



## Woolsey Operating Company, LLC

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

Measured Depth Log

Well Name: Miller-Diel #1 H  
Location: Section 14 - Township 34 South - Range 11 West  
License Number: 15-007-23928-01-00 Region: Barber County, KS  
Spud Date: August 5, 2012 Drilling Completed: August 31, 2012  
Surface Coordinates: SW SE SE SW  
13' FSL, 2115' FWL  
Bottom Hole Coordinates: 330' FSL, 1980' FWL  
Section 23 - Township 34 South - Range 11 West  
Ground Elevation (ft): 1380' K.B. Elevation (ft): 1397'  
Logged Interval (ft): 3600' To: 5371' Total Depth (ft): 9118'  
Formation: Kansas City Grp ---> Mississippian  
Type of Drilling Fluid: Chemical Mud  
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: Billy G. Klaver  
Company: Woolsey Operating Co. LLC  
Address: 125 N. Market, Wichita Kansas, 67202

### COMMENTS

Surface Casing: Set 20" X 53#/ft conductor to 40' with 4 yards of grout, Ran 12 joints of new 10 3/4" X 32.75#/ft casing to 326' KB with 300 sx Class A, 2% gel, 3% cc, Cement did circulate. 7" X 23#/ft to 5358' KB, 250 sx

Bit Record: #1 14 3/4" HTC in at 40', out at 330', 3.75 hours.

Gas Detector: Woolsey Operating Co. Gas Trailer #2  
Mud System: Mud-Co. Brad Bortz, Engineer

### INFO


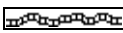
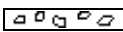
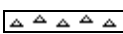
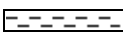
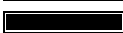
Bit Record: 1) 17 1/2" RR RT, 2) 12 1/4" RR RT, 3) 8 3/4" JZ PDC, 4) 8 3/4" RTC DSX 616, 5) 8 3/4" RTC R23A PD.H, 6) 8 3/4" RTC R23A, 7-9) RTC 6 1/8" R68B.


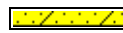




Gas Detector: Woolsey Operating, Gas Trailer #2  
Mud Program: Mud-Co. Brad Bortz, Engineer


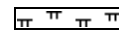
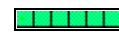
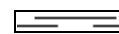


### CREWS






Tool Pusher: Mitch Sovia, Relief: Sammy Fry  
Drillers: (12 hour tours, 7 on 7 off) Days: Johnny Stone, David Herring, Evening: Terry Slack, Jeffery Meyers.  
Assorted Okie roughnecks.

### ROCK TYPES

 Anhy  
 Bent  
 Brec  
 Cht  
 Clyst  
 Coal

 Congl  
 Sdy dolo  
 Shy dolo  
 Dol  
 Gyp  
 Sdy lmst

 Lmst  
 Mrlst  
 Salt  
 Shale  
 Sltst  
 Ss

 Black sh  
 Gry sh  
 Shale  
 Shyslts  
 Sltys

## ACCESSORIES

### MINERAL

- Anhy
- Arg
- Bent
- Bit
- Brefracg
- 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

### STRINGER

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

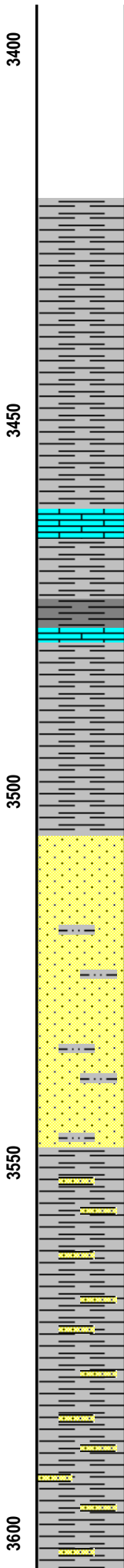
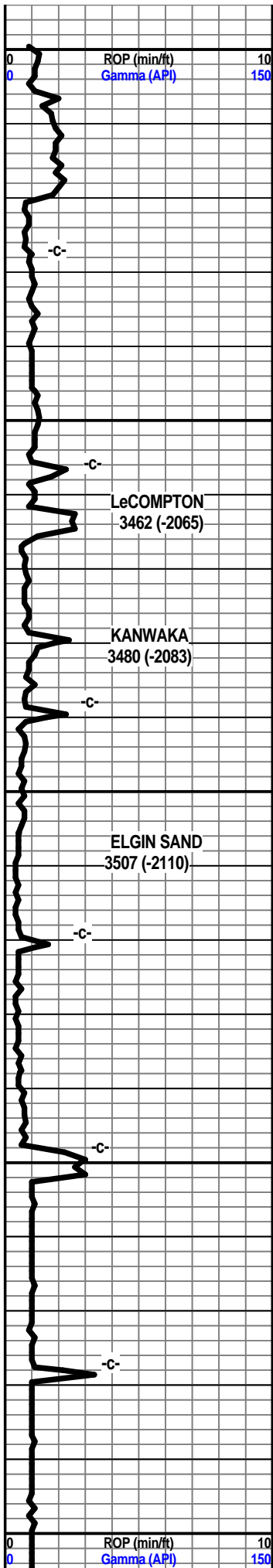
- Grysh
- Gyslt
- Lms
- Sandylms
- Sh
- Slststn

### TEXTURE

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

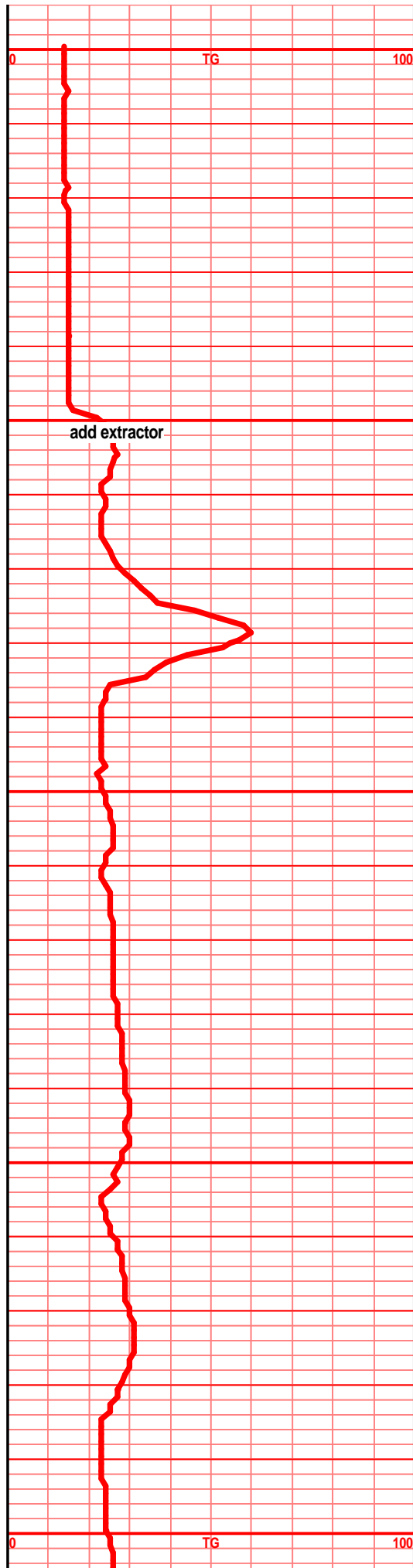
| Curve Track 1  | Depth | Lithology | Geological Descriptions  | TG, C1-C5  |
|--|-------|-----------|--|--|
| ROP (min/ft)<br>Gamma (API)                            |       |           |  | TG (units)<br>C1 (units)<br>C2 (units)<br>C3 (units)<br>C4 (units)<br>C5 (units) |
| 0 ROP (min/ft) 10<br>0 Gamma (API) 150                 | 33    |           | Reference wells for structural position:<br>Woolsey Operating Co's Lincoln Trust #1, N/2 SE, 14-T34S-R11W, Woolsey Operating Co's Miller D #1, NW NW NW, 14-T34S-R11W, Tri-Ex's Miller #1, 14-T34S-R11W, Woolsey Operating Co's Miller D 2 H, NL N/2 NE NW, 23-T34S-R11W. Val Energy's Rolf Brown 2-26, SE SW NW NW, 26-34S-R11W.  | 0 TG 100   |
| Scale Change<br>0 ROP (min/ft) 10<br>0 Gamma (API) 150 | 3350  |           | 7 am Progress by Day:<br>August 3, 2012 Set conductor<br>August 4, 5, 2012 MIRT/Spud<br>August 6, 2012 WOC at 330'<br>August 7, 2012 Nipple up BOP at 740'<br>August 8, 2012 1050'<br>August 9, 2012 Drilling at 1850'<br>August 10, 2012 Drilling at 2576'<br>August 11, 2012 Drilling at 3020'<br>August 12, 2012 Drilling at 3660'<br>August 13, 2012 TIH w/bit at 4003'<br>August 14, 2012 Drilling at 4361'<br>August 15, 2012 Drilling at 4607'<br>August 16, 2012 Drilling at 4672' |  |

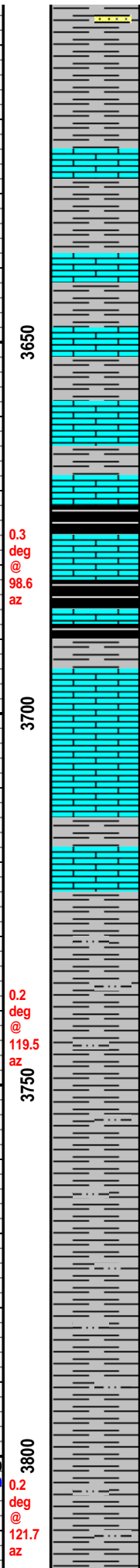
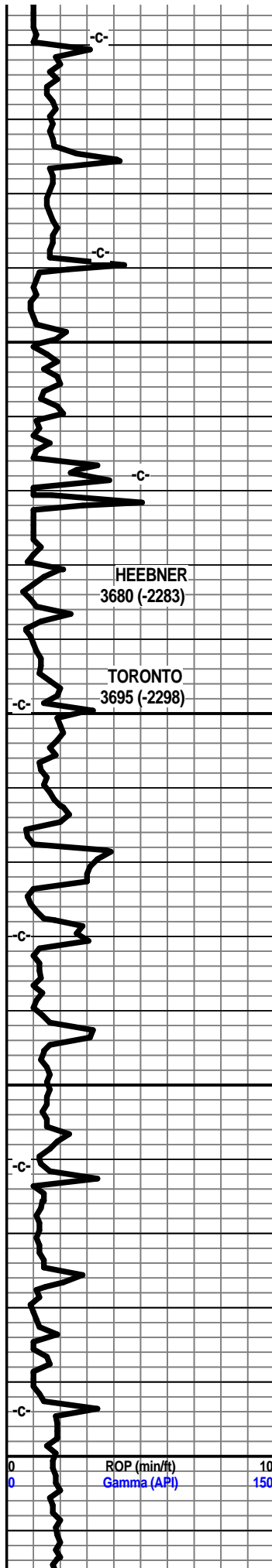
August 16, 2012 Drilling at 4912'  
 August 17, 2012 Drilling at 4912'  
 August 18, 2012 Drilling at 5109'  
 August 19, 2012 TIH/Ream at 5204'  
 August 20, 2012 7" casing point at 5371'



sst lt gry, f vf grnd, sub ang, silty, gritty, arg,  
 gd inter gran por, soft fria, blkv ang clstrs. shl  
 gry silty sndy, clay fill

shl gry silty sndy gritty, sst gry lt gry, f vf grnd,  
 soft. fria. blkv ana clstrs. clav fill. silty ara





shl gry silty sndy gritty, sst gry lt gry, f vf grnd, soft fria blk ang clstrs, arg, clay fill, silty

shl gry lt med gry, silty gritty,

shl gry drk gry, silty gritty, lst tan brn vf xln dns hrd blk arg

shl gry drk brn blk, flood blk carb shl

shl gry lt gry silty, lst wht off wht crm f xln sub chlky, gran, gritty, tr sndy text, foss frags, tr soft,

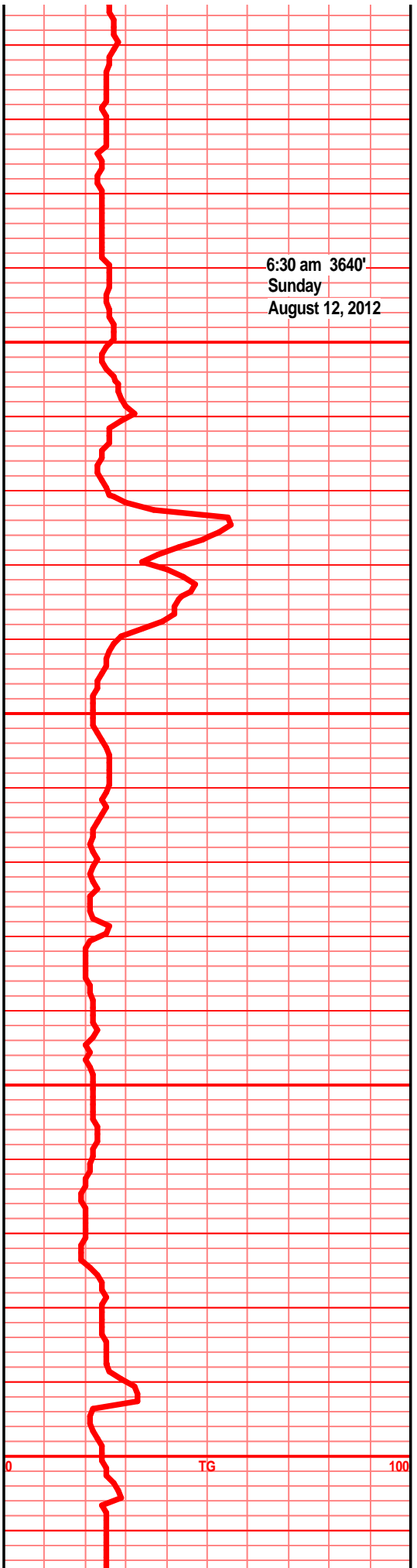
lst wth off wht tan, f xln gran gritty, sub chlky tr foss frags, tr sndy text, soft, tr foss frags

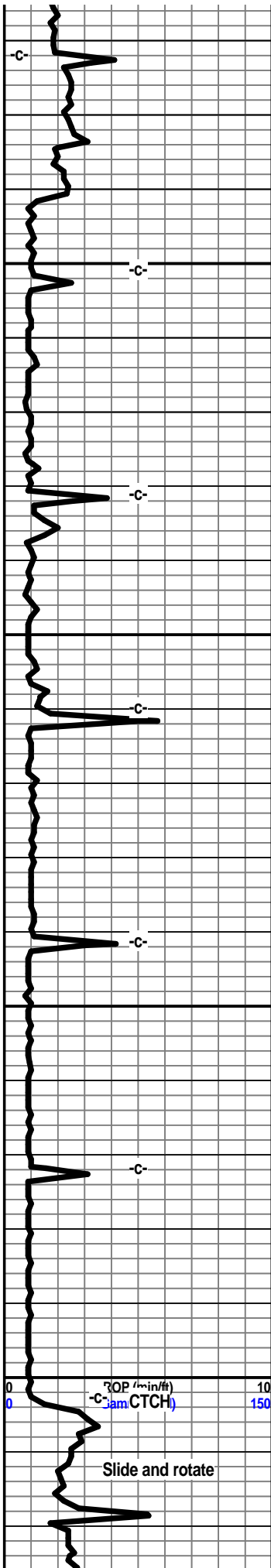
shl gry med gry, silty gritty, tr sndy, mic

shl gry med gry silty, gritty, mic, tr blk carb plant foss flks

shl gry med gry silty soft gritty

shl gry med gry soft silty tr gritty, plant flks, carb flks





shl gry drk/med gry, soft, muddy, silty, blk carb plant frags,

shl gry med lt gry silty gritty, sndy in prt, carb foss frags

shl gry med gry lt gry, silty gritty sndy, sst lt gry f vf grnd, sub ang well srted, fria, blk carb fill, arg, clay fill

sh gry lt med gry, silty, gritty sndy in prt, sst lt gry f grnd, sub ang, prly srted, arg clay fill, blk carb fill

shl gry med/lt gry silty sndy gritty. sst lt gry f grnd, sub ang grains, sub fria, prly srted, arg mic, carb flks, tr plant foss

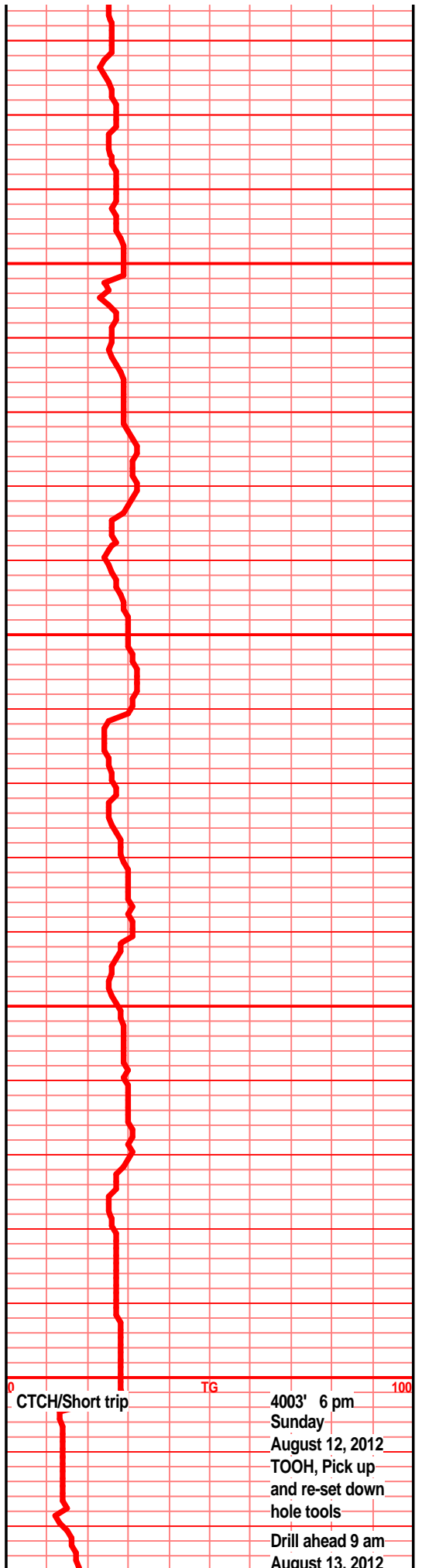
shl gry med/lt gry silty gritty sndy, sst aa

shl gry med gry soft muddy soft silty gritty tr sndy, sst lt gry green silty arg, f vf grnd, sub ang grains, sub fria, blk clstrs, blk carb fill, tr glau

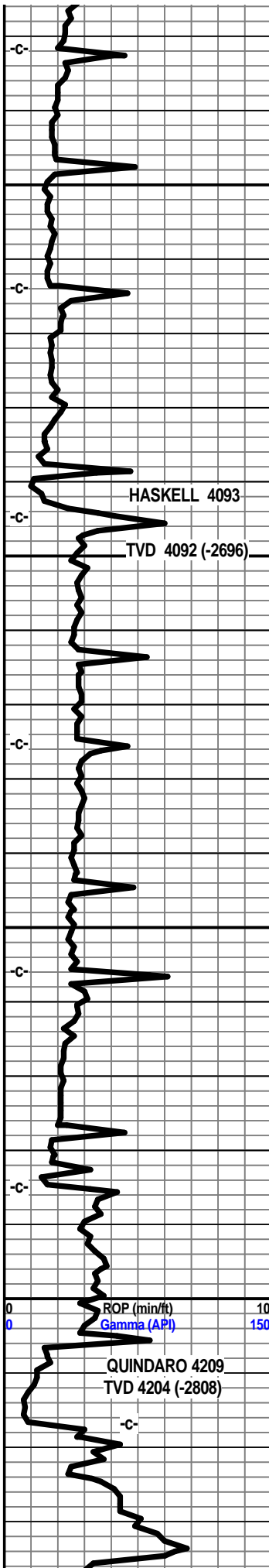
shl gry med/lt gry silty gritty sndy aa, blk carb strks, snd grn inclu, glau, sst aa, arg clay fill tr glau

shl gry med drk gry, soft silty, muddy in prt,

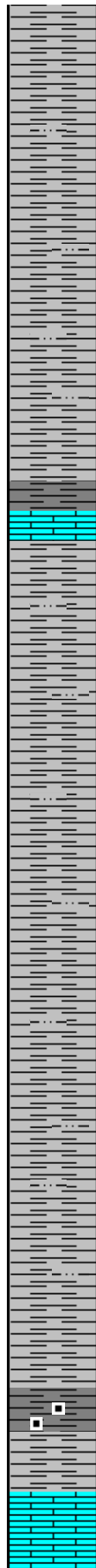
shl gry drk gry muddy silty



CTCH/Short trip TG 4003' 6 pm Sunday August 12, 2012 TOOH, Pick up and re-set down hole tools Drill ahead 9 am August 13, 2012



4050  
4.7 deg @ 166.1 az  
7.5 deg @ 170.8 az  
4100  
10.5 deg @ 173.9 az  
4150  
13.2 deg @ 175.6 az  
16.3 deg @ 176.5 az  
200  
19.1 deg @ 177.2 az  
21.8 deg @



shl gry drk gry silty soft muddy spls wsh drk grn

shl gry drk gry silty, muddy, soft

shl gry drk gry blk splinters, muddy, spls wsh drk gry

shl gry drk gry blk, lst drk tan brn f sli med xln blk ang dns, crsly foss in prt, foss frags, tr crs calc xln fill

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

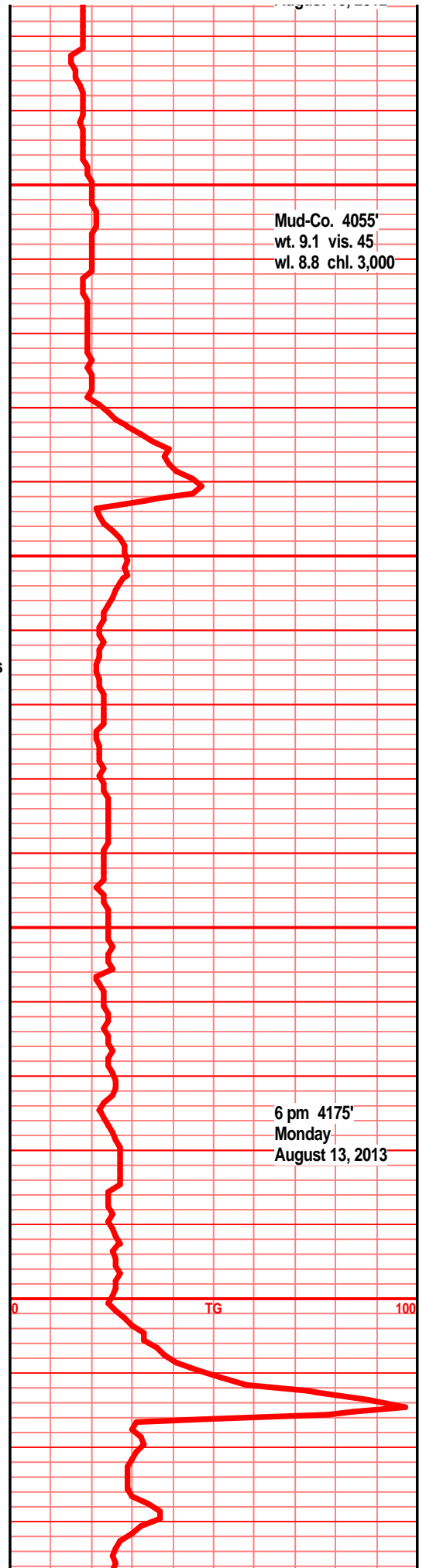
shl gry drk gry silty, slick splintery, soft muddy, spls wsh drk gry

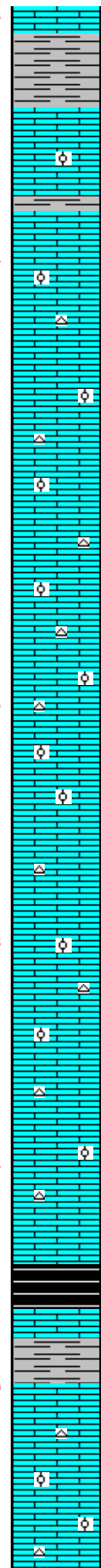
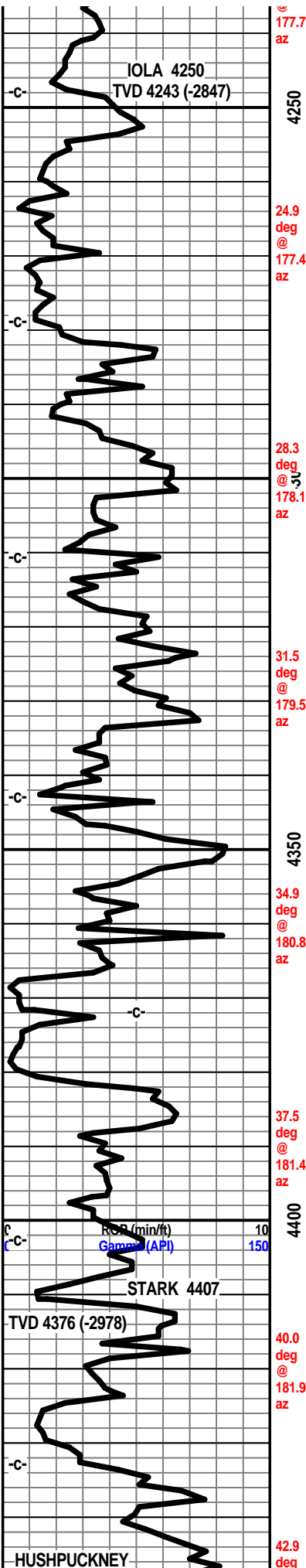
shl gry drk gry/blk silty soft

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

shl drk gry blk, blk semi carb is prt, tr gas bubs, filmy cond

lst crm buff tan, f sli med xln, sub chlky foss





frags, calc xln fill, much gry drk gry blk semi carb shl

Ist wht crm buff lt tan f sli med xln filky sub chlky, gran in prt, foss frags, foss ool, calc xln fill, chrt wht shrp frsh opaq

Ist wth off wht tan tr buff, f sli med xln, gran blk sub chlky foss frags, foss ool, calc xln fill, chrt wht opaq shrp frsh

Ist wht off wht lt tan tr buff f sli med xln, gran sub chlky, foss frags, calc xln fill, chrt wht shrp frsh opaq

Ist tan buff crm tr drk tan, f sli med xln, gran, tr soft, sub chlky to chlky, foss frags, calc xln fill, chrt wht/lt gry shrp frsh opaq

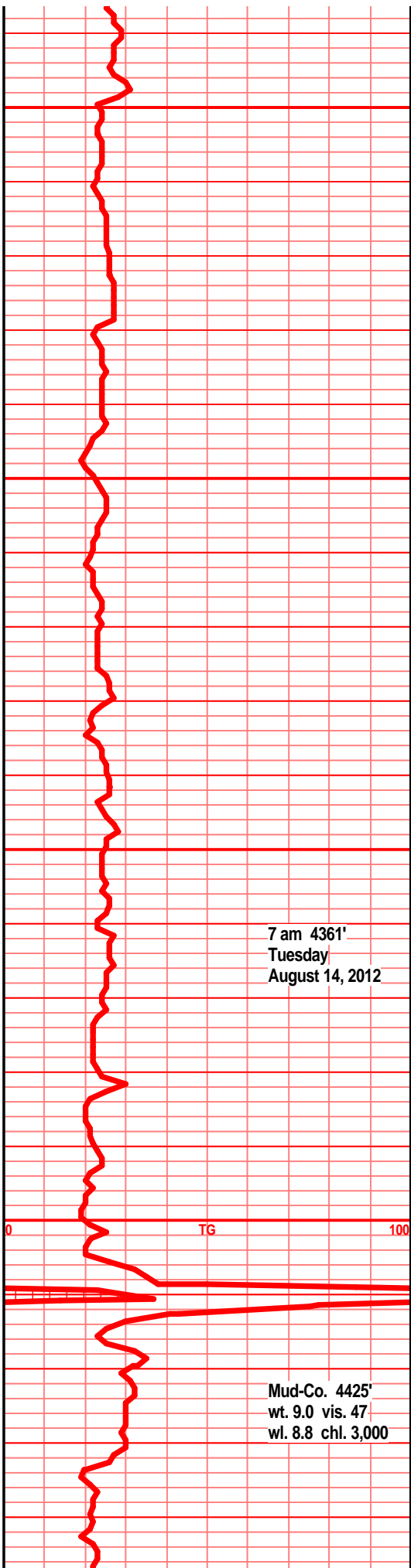
Ist off tan crm buff lt brn in prt, f sli med xln blk ang sub chlky, tr chlky, foss frags, calc xln fill, tr chrt tan lt gry/brn shrp frsh opaq blk ang

Ist crm off wht tan f sli med xln, blk ang sub chlky foss frags, tr foss ool, calc xln fill, chrt tan lt gry shrp frsh opaq

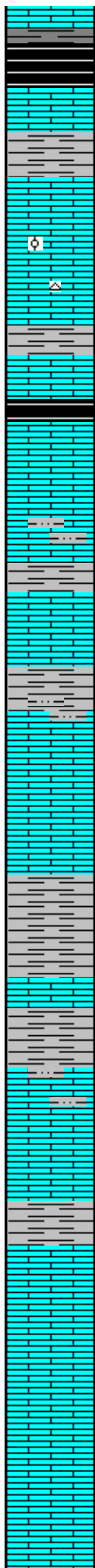
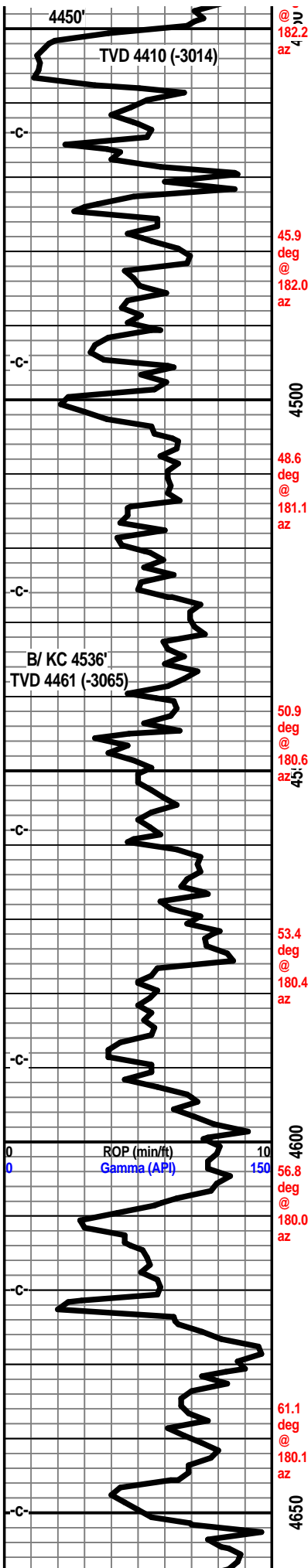
Ist crm tan buff f sli med xln gran soft chlky to sub chlky foss frags, tr foss ool, gran, calc xln fill

shl gry dry gry, much blk carb shl, grsy, wxy gas bubs, Ist tan lt brn f xln gran dns hrd blk arg, semi chlky, tr micro foss frags,

Ist off wht lt gry f xln blk ang dns hrd blk sub chky, foss frags, tr foss ool, foss mold por, calc xln fill, tr chrt lt gry wht opaq shrp frsh







flood blk carb shl, wxy, grsy, abun gas bubs, 1st tan lt gry/brn f vf xln dns hrd blkly ang arg, tr micro foss, blkly calc xln fill

1st crm tan buff lt brn f vf xln dn shrd blkly ang sli sub chlky in prt, micro foss frags, calc xln fill, chrt tan brn shrp frsh opa q foss

sh gry drk gry blk, blk carb swy grsy, tr gas bub, 1st tan crm brn f vf xln dns hrd blkly ang micro foss calc xln fill, tr chrt aa

shl gry drk gry brn, 1st tan brn f vf lxn dns hrd blkly ang arg, tr micro foss, calc fill fracs,

shl gry green silty gritty, tr sndy in prt, 1st crm buff tan tr lt brn f vf xln dns sub chlky micro foss frags, tr chrt tan gry shrp frsh opa q

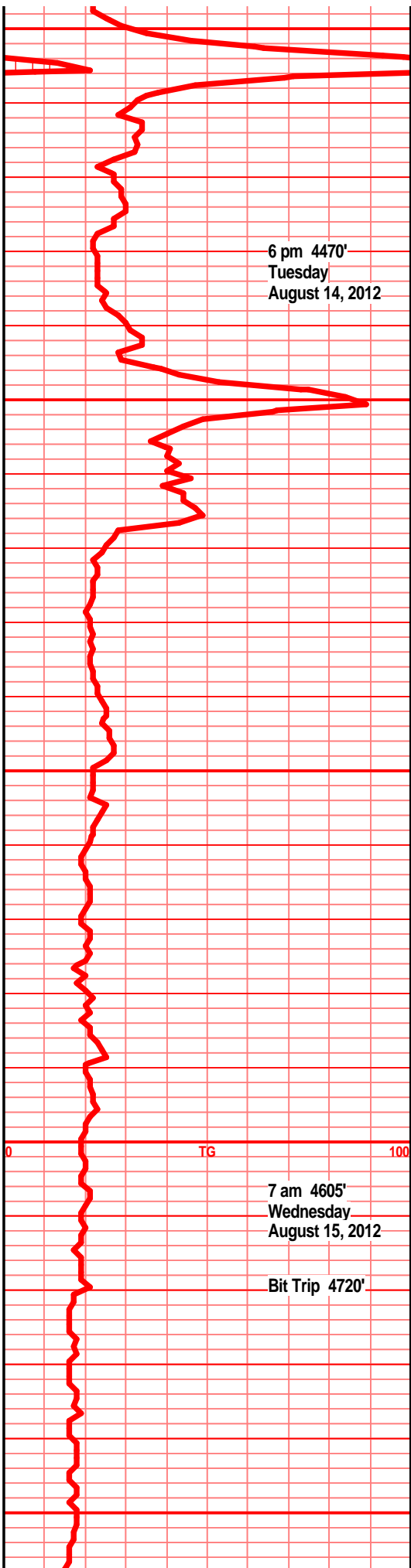
sh lgry green silty gritty soft, 1st tan lt brn buff f vf xln dns hrd blkly sub chlky micro foss frags, tr chrt tan shrp frsh

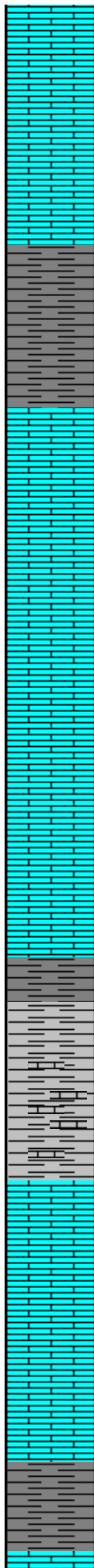
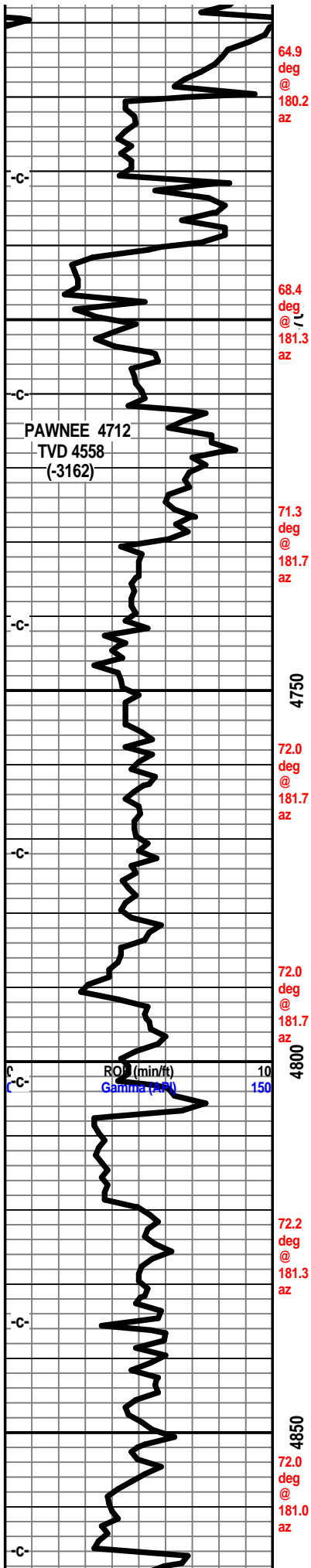
1st crm tan buff off wht, f vf xln dns hrd blkly ang arg, silty, tr foss frags, calc xln fill, tr chrt tan brn shrp frsh foss opa q

1st crm buff tan f vf xln sub chlky micro foss frags, tr chrt wht shrp frsh, shls, tan brn gry calc

shl gry brn blk, silty calc, 1st tan buff, tan brn f xln blkly ang hrd arg, micro foss frags, tr chrt tan brn frsh opa q

1st crm tan buff, tan brn f vf xln blkly ang hrd, sub chlky in prt, tr foss frags, much shl poor sample





lst crm buff tan, lt gry in prt, f vf lxn dns hrd  
blky ang, sli sub chlky in prt, micro foss, micro  
ool, mstly blky dns hrd

lst crm buff tan f vf lxn blky ang hrd dns tr sub  
chlky tr micro foss, frags & ool, mstly dns hrd  
blky

shl gry drk gry blk, blk carb in prt, silty, soft, tr  
wxy grsy,

lst crm buff off tan f vf xln blky ang hrd, sub  
chlky, foss frags, micro foss frags in prt, tr soft  
gran

lst crm tan buff off wht f vf xln dns hrd blky  
ang sub chlky in prt, foss frags, micro foss  
frags, tr calc xln fill

lst off wht crm lt tan f vf xln gran sli sub chlky  
micro foss, micro ool, calc xln fill, mstly dns  
hrd blky ang

lst crm tan buff f vf xln dns hrd blky ang sub  
chlky in prt, micro foss frags, tr micro ool,  
mstly chlky dns hrd tr calc fill

shl gry, gry/blk semi carb in prt, silty gritty, lst  
tan brn gry f vf xln dns hrd blky ang, arg,

lst crm buff tan, off wht, f vf xln blky ang dns  
hrd, semi sub chlky, micro foss frags,

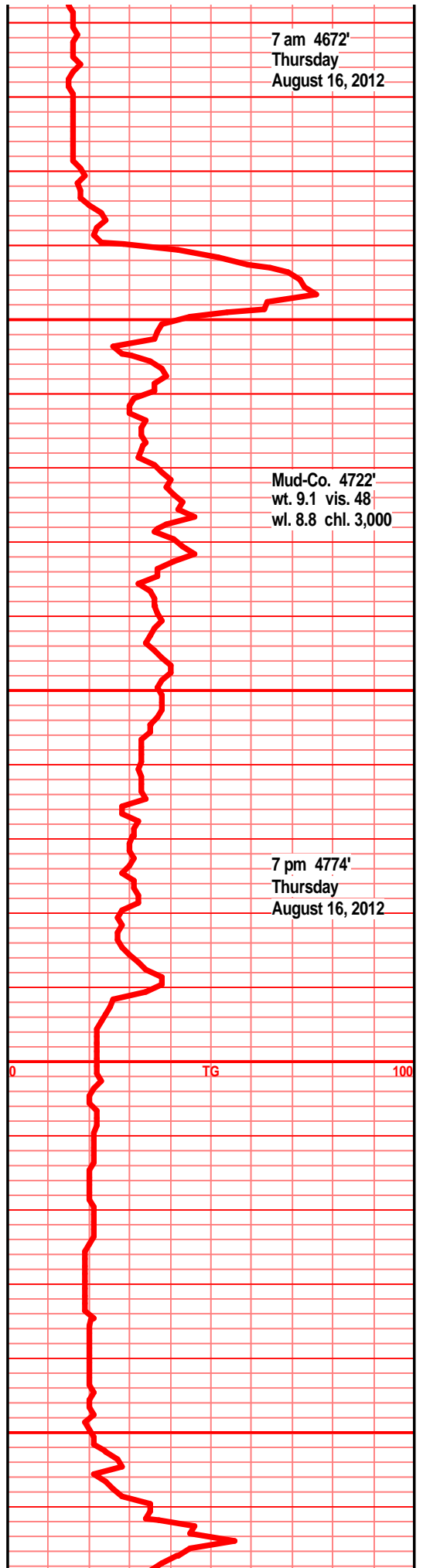
lst crm buff tan off wht f vf xln gran blky ang  
dns tr hrd, sub chlky, foss frags, micro foss  
ool, much gry silty gritty shls

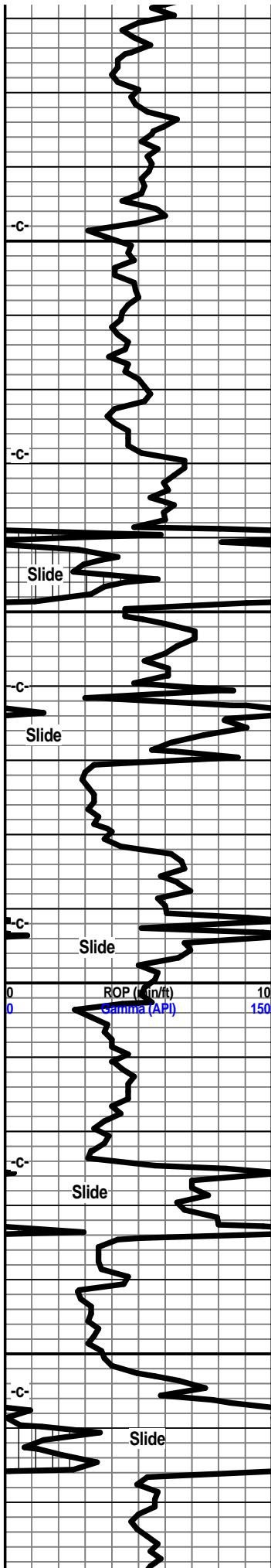
shl gry med gry blk, semi carb, wxy grsy, tr gas  
bubs, lst aa

7 am 4672'  
Thursday  
August 16, 2012

Mud-Co. 4722'  
wt. 9.1 vis. 48  
wl. 8.8 chl. 3,000

7 pm 4774'  
Thursday  
August 16, 2012





71.8 deg @ 180.5 az

4900

72.2 deg @ 180.6 az

74.2 deg @ 181.1 az

76.5 deg @ 181.2 az

78.8 deg @ 181.2 az

80.9 deg @ 180.1 az

82.7 deg @ 180.2 az



shl gry med gry tr blk, silty gritty, lst tan gry brn f vf xln dns hrd blk ang arg silty

lst tan crm lt gry f vf xln dns hrd blk ang arg, sub chky , tr micro foss frags, shls gry med gry silty gritty calc

shls gry lt gry green silty gritty, lst tan buff lt gry f vf xln dns hrd blk ang, tr sub chky tr foss frags

shl gry lt green, brn blk, silty gritty, gran in prt, poor sample..much hole sweep/condition material, dam okies

sh gry gry/blue green tr brn red, tr maroon, yellow, silty, gritty, ratty slick, tr sndy, snd grn inclu etc, garbage

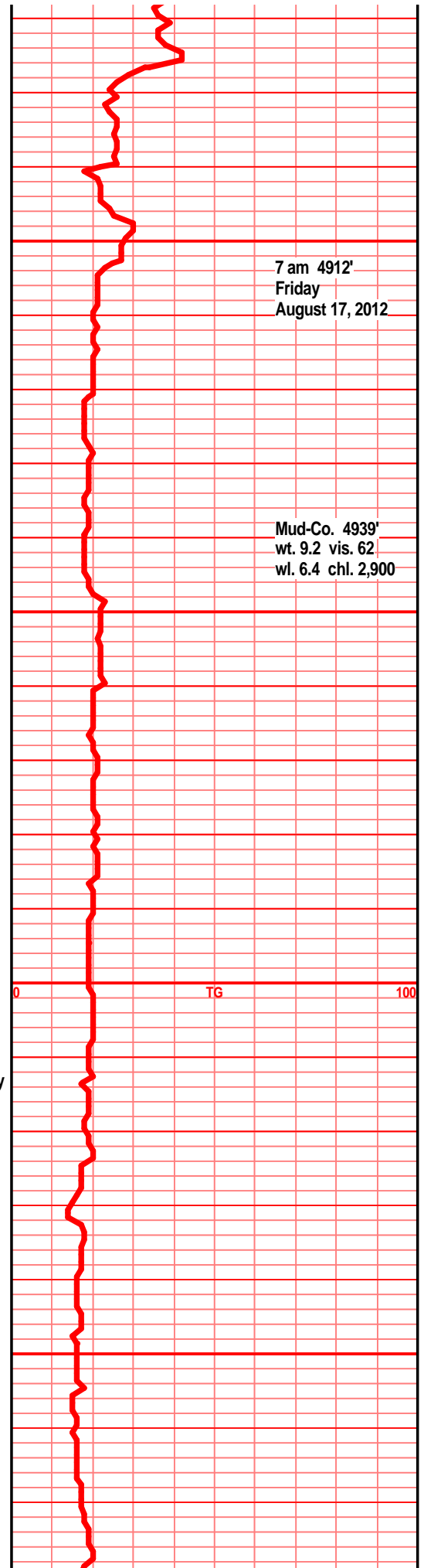
shl gry gry green maroon silty gritty sndy in prt, sst brn vf grnd clstrs, w srted, sub ang grans, blk dns tite, lst tan crm lt gry f xln blk ang dns hrd

sh gry green, gry/blk, tr red/brn silty gritty sndy in prt, snd grn inclu, ratty, splintery

shl gry green, gry/brn/red, silty gritty sndy in prt, ratty splintery

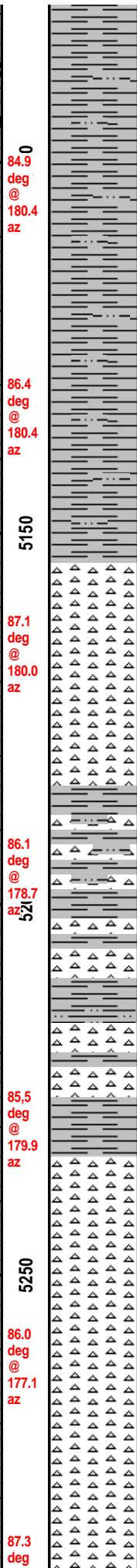
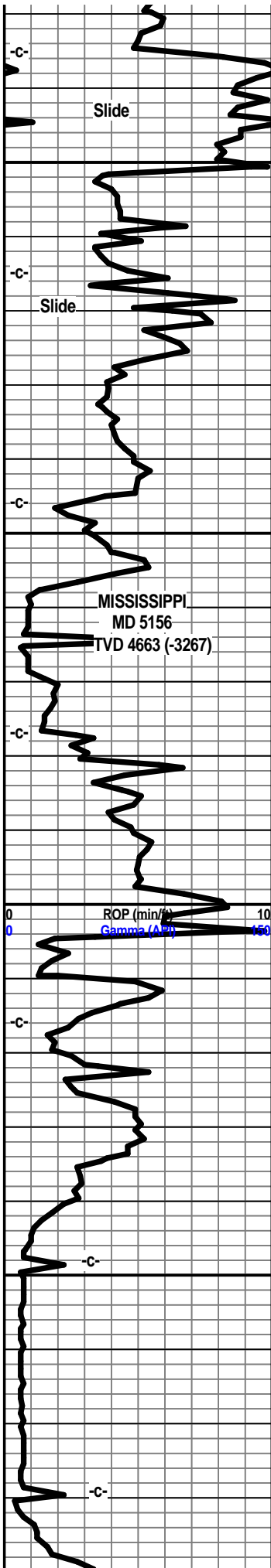
shl gry, lt gry, gry/green/lt blue, red/brn, tr maroon/yellow, varri color, silty gritty, sndy in prt, ratty, splintery

shl gry green, maroon, yellow, red/brn, vari color, silty gritty, tr sndy, ratty, splintery



7 am 4912' Friday August 17, 2012

Mud-Co. 4939' wt. 9.2 vis. 62 wl. 6.4 chl. 2,900'



shl gry, gry/green, maroon, yellow, red/brn vari color, silty, gritty, ratty,

shl gry green, drk blue/green, rd/brn, yellow, maroon, to vari-color, silty gritty, ratty, splintery, sndy/gritty in prt

shl gry green, drk blue green, red/brn, yellow, maroon, vari color, silty, sndy, gritty, ratty, splintery, wsh drk gry

chrt wht off wth lt gry shrp frsh, blk ang opa, tr foss frags, weath gran text, tr spongy text, pp moldic por, lst wht off wht chlkly chrty, w/ chrt edge, gas bubs, blk stain, odor?

chrt wht off wht lt gry shrp frsh opa, blk ang pcs, tr weath gran tr spongy text por, pp moldic por, gas bubs, dead blk stain, abun gry green blue green shls, tr vari color.

shl gry lt med gry tr gry green, red brn maroon silty gritty ratty, chrt wht off wht gry smokey shrp frsh opa, transl

shl gry med/lite gry silty ratty gritty, red/brn maroon, chrt wht off wht lt gry shrp frsh opa

shl gry green, lt blue gry/green silty gritty ratty,

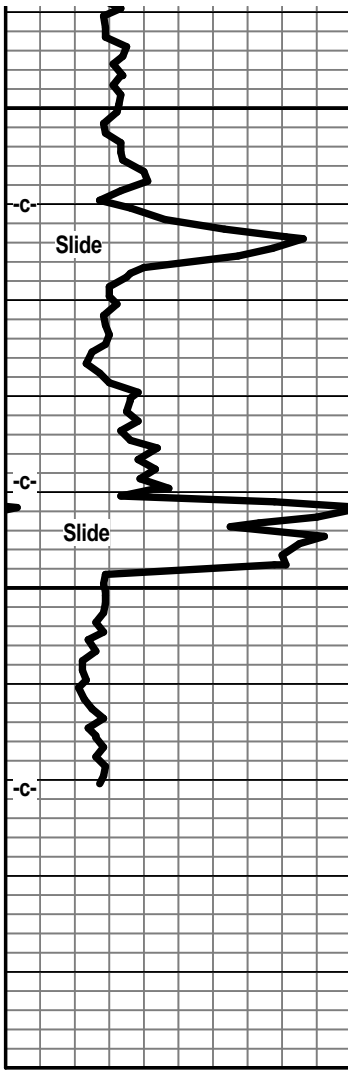
chrt lt gry off wht lt smokey, shrp frsh opa, transl, w/weath sli trip text, tr spongy text por, gas bubs, blk stain in sli vug/moldic por, odor, chrt tan wht. lt yellow/orange, shrp frsh opa blk ang

chrt wht, lt gry, smokey, shrp frsh opa, semi transl, tr spongy text, sli weath edge text por, pp moldic weath edge, black stain, odor?,

7 am 5109'  
Saturday  
August 18, 2012

Check Shot  
5164'

Tool/Bit trip 5204'  
Hole problems  
at 5204', stuck  
after slide



@ 177.5 az  
 5300  
 87.3 deg @ 177.1 az  
 5350  
 00

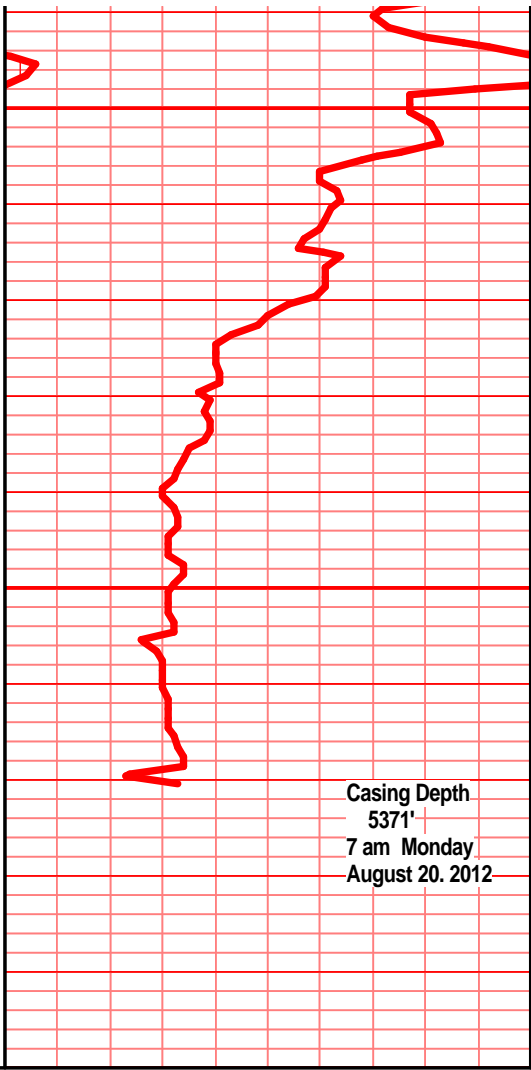


chrt wht off wht, lt gry, lt smokey shrp frsh opaq, semi transl, tr weath, gran, tr spongy weath text edge, blk stain nodor, tr gas bubs, chrt gry tan lt yellow/orange, shrp frsh opaq NS

chrt wht off wht lt gry, tr smokey, shrp frsh opaq, semi transl, tr soft sub chlky edge, tr spongy text edge pp moldic por, blk stain, tr gas bubs. nodor, gry green, gry/blue gry silty gritty shls

chrt wht of wht lt gry shrp frsh opaq, blk ang pcs, tr spongy sub chlky text, pp moldic por, blk stain, chrt wht lt yellow/org shrp frsh opaq NS

chrt lt gry lt smokey, off wht/gry shrp frsh opaq, transl, foss, tr with weath gran semi spongy text edge, some with pp vug por, black stain, grsy stain, gas bubs in some, nodor, NSFO



Casing Depth  
 5371'  
 7 am Monday  
 August 20, 2012