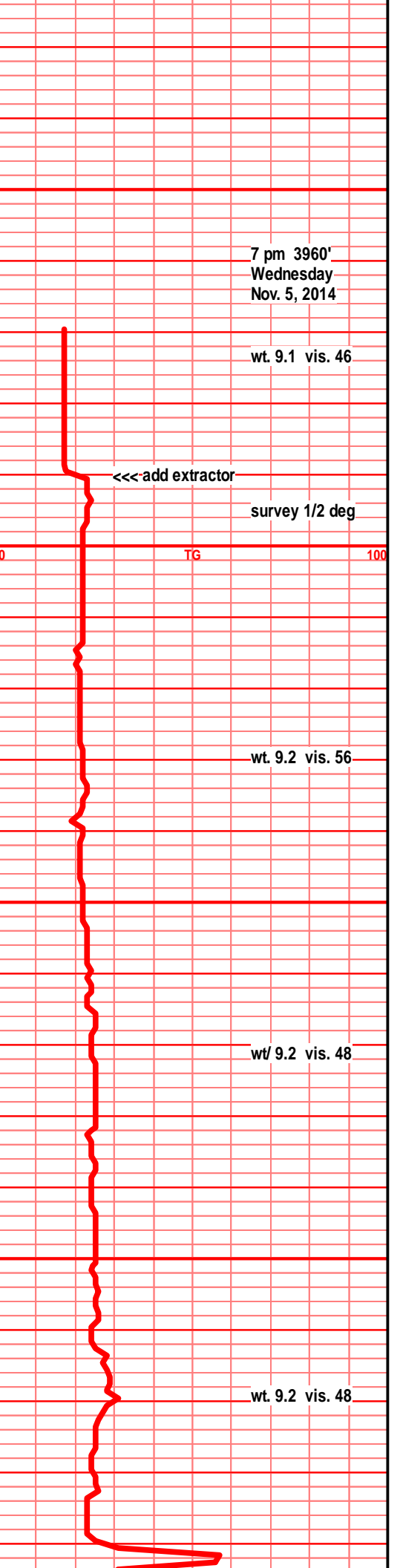
Ist crm buff tan tr lt gry f xln gran blk ang pcs, sub chlky in prt, micro foss frags,

Ist crm buff drk tan f xln blk ang sli sub chlky micro foss frags, gran soft in prt, calc xln fill

Ist buff tan mstly lt gry f vf xln dns hrd blk pcs, sli chlky in prt, micro foss frags,

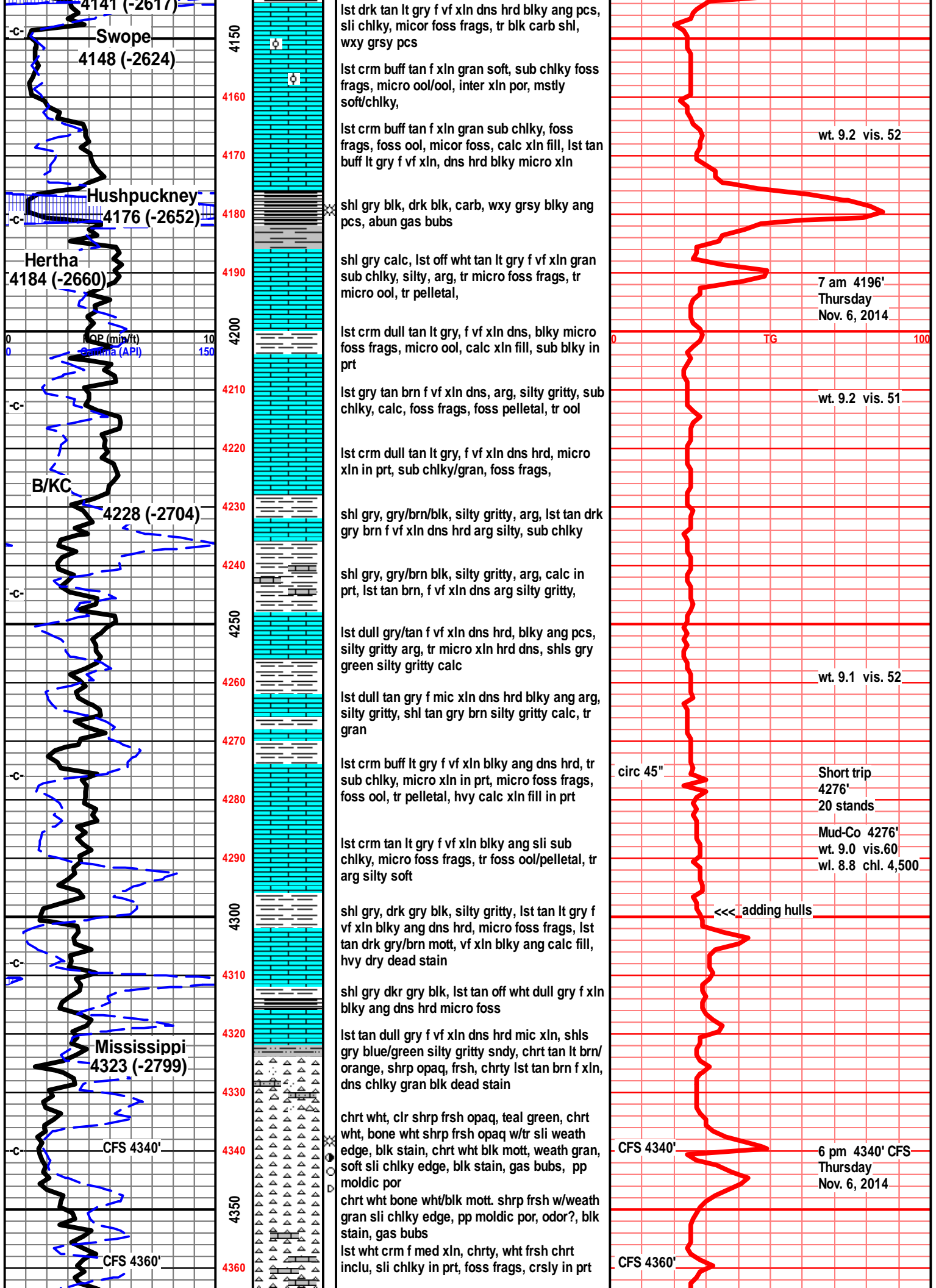
Ist buff tan, mstly lt gry f vf xln gran sub chlky, foss frags, micro foss frags, calc xln fill, some soft

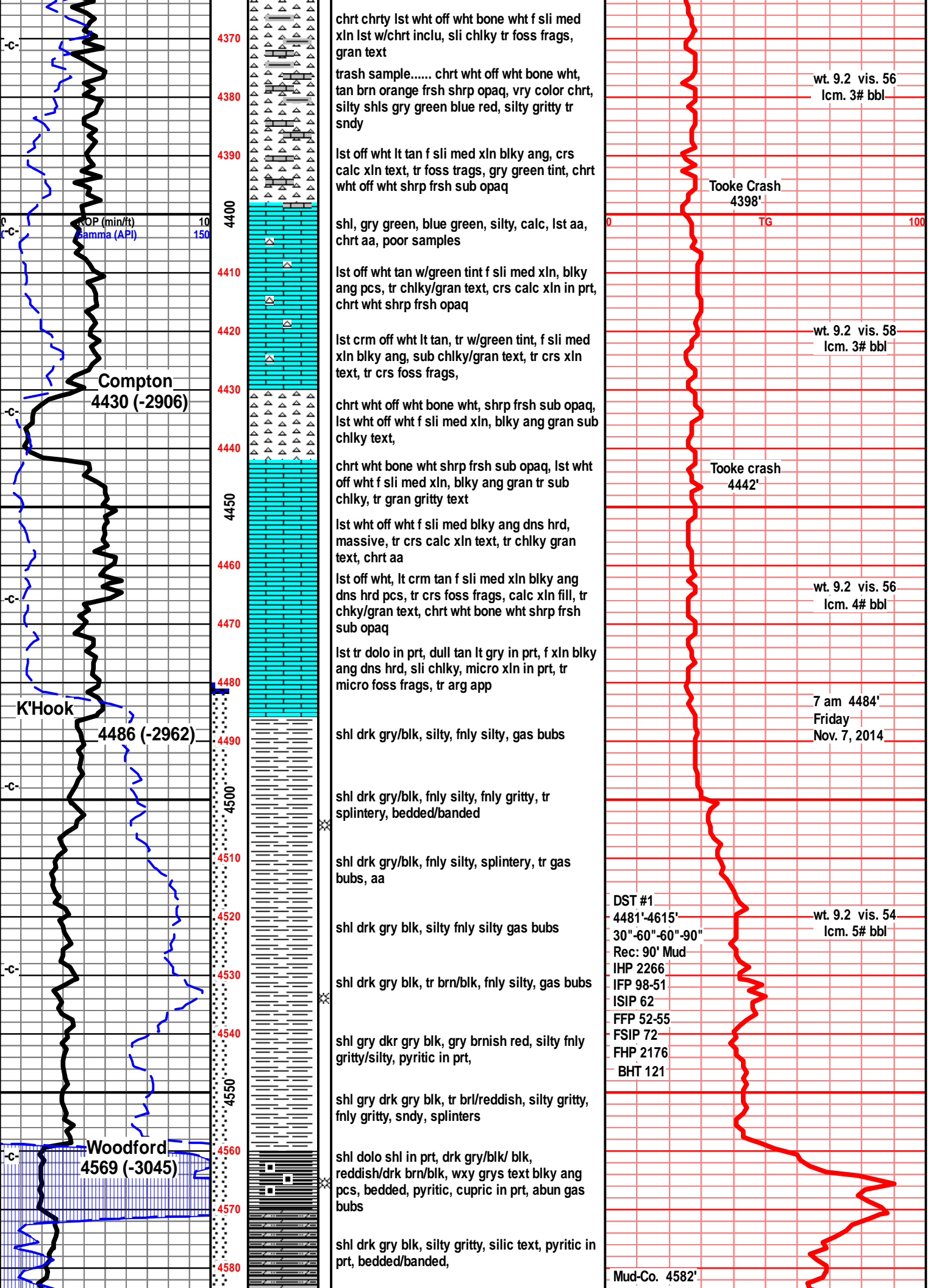
Ist tan buff lt gry f vf xln dns hrd blk ang pcs, sli sub chlky, sli chlky in prt, micro foss frags,



lola^{mIn/ft}
4002 (-2478)

Stark





4370
4380
4390
4400
4410
4420
4430
4440
4450
4460
4470
4480
4490
4500
4510
4520
4530
4540
4550
4560
4570
4580

chrt chrt Ist wht off wht bone wht f sli med
xln Ist w/chrt inclu, sli chlky tr foss frags,
gran text

trash sample..... chrt wht off wht bone wht,
tan brn orange frsh shrp opa, vry color chrt,
silty shls gry green blue red, silty gritty tr
sndy

Ist off wht lt tan f sli med xln blk ang, crs
calc xln text, tr foss frags, gry green tint, chrt
wht off wht shrp frsh sub opa

shl, gry green, blue green, silty, calc, Ist aa,
chrt aa, poor samples

Ist off wht tan w/green tint f sli med xln, blk
ang pcs, tr chlky/gran text, crs calc xln in prt,
chrt wht shrp frsh opa

Ist crm off wht lt tan, tr w/green tint, f sli med
xln blk ang, sub chlky/gran text, tr crs xln
text, tr crs foss frags,

chrt wht off wht bone wht, shrp frsh sub opa,
Ist wht off wht f sli med xln, blk ang gran sub
chlky text,

chrt wht bone wht shrp frsh sub opa, Ist wht
off wht f sli med xln, blk ang gran tr sub
chlky, tr gran gritty text

Ist wht off wht f sli med blk ang dns hrd,
massive, tr crs calc xln text, tr chlky gran
text, chrt aa

Ist off wht, lt crm tan f sli med xln blk ang
dns hrd pcs, tr crs foss frags, calc xln fill, tr
chlky/gran text, chrt wht bone wht shrp frsh
sub opa

Ist tr dolo in prt, dull tan lt gry in prt, f xln blk
ang dns hrd, sli chlky, micro xln in prt, tr
micro foss frags, tr arg app

shl drk gry/blk, silty, fnly silty, gas bubs

shl drk gry/blk, fnly silty, fnly gritty, tr
splintery, bedded/banded

shl drk gry/blk, fnly silty, splintery, tr gas
bubs, aa

shl drk gry blk, silty fnly silty gas bubs

shl drk gry blk, tr brn/blk, fnly silty, gas bubs

shl gry dkr gry blk, gry brnish red, silty fnly
gritty/silty, pyritic in prt,

shl gry drk gry blk, tr brl/reddish, silty gritty,
fnly gritty, sndy, splinters

shl dolo shl in prt, drk gry/blk/ blk,
reddish/drk brn/blk, wxy grys text blk ang
pcs, bedded, pyritic, cupric in prt, abun gas
bubs

shl drk gry blk, silty gritty, silic text, pyritic in
prt, bedded/banded,

Tooke Crash
4398'

Tooke crash
4442'

Compton
4430 (-2906)

K'Hook
4486 (-2962)

Woodford
4569 (-3045)

wt. 9.2 vis. 56
lcm. 3# bbl

wt. 9.2 vis. 58
lcm. 3# bbl

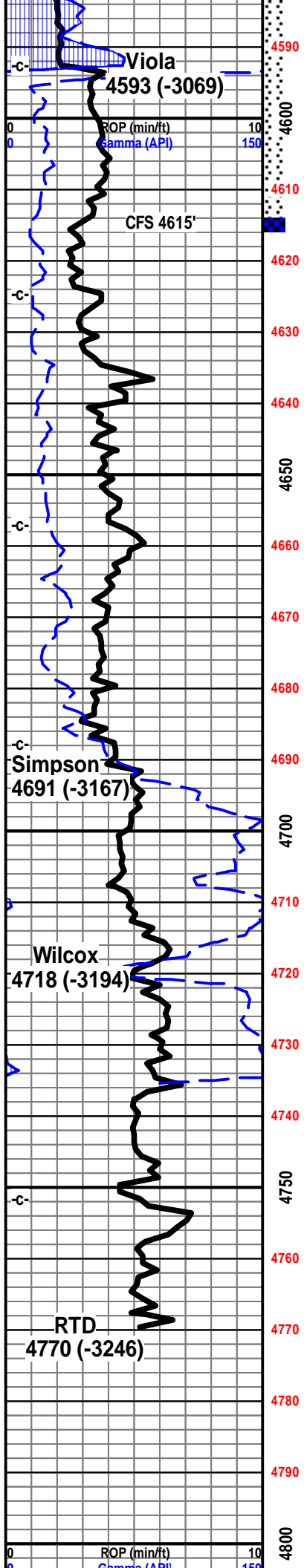
wt. 9.2 vis. 56
lcm. 4# bbl

7 am 4484'
Friday
Nov. 7, 2014

wt. 9.2 vis. 54
lcm. 5# bbl

DST #1
4481'-4615'
30"-60"-60"-90"
Rec: 90' Mud
IHP 2266
IFP 98-51
ISIP 62
FFP 52-55
FSIP 72
FHP 2176
BHT 121

Mud-Co. 4582'



shl gry drk blk, silty in prt, sndy gritty, fnly silty/silic text, tr bry reddish brn color, tr carb wxy grsy text, abun gas bubs

Ist crm tan f med xln blk ang pcs, crs calc xln in prt, crs foss frags, inter xln por, filmy RBSFO/brk, fair gas bubs on brk, nodor, dull UV (4-5 pcs only), Ist off wht tan lt gry mott, lt gry tint in prt, f med xln, blk ang pcs, crs foss frags, crs calc xln, tr pyritic, inter xln por, chrt wht shrp frsh sub opa

Ist off wht lt gry tint, f sli med xln blk ang dns tr sub chlky, calc xstls, tr crs foss frags, inter xln por, chrt wht shrp frsh, Ist dolo in prt, f xln tan dull tan lt gry f vf xln dns hrd sub chlky, tr gran gritty sndy text, chrt tan shrp frsh sub opa

Ist dolo in prt, off wht tan lt brn f sli med xln, gran, sndy, sli sucr text, soft sub chlky in prt, tr chrty, chrt wht dull tan shrp frsh sub opa

Ist dolo in prt, crm tan lt brn f xln dns gran sli chlky text, sli sndy sucr text, blk ang dns pcs, chrt in prt, chrt tan dull tan shrp frsh sub opa

Ist, dolo in prt, drk tan brn f vf xln dns blk ang hrd, tr sndy text, chrty, chrt drk tan dull brn shrp frsh sub opa

Ist dolo in prt, drk tan brn f vf xln dns hrd blk ang pcs, tr sli chlky/gran, tr sndy text, chrty chrt dull tan brn shrp frsh sub opa

Ist, dolo in prt, tan drk tan brn f vf xln, sli chlky/gran text, sndy text, chrty, chrt dull tan brn shrp frsh sub opa

shl drk gry/green, teal green wxy, grsy, sst gry green clstrs, f grnd, sub ang, prly srted, vw cem, pyritic, clay fill NS

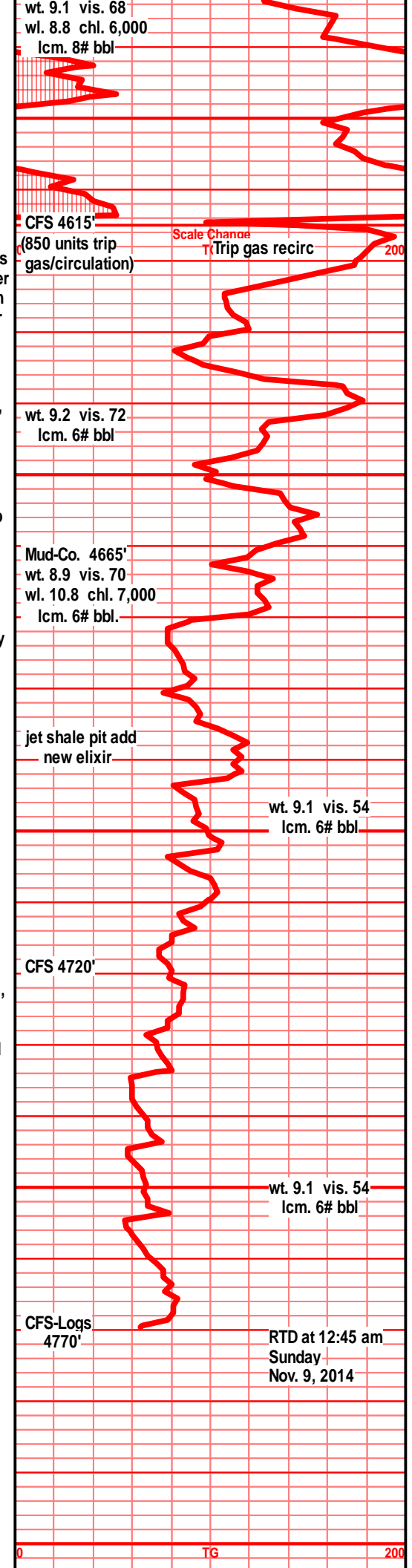
shl gry drk green, teal green, sndy pyritic, wxy grsy text, sst clstrs aa, sst gry med/drk gry f grnd, sub ang, prly srted, sub frai to hrd blk ang clstrs, pyritic, hvy silic fill, NS NVP

sst lt gry, gry green clstrs, f grnd, sub ang, prly srted, w/cem, sub fria, blk ang hrd clstrs, pyritic, silic fill, sst 6-8 clstrs, wht tan f grnd sub rded grns, w/srted, prly cem, fria, inter gran por, silic cem abun loose clr/frsted rded snd grns in spl tray

shl drk gry green, teal green, wxy grsy "slick" text. pyritic, snd grn inclu

shl drk gry/green, teal green silty, wxy grsy text, pyritic, snd grn inclu

shl drk gry, drk gry green, teal green, fnly silty in prt, wxy grsy text, pyritic, snd grn inclu



wt. 9.1 vis. 68
wl. 8.8 chl. 6,000
lcm. 8# bbl

CFS 4615'
(850 units trip gas/circulation)

Scale Change
T, Trip gas recirc

wt. 9.2 vis. 72
lcm. 6# bbl

Mud-Co. 4665'
wt. 8.9 vis. 70
wl. 10.8 chl. 7,000
lcm. 6# bbl.

jet shale pit add
new elixir

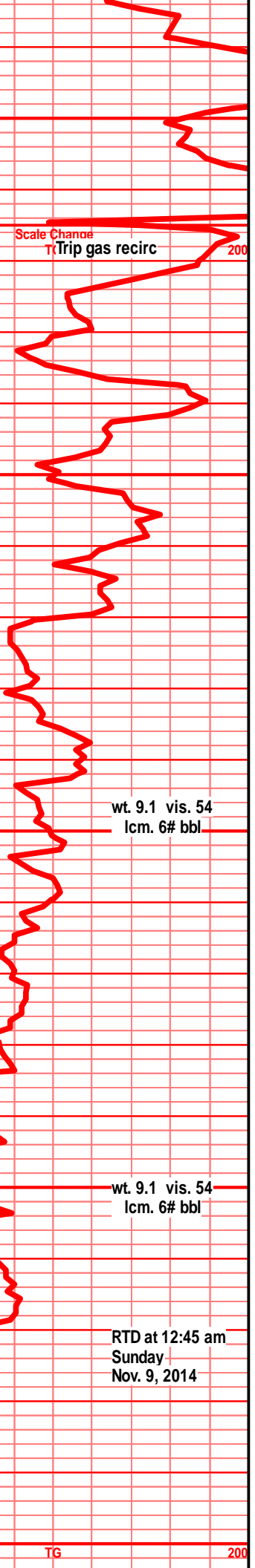
wt. 9.1 vis. 54
lcm. 6# bbl

CFS 4720'

wt. 9.1 vis. 54
lcm. 6# bbl

CFS-Logs
4770'

RTD at 12:45 am
Sunday
Nov. 9, 2014



wt. 9.1 vis. 68
wl. 8.8 chl. 6,000
lcm. 8# bbl

CFS 4615'
(850 units trip gas/circulation)

Scale Change
T, Trip gas recirc

wt. 9.2 vis. 72
lcm. 6# bbl

Mud-Co. 4665'
wt. 8.9 vis. 70
wl. 10.8 chl. 7,000
lcm. 6# bbl.

jet shale pit add
new elixir

wt. 9.1 vis. 54
lcm. 6# bbl

CFS 4720'

wt. 9.1 vis. 54
lcm. 6# bbl

CFS-Logs
4770'

RTD at 12:45 am
Sunday
Nov. 9, 2014

4810
4820
4830
4840
4850
4860
4870
4880
4890
00

Woolsey Operating Company
Cunningham #7
405' FSL and 810' FWL
Approx: NE SW SE SE
Sec. 10 - T32S - Rge 12W
Bloom North Field
Barber County, Kansas
API # 15-007-24232-00-00
GL 1512' KB 1524'

