Woolsey Operating Company, LLC

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

Well Name:	**Michel #2 H**		
Location:	**Section 7 - Township 34 Soutn - Range 11 West**		
License Number:	**15-007-24014-01-00**	**Region:**	**Barber County, KS**
Spud Date:		**Drilling Completed:**	
Surface Coordinates:	**2170' FNL & 620' FWL** **Apx. NE SW SW NW**		
Bottom Hole Coordinates:			
Ground Elevation (ft):	**1496'**	**K.B. Elevation (ft):**	**1479'**
Logged Interval (ft):	**3600'** **To:**	**Total Depth (ft):**	
Formation:	**Heebner >>> Mississippi**		
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: **Bill Klaver**
Company: **Woolsey Operating Co. LLC**
Address: **125 N. Market, Wichita Kansas, 67202**

Casing/Bits

Big Bucket's set 20" X 53#/ft conductor to 41' with 4 yards of grout on April 17, 2013.
Ran 8 joints of new 13 3/8" X 54.5#/ft casing to 336' KB (tally 336') with 330 sx Class A, 2% gel, 3% cc. Plud down 3 am on 4/24/2013. Cement did circulate.

Bit Record: 1) 17 1/2" Sec. RRRT out at 340', 2) 12 1/4" JZ RR RT out at 800', 3) 8 3/4" Reed R-23-A out at 4023', 4) 8 3/4" Reed R-25-APDH out at

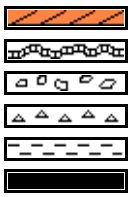
Remarks:

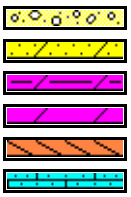
Gas Detector: Woolsey Operating Company, Gas Trailer #2
Mud Systems: Mud-Co. Brad Bortz, Terry Ibson, Engineers
Directional Input: Calmena Energy Services, Heath Marshal, Mark Sanders Directional Drillers
MWD Hands: Shane Lewis, David Jay

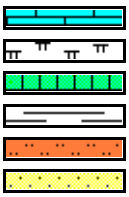
Crews:

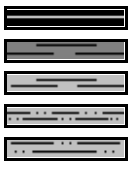
Tool Pushers: Steve Ellington, Rellief: Sammy Fry
Daytime Drillers: Jack Lambert, Johnnie Stone
Night Drillers: Tanner Barber, Terry Stark

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
Shysltst
Sltysh

ACCESSORIES

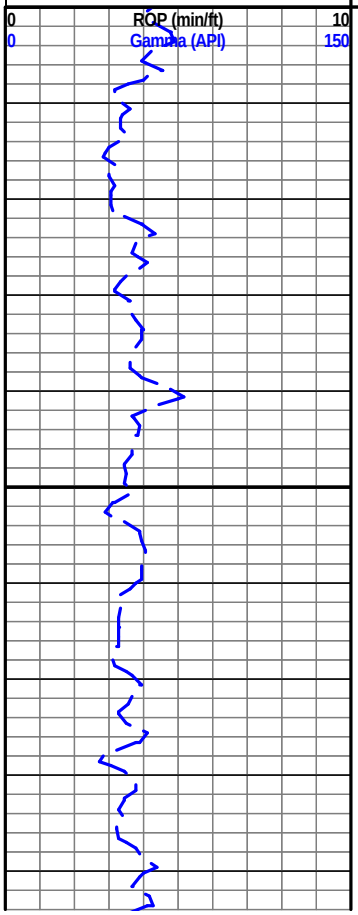
MINERAL
- Anhy
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Ferrpel
- Ferr
- Glau
- Gyp
- Marl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Chlorite
- Dol
- Sand
- Slty

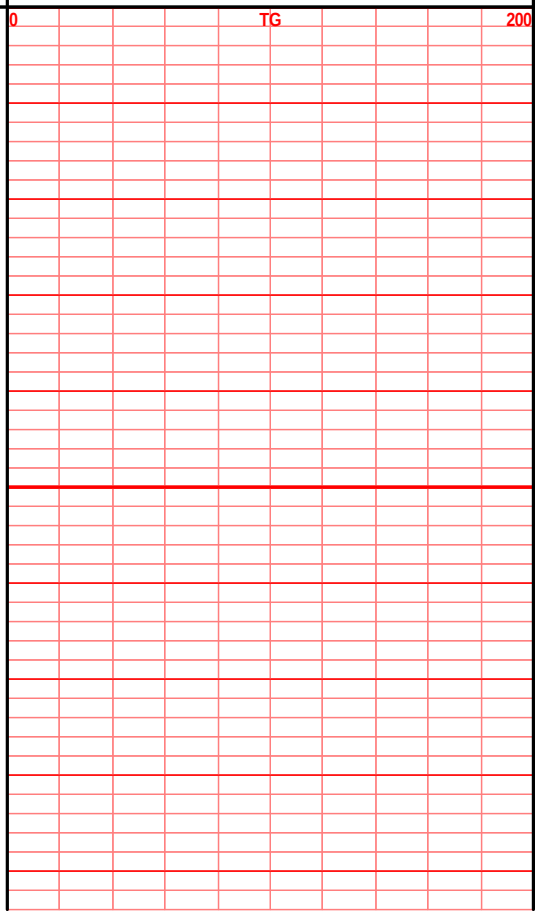
FOSSIL
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomoldic

STRINGER
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

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

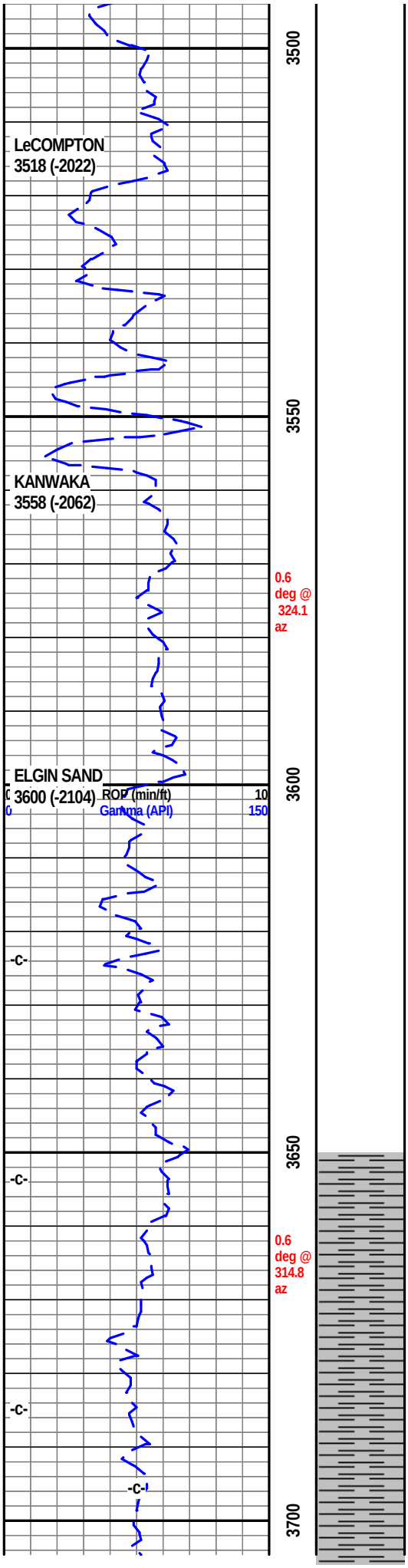
Curve Track 1	Depth	Lithology	Oil Shows	Geological Descriptions	TG, C1-C5
ROP (min/ft) Gamma (API)					TG (units) C1 (units) C2 (units) C3 (units) C4 (units) C5 (units)





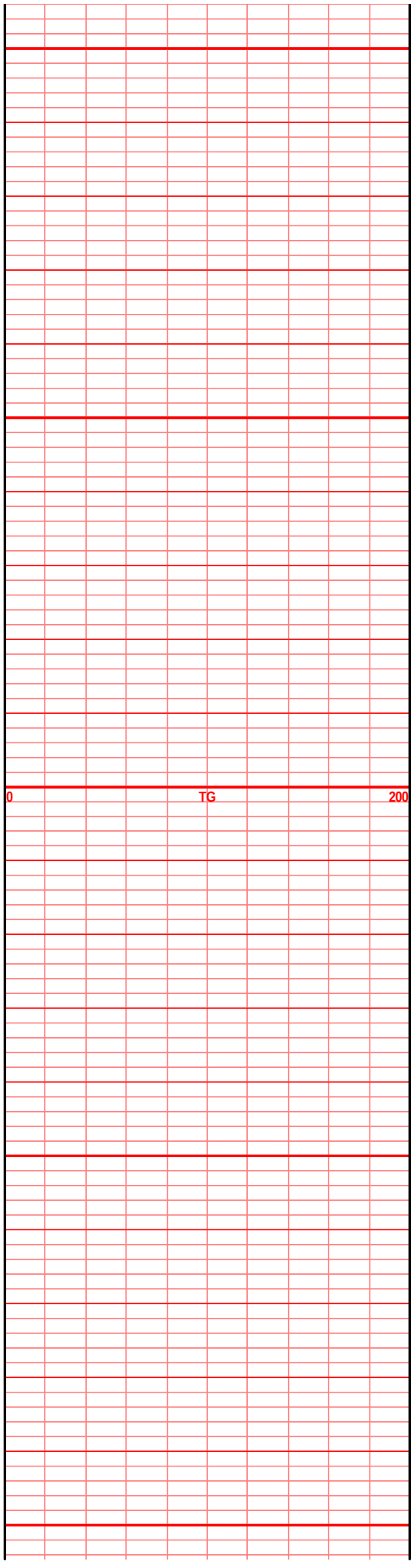
Reference wells: Woolsey Operating Co's Michel GU A-2, E 1/2 SW NW, 7-34S-R11W, Hendrick's Nisi #1, C NW NW, 18-34S-R11W, Woolsey Operating Co's Harbaugh #2, S 1/2 N 1/2 NE SE, 13-34S-R12W

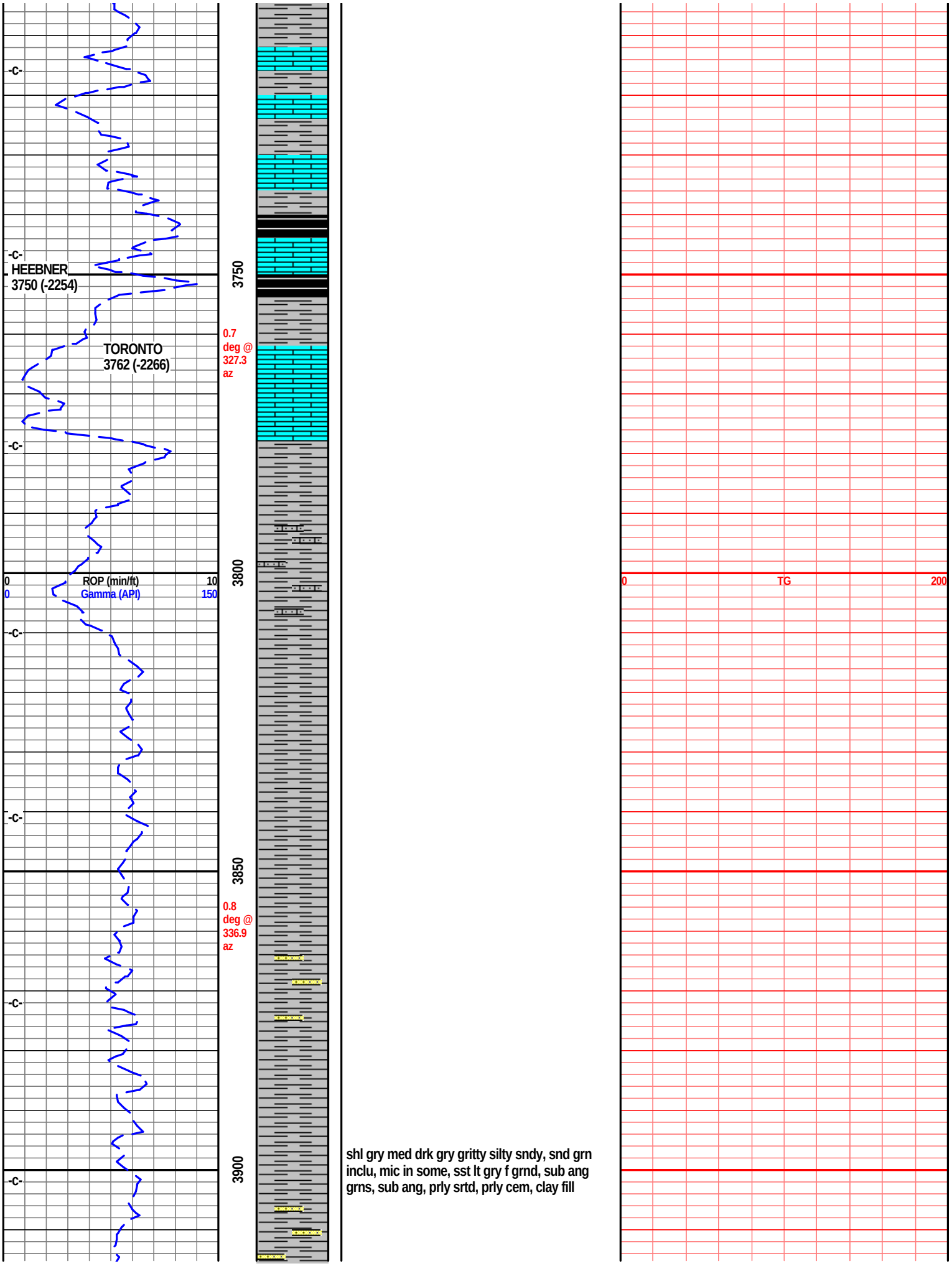
7 am Progress:
April 22, 2013 MIRT
April 23, 2013 MIRT/SPUD
April 24, 2013 WOC at 340'
April 25, 2013 Nipple up at 800'
April 26, 2013 Drilling at 1240'
April 27, 2013 Drilling at 2070'
April 28, 2013 Drilling at 2720'
Arpil 29, 2013 Drilling at 3350'
April 30, 2013 TOOH at 4023'
May 1, 2013 Drilling at 4162'
May 2, 2013 Drilling at 4515'
May 3, 2013 Drilling at 4755'
May 4, 2013 Drilling at 5020'
May 5, 2013 CTCH at 5245'

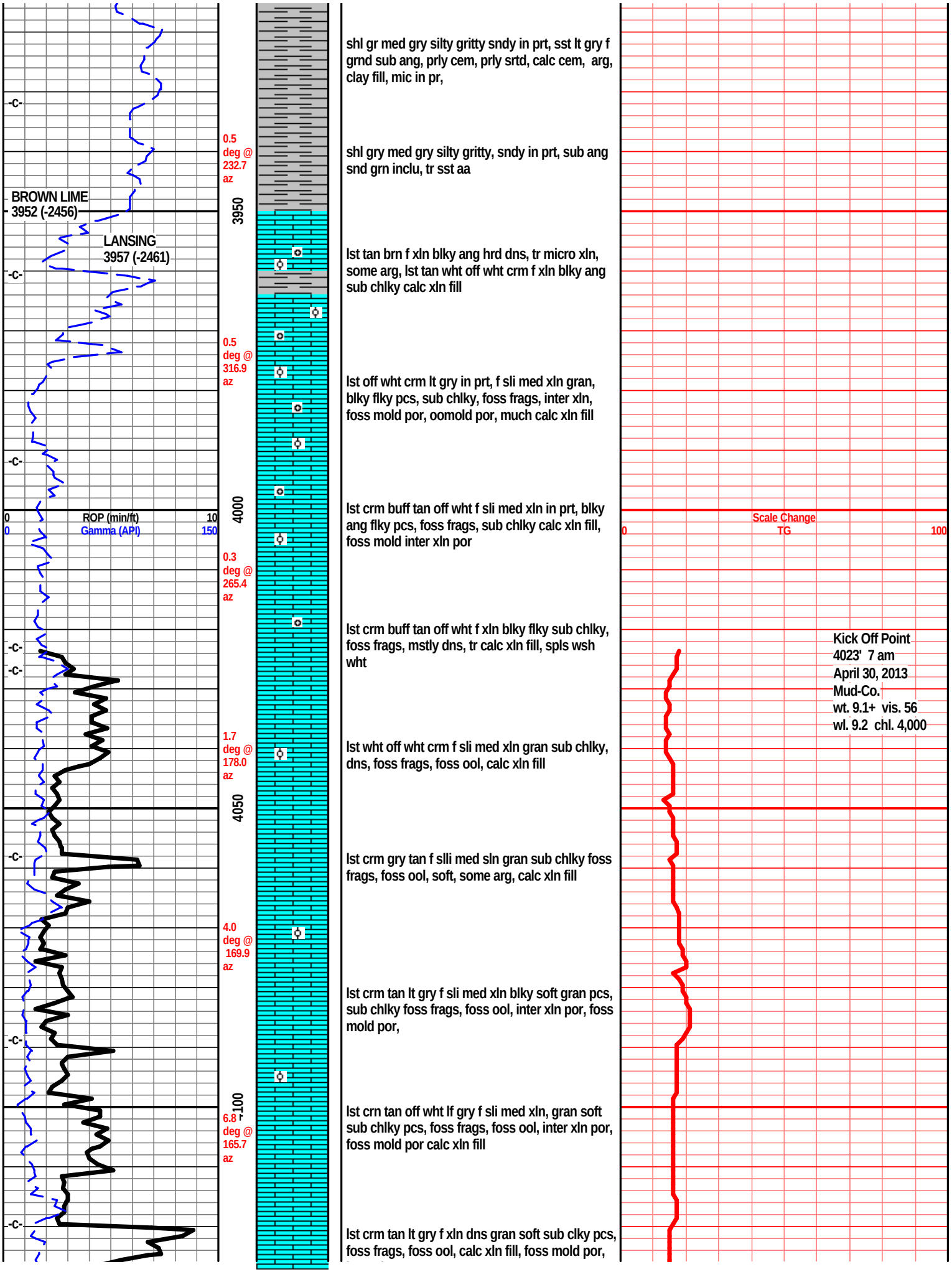


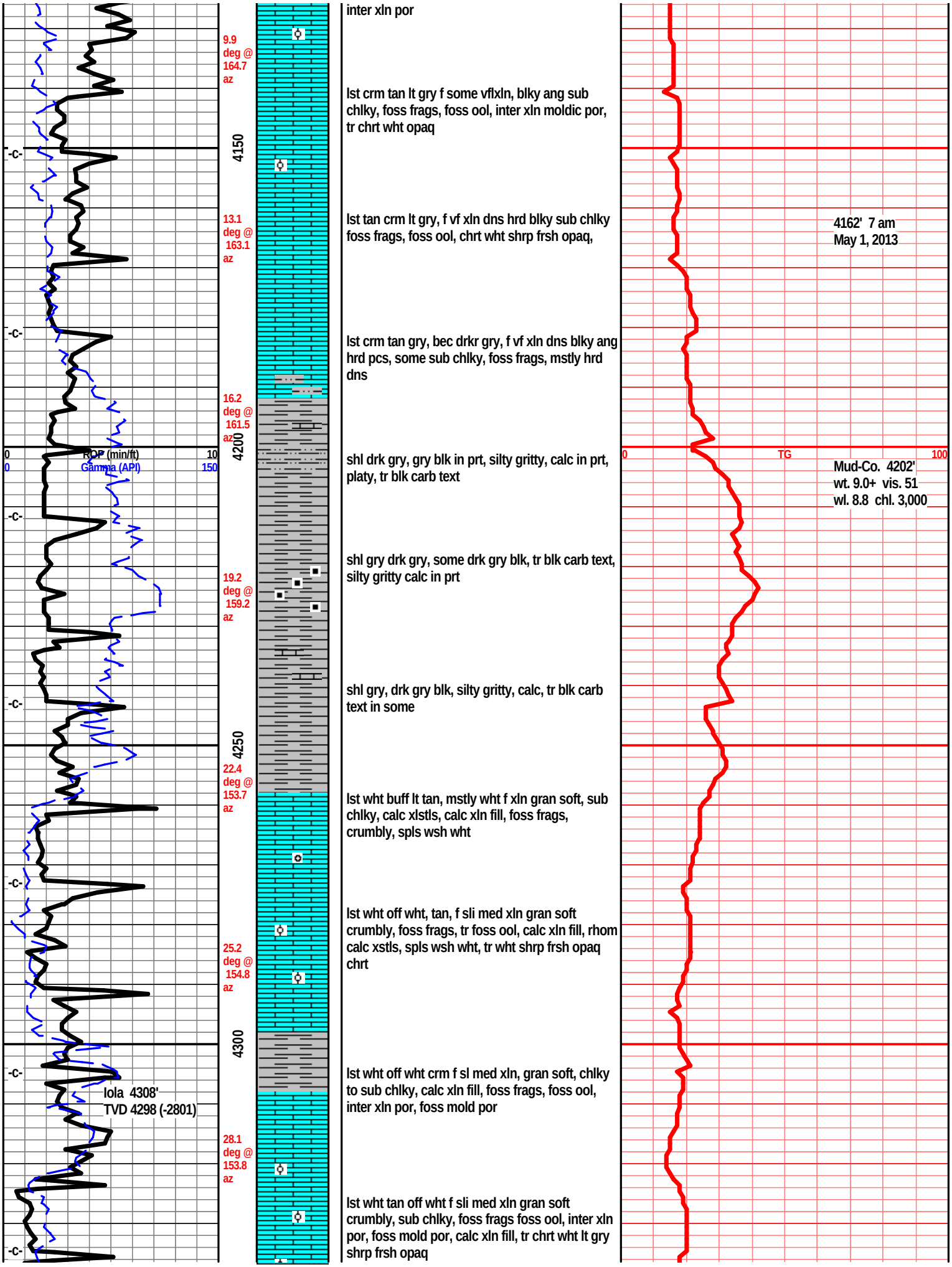
May 5, 2013 CTCH at 5245

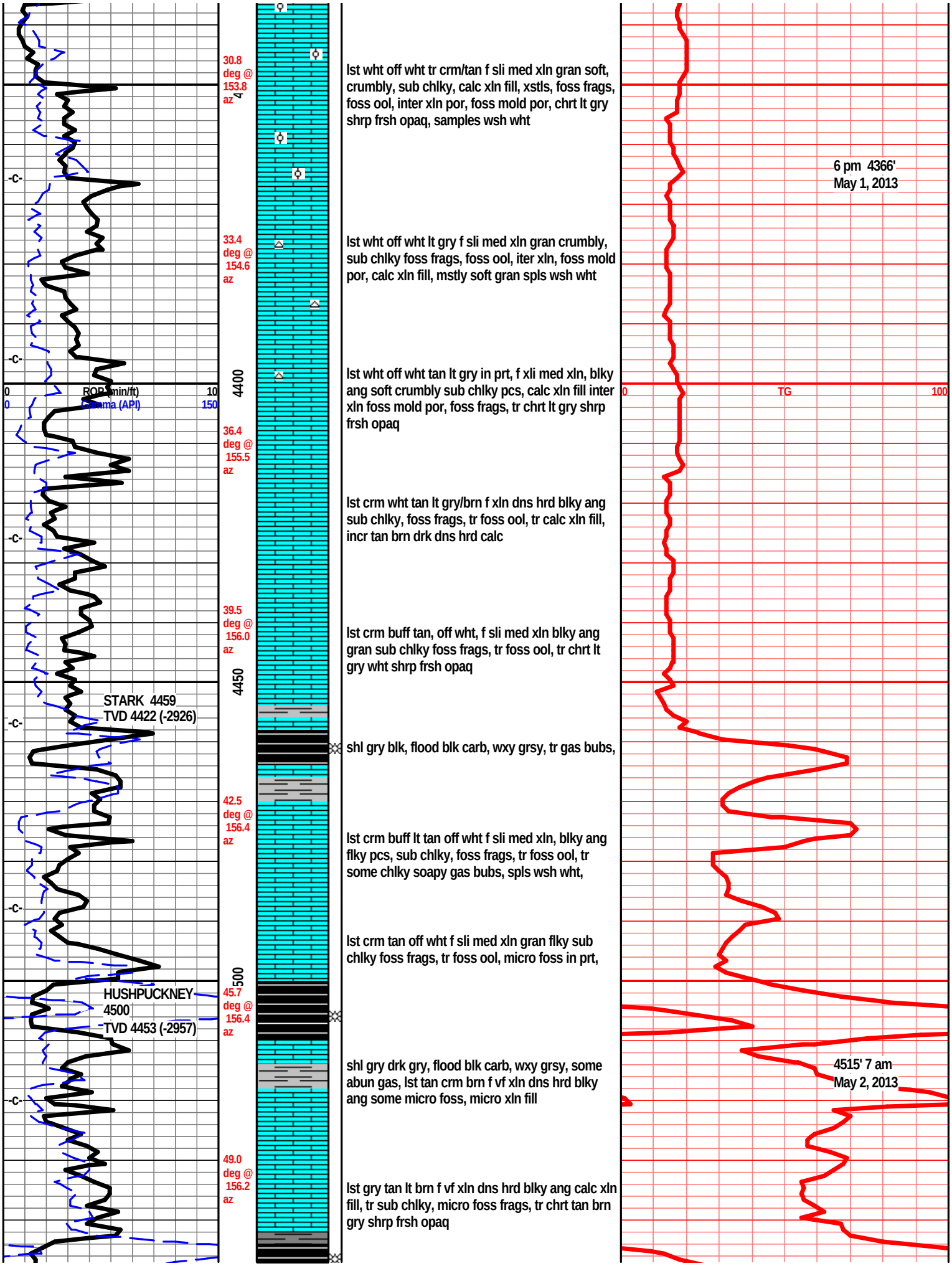
Sample Tops:
LeCompton 3518 (-2022)
Kanwaka 3558 (-2062)
Heebner 3750 (-2254)
Toronto 3762 (-2266)
Douglas Shl 3810 (-2314)
Brown Lime 3952 (-2456)
Stark 4422 (-2926)
Hushpuckney 4453 (-2957)
B/Kansas City 4503 (-3007)
Pawnee 4592 (-3096)
Cherokee Grp 4642 (-3146)
Mississippi 4654 (-3159)

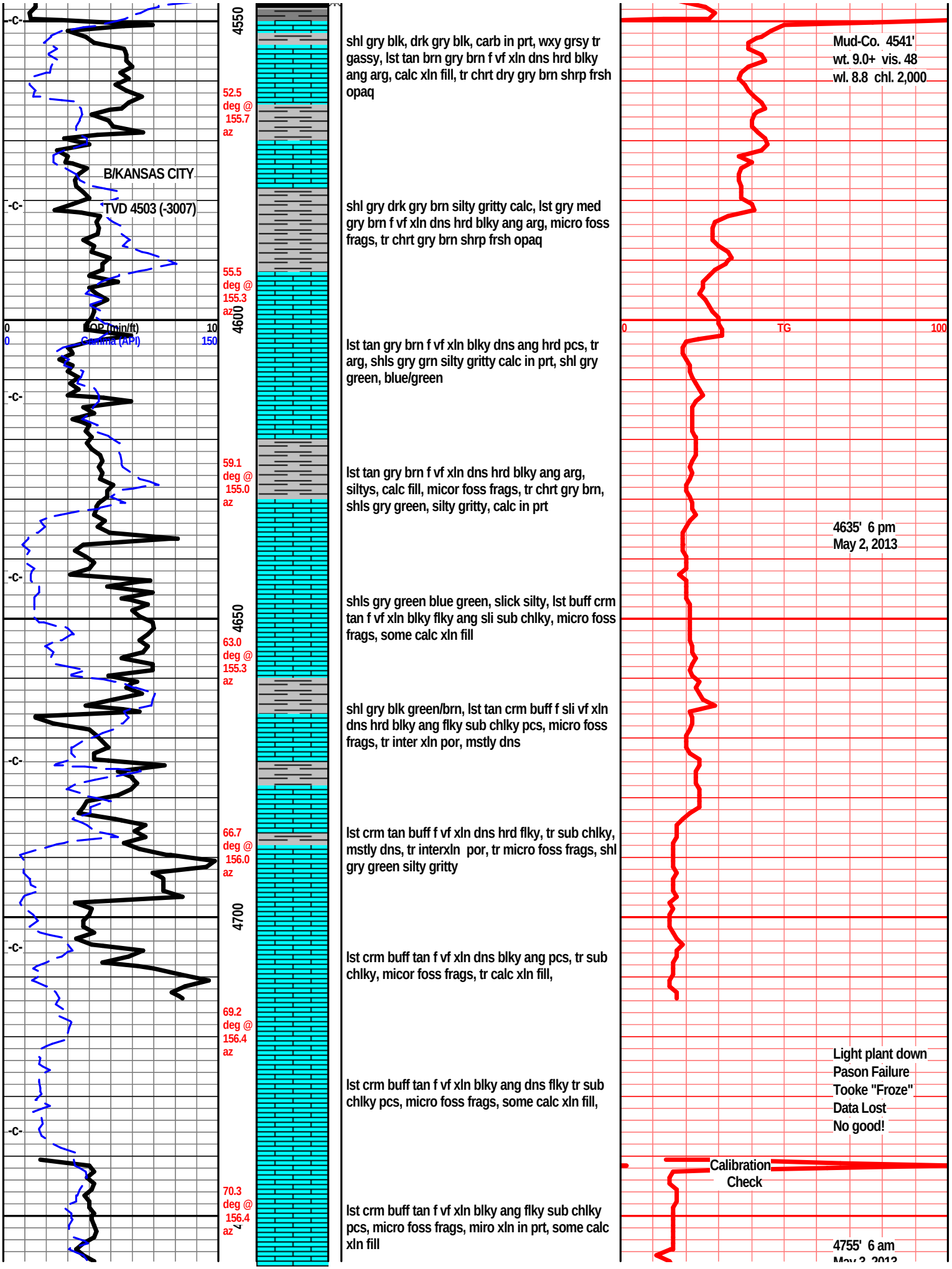


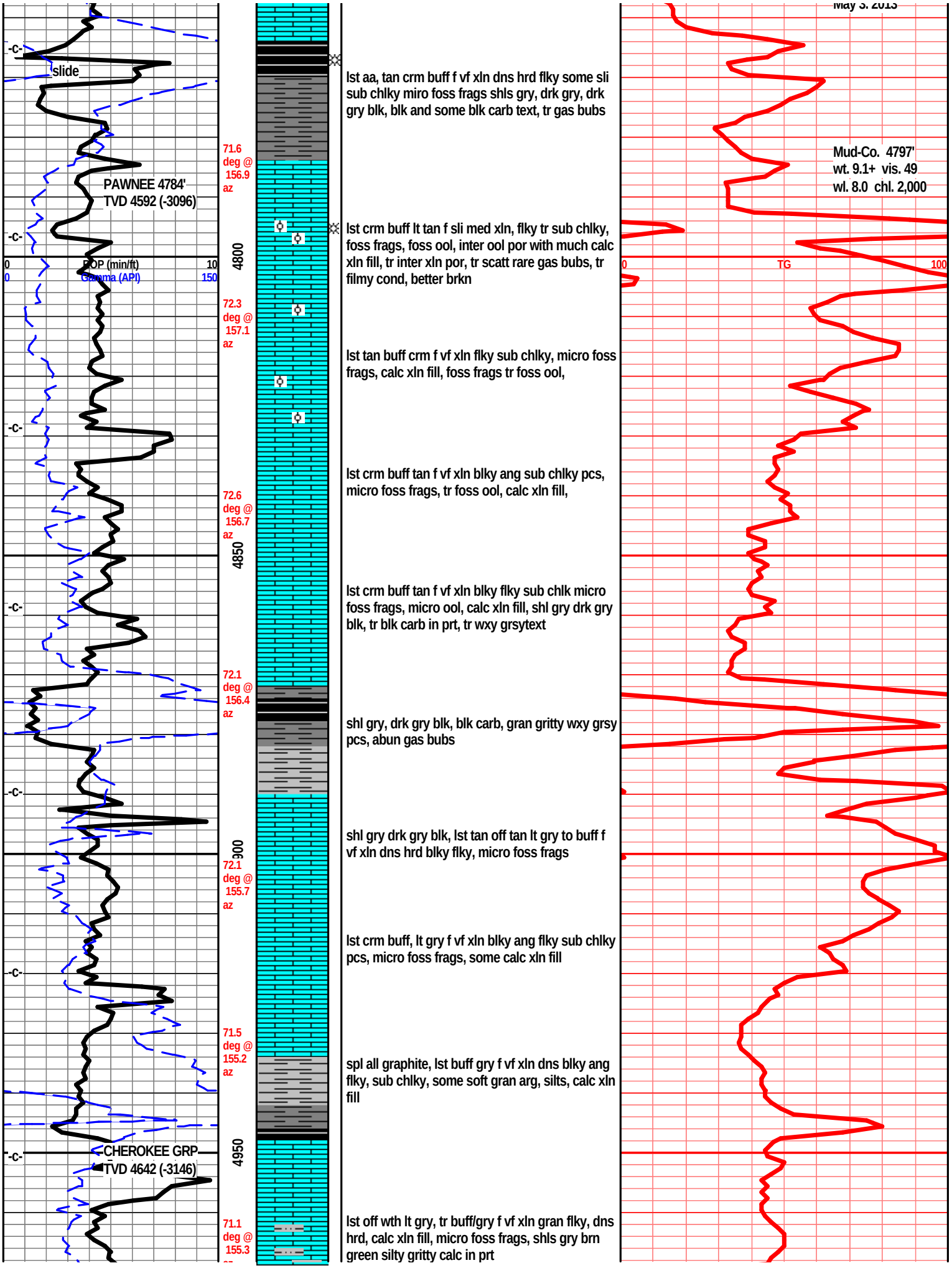

-C-
-C-
HEEBNER
3750 (-2254)
TORONTO
3762 (-2266)
-C-
0
ROP (min/ft)
10
0
Gamma (API)
150
-C-
-C-
-C-
-C-
3750
3800
3850
3900
0.7
deg @
327.3
az
0.8
deg @
336.9
az
0
TG
200
shl gry med drk gry gritty silty sndy, snd grn
inclu, mic in some, sst lt gry f grnd, sub ang
grns, sub ang, prly srtd, prly cem, clay fill

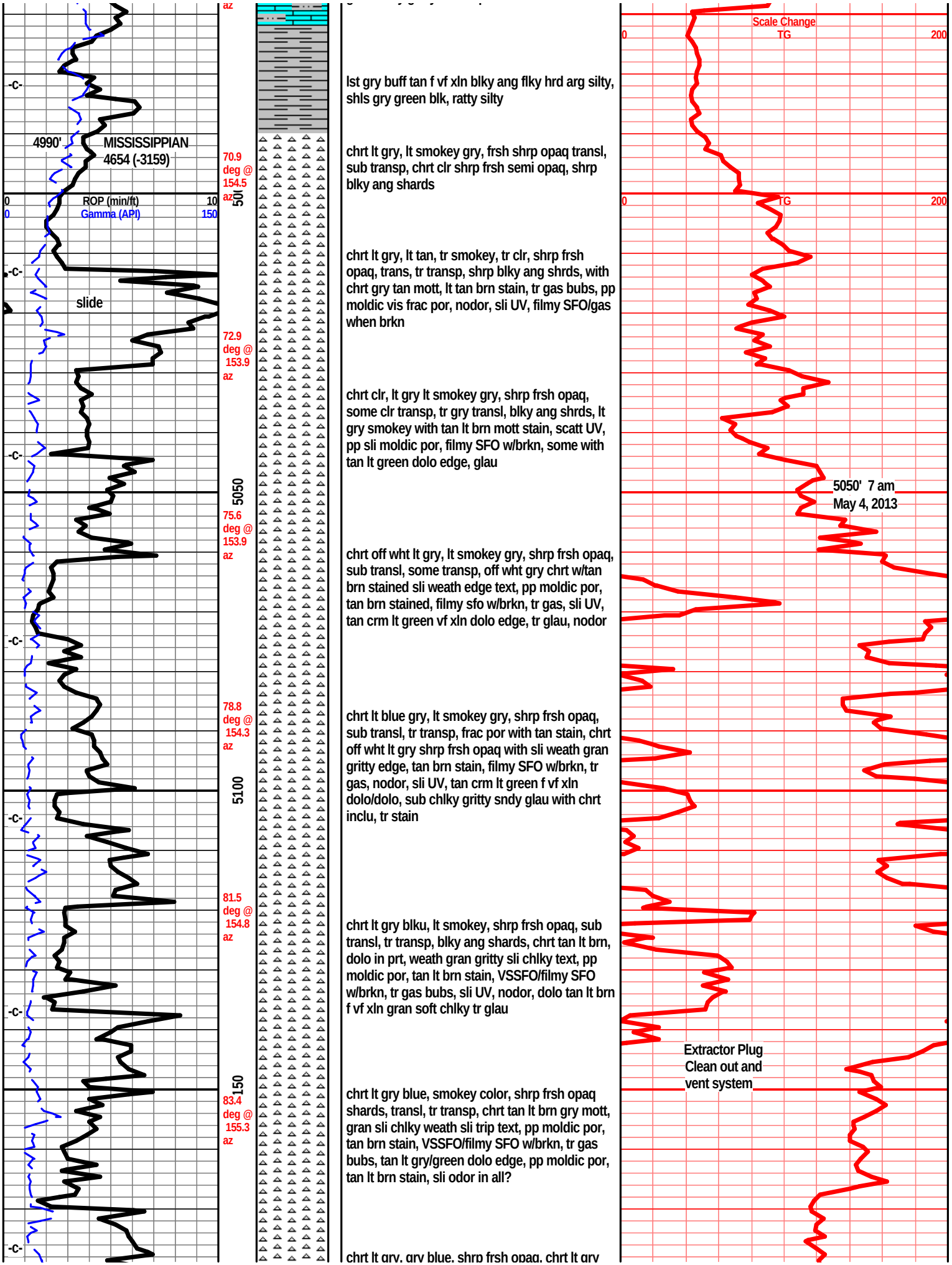

BROWN LIME
3952 (-2456)
LANSING
3957 (-2461)
-C-
0.5 deg @ 232.7 az
0.5 deg @ 316.9 az
0.3 deg @ 265.4 az
1.7 deg @ 178.0 az
4.0 deg @ 169.9 az
6.8 deg @ 165.7 az
3950
4000
4050
100
0
ROP (min/ft)
10
0
Gamma (API)
150
shl gr med gry silty gritty sndy in prt, sst lt gry f grnd sub ang, prly cem, prly srtd, calc cem, arg, clay fill, mic in pr,
shl gry med gry silty gritty, sndy in prt, sub ang snd grn inclu, tr sst aa
lst tan brn f xln blky ang hrd dns, tr micro xln, some arg, lst tan wht off wht crm f xln blky ang sub chlky calc xln fill
lst off wht crm lt gry in prt, f sli med xln gran, blky flky pcs, sub chlky, foss frags, inter xln, foss mold por, oomold por, much calc xln fill
lst crm buff tan off wht f sli med xln in prt, blky ang flky pcs, foss frags, sub chlky calc xln fill, foss mold inter xln por
lst crm buff tan off wht f xln blky flky sub chlky, foss frags, mstly dns, tr calc xln fill, spls wsh wht
lst wht off wht crm f sli med xln gran sub chlky, dns, foss frags, foss ool, calc xln fill
lst crm gry tan f slli med sln gran sub chlky foss frags, foss ool, soft, some arg, calc xln fill
lst crm tan lt gry f sli med xln blky soft gran pcs, sub chlky foss frags, foss ool, inter xln por, foss mold por,
lst crn tan off wht lf gry f sli med xln, gran soft sub chlky pcs, foss frags, foss ool, inter xln por, foss mold por calc xln fill
lst crm tan lt gry f xln dns gran soft sub clky pcs, foss frags, foss ool, calc xln fill, foss mold por,
Scale Change
0
TG
100
Kick Off Point
4023' 7 am
April 30, 2013
Mud-Co.
wt. 9.1+ vis. 56
wl. 9.2 chl. 4,000

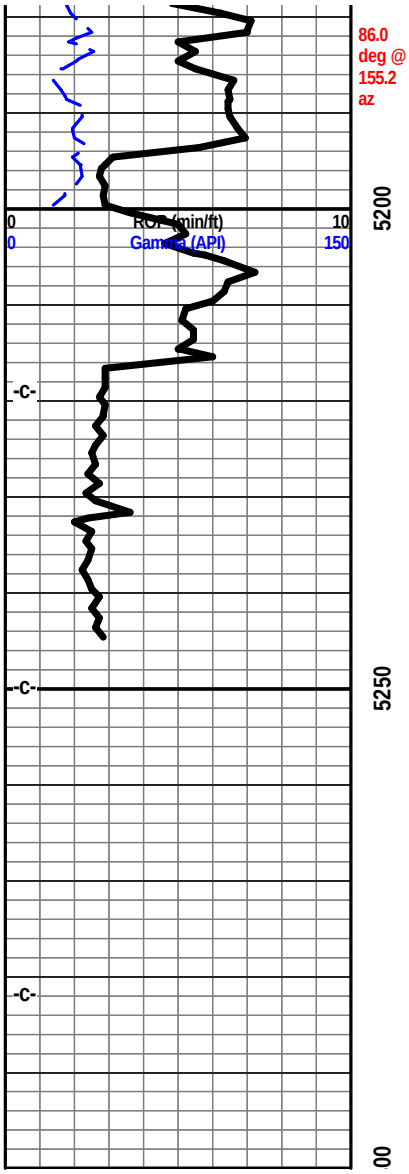

0
ROP (min/ft)
10
0
Gamma (API)
150
-C-
4150
4200
4250
4300
9.9 deg @ 164.7 az
13.1 deg @ 163.1 az
16.2 deg @ 161.5 az
19.2 deg @ 159.2 az
22.4 deg @ 153.7 az
25.2 deg @ 154.8 az
28.1 deg @ 153.8 az
Iola 4308'
TVD 4298 (-2801)
inter xln por
lst crm tan lt gry f some vflxln, blky ang sub chlky, foss frags, foss ool, inter xln moldic por, tr chrt wht opaq
lst tan crm lt gry, f vf xln dns hrd blky sub chlky foss frags, foss ool, chrt wht shrp frsh opaq,
lst crm tan gry, bec drkr gry, f vf xln dns blky ang hrd pcs, some sub chlky, foss frags, mstly hrd dns
shl drk gry, gry blk in prt, silty gritty, calc in prt, platy, tr blk carb text
shl gry drk gry, some drk gry blk, tr blk carb text, silty gritty calc in prt
shl gry, drk gry blk, silty gritty, calc, tr blk carb text in some
lst wht buff lt tan, mstly wht f xln gran soft, sub chlky, calc xlstls, calc xln fill, foss frags, crumbly, spls wsh wht
lst wht off wht, tan, f sli med xln gran soft crumbly, foss frags, tr foss ool, calc xln fill, rhom calc xstls, spls wsh wht, tr wht shrp frsh opaq chrt
lst wht off wht crm f sl med xln, gran soft, chlky to sub chlky, calc xln fill, foss frags, foss ool, inter xln por, foss mold por
lst wht tan off wht f sli med xln gran soft crumbly, sub chlky, foss frags foss ool, inter xln por, foss mold por, calc xln fill, tr chrt wht lt gry shrp frsh opaq
4162' 7 am
May 1, 2013
0
TG
100
Mud-Co. 4202'
wt. 9.0+ vis. 51
wl. 8.8 chl. 3,000

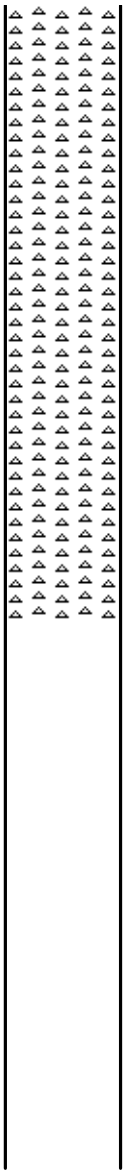

0
ROP (min/ft)
10
0
Gamma (API)
150
-C-
-C-
-C-
-C-
-C-
4400
4450
4500
STARK 4459
TVD 4422 (-2926)
HUSHPUCKNEY
4500
TVD 4453 (-2957)
30.8 deg @ 153.8 az
33.4 deg @ 154.6 az
36.4 deg @ 155.5 az
39.5 deg @ 156.0 az
42.5 deg @ 156.4 az
45.7 deg @ 156.4 az
49.0 deg @ 156.2 az
lst wht off wht tr crm/tan f sli med xln gran soft, crumbly, sub chlky, calc xln fill, xstls, foss frags, foss ool, inter xln por, foss mold por, chrt lt gry shrp frsh opaq, samples wsh wht
lst wht off wht lt gry f sli med xln gran crumbly, sub chlky foss frags, foss ool, iter xln, foss mold por, calc xln fill, mstly soft gran spls wsh wht
lst wht off wht tan lt gry in prt, f xli med xln, blky ang soft crumbly sub chlky pcs, calc xln fill inter xln foss mold por, foss frags, tr chrt lt gry shrp frsh opaq
lst crm wht tan lt gry/brn f xln dns hrd blky ang sub chlky, foss frags, tr foss ool, tr calc xln fill, incr tan brn drk dns hrd calc
lst crm buff tan, off wht, f sli med xln blky ang gran sub chlky foss frags, tr foss ool, tr chrt lt gry wht shrp frsh opaq
shl gry blk, flood blk carb, wxy grsy, tr gas bubs,
lst crm buff lt tan off wht f sli med xln, blky ang flky pcs, sub chlky, foss frags, tr foss ool, tr some chlky soapy gas bubs, spls wsh wht,
lst crm tan off wht f sli med xln gran flky sub chlky foss frags, tr foss ool, micro foss in prt,
shl gry drk gry, flood blk carb, wxy grsy, some abun gas, lst tan crm brn f vf xln dns hrd blky ang some micro foss, micro xln fill
lst gry tan lt brn f vf xln dns hrd blky ang calc xln fill, tr sub chlky, micro foss frags, tr chrt tan brn gry shrp frsh opaq
0
TG
100
6 pm 4366'
May 1, 2013
4515' 7 am
May 2, 2013


-c-
B/KANSAS CITY
TVD 4503 (-3007)
0
10
ROP (min/ft)
0
Gamma (API)
150
4550
52.5 deg @ 155.7 az
4600
55.5 deg @ 155.3 az
59.1 deg @ 155.0 az
4650
63.0 deg @ 155.3 az
66.7 deg @ 156.0 az
4700
69.2 deg @ 156.4 az
70.3 deg @ 156.4 az
shl gry blk, drk gry blk, carb in prt, wxy grsy tr gassy, lst tan brn gry brn f vf xln dns hrd blky ang arg, calc xln fill, tr chrt dry gry brn shrp frsh opaq
shl gry drk gry brn silty gritty calc, lst gry med gry brn f vf xln dns hrd blky ang arg, micro foss frags, tr chrt gry brn shrp frsh opaq
lst tan gry brn f vf xln blky dns ang hrd pcs, tr arg, shls gry grn silty gritty calc in prt, shl gry green, blue/green
lst tan gry brn f vf xln dns hrd blky ang arg, siltys, calc fill, micor foss frags, tr chrt gry brn, shls gry green, silty gritty, calc in prt
shls gry green blue green, slick silty, lst buff crm tan f vf xln blky flky ang sli sub chlky, micro foss frags, some calc xln fill
shl gry blk green/brn, lst tan crm buff f sli vf xln dns hrd blky ang flky sub chlky pcs, micro foss frags, tr inter xln por, mstly dns
lst crm tan buff f vf xln dns hrd flky, tr sub chlky, mstly dns, tr interxln por, tr micro foss frags, shl gry green silty gritty
lst crm buff tan f vf xln dns blky ang pcs, tr sub chlky, micor foss frags, tr calc xln fill,
lst crm buff tan f vf xln blky ang dns flky tr sub chlky pcs, micro foss frags, some calc xln fill,
lst crm buff tan f vf xln blky ang flky sub chlky pcs, micro foss frags, miro xln in prt, some calc xln fill
Mud-Co. 4541'
wt. 9.0+ vis. 48
wl. 8.8 chl. 2,000
0
TG
100
4635' 6 pm
May 2, 2013
Light plant down
Pason Failure
Tooke "Froze"
Data Lost
No good!
Calibration
Check
4755' 6 am

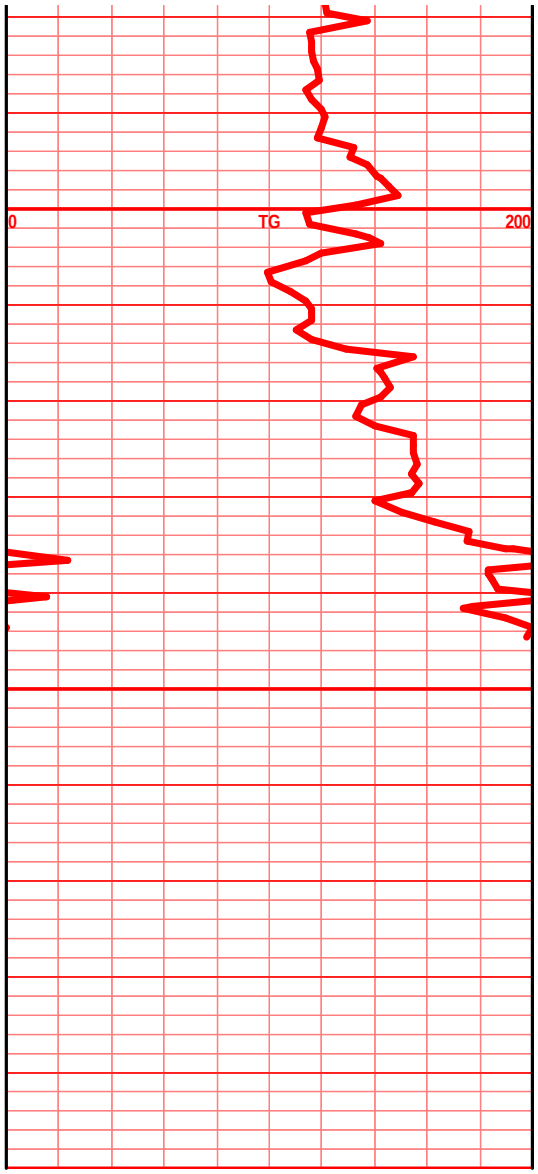

May 3. 2013
-C-
slide
PAWNEE 4784'
TVD 4592 (-3096)
-C-
0
ROP (min/ft)
10
0
Gamma (API)
150
4800
4850
4900
4950
-C-
-C-
-C-
-C-
-C-
CHEROKEE GRP
TVD 4642 (-3146)
71.6 deg @ 156.9 az
72.3 deg @ 157.1 az
72.6 deg @ 156.7 az
72.1 deg @ 156.4 az
72.1 deg @ 155.7 az
71.5 deg @ 155.2 az
71.1 deg @ 155.3
lst aa, tan crm buff f vf xln dns hrd flky some sli sub chlky miro foss frags shls gry, drk gry, drk gry blk, blk and some blk carb text, tr gas bubs
lst crm buff lt tan f sli med xln, flky tr sub chlky, foss frags, foss ool, inter ool por with much calc xln fill, tr inter xln por, tr scatt rare gas bubs, tr filmy cond, better brkn
lst tan buff crm f vf xln flky sub chlky, micro foss frags, calc xln fill, foss frags tr foss ool,
lst crm buff tan f vf xln blky ang sub chlky pcs, micro foss frags, tr foss ool, calc xln fill,
lst crm buff tan f vf xln blky flky sub chlk micro foss frags, micro ool, calc xln fill, shl gry drk gry blk, tr blk carb in prt, tr wxy grsytext
shl gry, drk gry blk, blk carb, gran gritty wxy grsy pcs, abun gas bubs
shl gry drk gry blk, lst tan off tan lt gry to buff f vf xln dns hrd blky flky, micro foss frags
lst crm buff, lt gry f vf xln blky ang flky sub chlky pcs, micro foss frags, some calc xln fill
spl all graphite, lst buff gry f vf xln dns blky ang flky, sub chlky, some soft gran arg, silts, calc xln fill
lst off wth lt gry, tr buff/gry f vf xln gran flky, dns hrd, calc xln fill, micro foss frags, shls gry brn green silty gritty calc in prt
Mud-Co. 4797'
wt. 9.1+ vis. 49
wl. 8.0 chl. 2,000
0
TG
100


az
-C-
4990'
MISSISSIPPIAN
4654 (-3159)
70.9 deg @ 154.5 az
0
ROP (min/ft)
10
0
Gamma (API)
150
5000
-C-
slide
72.9 deg @ 153.9 az
-C-
5050
75.6 deg @ 153.9 az
-C-
78.8 deg @ 154.3 az
5100
-C-
81.5 deg @ 154.8 az
-C-
150
83.4 deg @ 155.3 az
-C-
lst gry buff tan f vf xln blky ang flky hrd arg silty, shls gry green blk, ratty silty
chrt lt gry, lt smokey gry, frsh shrp opaq transl, sub transp, chrt clr shrp frsh semi opaq, shrp blky ang shards
chrt lt gry, lt tan, tr smokey, tr clr, shrp frsh opaq, trans, tr transp, shrp blky ang shrds, with chrt gry tan mott, lt tan brn stain, tr gas bubs, pp moldic vis frac por, nodor, sli UV, filmy SFO/gas when brkn
chrt clr, lt gry lt smokey gry, shrp frsh opaq, some clr transp, tr gry transl, blky ang shrds, lt gry smokey with tan lt brn mott stain, scatt UV, pp sli moldic por, filmy SFO w/brkn, some with tan lt green dolo edge, glau
chrt off wht lt gry, lt smokey gry, shrp frsh opaq, sub transl, some transp, off wht gry chrt w/tan brn stained sli weath edge text, pp moldic por, tan brn stained, filmy sfo w/brkn, tr gas, sli UV, tan crm lt green vf xln dolo edge, tr glau, nodor
chrt lt blue gry, lt smokey gry, shrp frsh opaq, sub transl, tr transp, frac por with tan stain, chrt off wht lt gry shrp frsh opaq with sli weath gran gritty edge, tan brn stain, filmy SFO w/brkn, tr gas, nodor, sli UV, tan crm lt green f vf xln dolo/dolo, sub chlky gritty sndy glau with chrt inclu, tr stain
chrt lt gry blku, lt smokey, shrp frsh opaq, sub transl, tr transp, blky ang shards, chrt tan lt brn, dolo in prt, weath gran gritty sli chlky text, pp moldic por, tan lt brn stain, VSSFO/filmy SFO w/brkn, tr gas bubs, sli UV, nodor, dolo tan lt brn f vf xln gran soft chlky tr glau
chrt lt gry blue, smokey color, shrp frsh opaq shards, transl, tr transp, chrt tan lt brn gry mott, gran sli chlky weath sli trip text, pp moldic por, tan brn stain, VSSFO/filmy SFO w/brkn, tr gas bubs, tan lt gry/green dolo edge, pp moldic por, tan lt brn stain, sli odor in all?
chrt lt gry, gry blue, shrp frsh opaq, chrt lt gry
Scale Change
TG
0
200
0
TG
200
5050' 7 am
May 4, 2013
Extractor Plug
Clean out and
vent system





crm tan lt brn mott, weath gran soft chlky text, sli trip text, pp moldic por, tan lt brn stain, sli odor, SSFO/filmy SFO, gas bubs on brkn pcs, crm lt brn dolo edge in prt, glau

chrt lt gry off wht, shrp frsh opaq, sharp blky ang shrds, chrt lt gry tan lt brn mott, sli spongy weath crumbly text, pp moldic por, pp por, tan lt brn stain, VSSFO/gas bubs w/brkn, scatt dull UV, nodor in any!

chrt off wht lt gry lt smokey gry shrp frsh opaq, sub transl, blky ang shards, chrt lt gry tan crm mott, gran weath sli trip type text, pp moldic por, inter gran por, mstly even tan lt brn stain, VSSFO w/brkn, sli gas bus, dull scatt UV, nodor in any