



**Natural Gas • Crude Oil
Exploration & Production**

**McCOY PETROLEUM CORPORATION
Wichita, Kansas**

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

Well Name: Thomas & Reed Farms 'A' #1-21
API: 15-069-20499-00-00
Location: Sec. 21 - T29S - R28W
License Number: #5003
Spud Date: 03-08-2017 @ 5:30 PM
Surface Coordinates: C NE NW
660' FNL & 1980' FWL
Bottom Hole Coordinates:
Ground Elevation (ft): 2728' K.B. Elevation (ft): 2739'
Logged Interval (ft): Surface To: 6500' Total Depth (ft): RTD: 6500' LTD: 6495
Formation: Arbuckle
Type of Drilling Fluid: Chemical/Polymer/Gel
Region: GRAY CO., KS
Drilling Completed: 03/18/2017

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OPERATOR

Company: McCoy Petroleum Corporation, KCC License #5003
Address: 9342 E Central
Wichita, KS 67206

GEOLOGIST

Name: Zach Wiele
Company: McCoy Petroleum Corporation
Address: 9342 E. Central
Wichita, KS 67206

Casing & Deviation Surveys:

Surface/Production Casing Data:

Spud @ 5:30 pm on 03/08/17. Drilled 12-1/4" to 1695'. Ran 41 joints of new 24#, 8-5/8" casing. Tallied 1677.70' with 1' GS. Set at 1690' KB. Welded straps on bottom 3 joints, tacked 4 top collars. Centralizers (3) 1,3,5. Float insert in top of collar. SJ = 22.89'. Basket on top of #16 (1080'). Cemented with 500 sks AMD Lite with; 3% cc, 1/2# FS & tailed with 200 sks Class A with 2% CC & 1/4# FS. Cement did circulate to pits. Plug down at 4:20 am on 03/10/17. BJ Services Cementing ticket #LIB1703100420.

Deviation Survey's Taken: @ 1695' = 3/4 Degree, @ 6225' = 1 1/4 Degree, @ 6500' = 1 degree

DRILL STEM TEST

** DST #1 **

6211' - 6225' 3"-60"-60"-90"

IF: Blt to wk surf blw IS: No return

FF: No blw FS: No return

Rec: 10 mud 100%

Pressures:

IH: 3114 FH: 2933

IF: 19-35 FF: 32-35

ISP: 2428# FSIP: 1254#

TEMP: 128 Deg F

** DST #2 **

6224' - 6255' 3"-60"-30"-45"

IF: Blt to wk surf blw IS: No return

FF: No blw FS: No return

Rec: 2' mud 100%

Pressures:

IH: 3223 FH: 3093

IF: 27-28 FF: 28-29

ISP: 97# FSIP: 44#

TEMP: 123 Deg F

** DST #3 **

6266' - 6282' 3"-60"-30"-30"

IF: Blt to wk surf blw IS: No return

FF: No blw FS: No return

Rec: 5' mud 100%

Pressures:

IH: 3159 FH: 2958

IF: 19-20 FF: 18-21

ISP: 2195# FSIP: 1269#

TEMP: 127 Deg F

NOTE: DST #4 SHOULD HAVE BEEN 6140'-6184' IN THE COMPTON,
TESTER CALCULATED INCORRECT, INSTEAD DST #4 = 6115-6159'

** DST #4 **

(STRADDLE) 6115' - 6159'

IF: Blt to 1/8" blw IS: No return blw

FF: Wk surface blw died in 5 min FS: No return blw

Rec: 5' mud

Pressures:

IH: 3191 FH: 2960

IF: 41-44 FF: 40-46

ISP: 2362# FSIP: 1329#

Temp: 127 Deg F

** DST #5 **

5275'-5320'

IF: Built to 1/2" blw IS: No return blw

FF: Built to wk surface blw FS: No return blw

Rec: 70' Mud



Pressures:

IH: 2751 FH: 2700

IF: 42-49 FF: 46-86

ISP: 1674# FSIP: 1390#

TEMP: 122 Deg F






Thomas & Reed Farms A
 ROP (min/ft) 
 Gamma (API) 

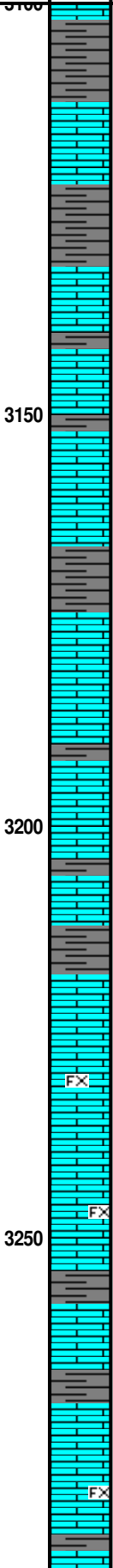
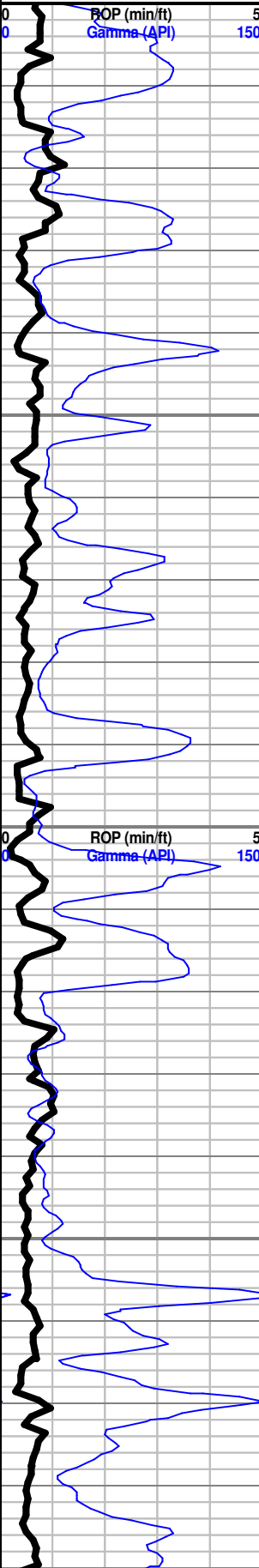
Depth

Lithology

Oil Shows

Geological Descriptions

TG, C1-C5
 TG (Units) 
 C1 (units) 
 C2 (units) 
 C3 (units) 
 C4 (units) 



McCoy Petroleum Corporation
Thomas & Reed Farms 'A' #1-21

SPOT: 660' FNL & 1980' FWL
NE - NW
Sec. 21 - T. 29S - R. 28W
GRAY COUNTY, KANSAS
A.P.I #: 15-069-20499-00-00
ELEVATION: 2739' K.B. 2728' G.L.

CONTRACTOR: STERLING DRILLING - RIG #4

GEOLOGIST: ZACH WIELE

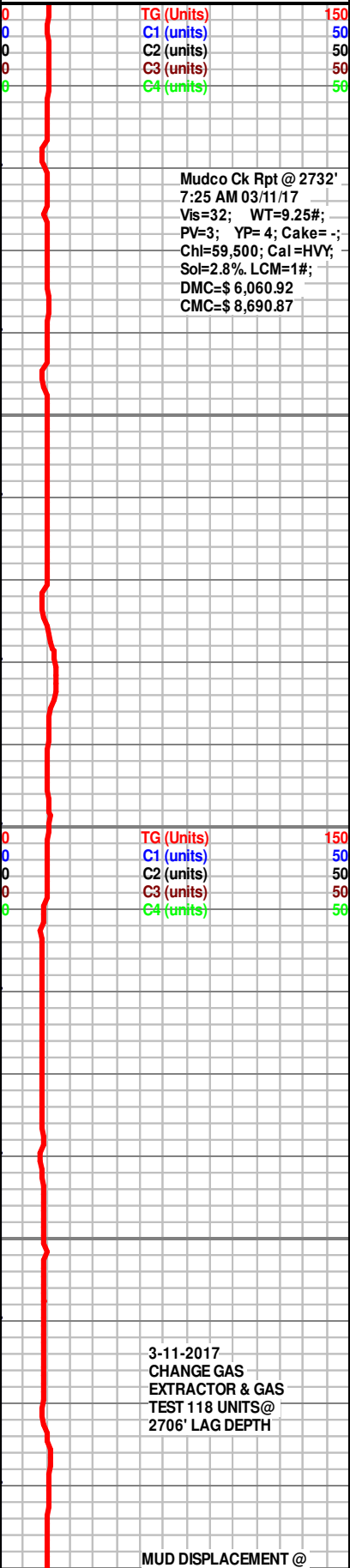
Geologist on location @ 6:08 P.M. 3/11/2017 @ 3370'

Top Stone Corral Anhydrite = 1685' (+ 1054)
 Base Stone Corral Anhydrite = 1706' (+ 1033)

Deviation Survey's Taken: @ 1695' = 3/4 Degree, @ 6225' = 1 1/4 Degree, @ 6500' = 1 degree

Ls: wht-crm-lt gry, micrite grad fnxln, ool in prt, few w/ gd oom vug por, trc blk detrital inclus, sli chlk, Sh: red-grnish gry-gry, sft, silty, pitted in prt, no odr, no stn, no fluor, NS

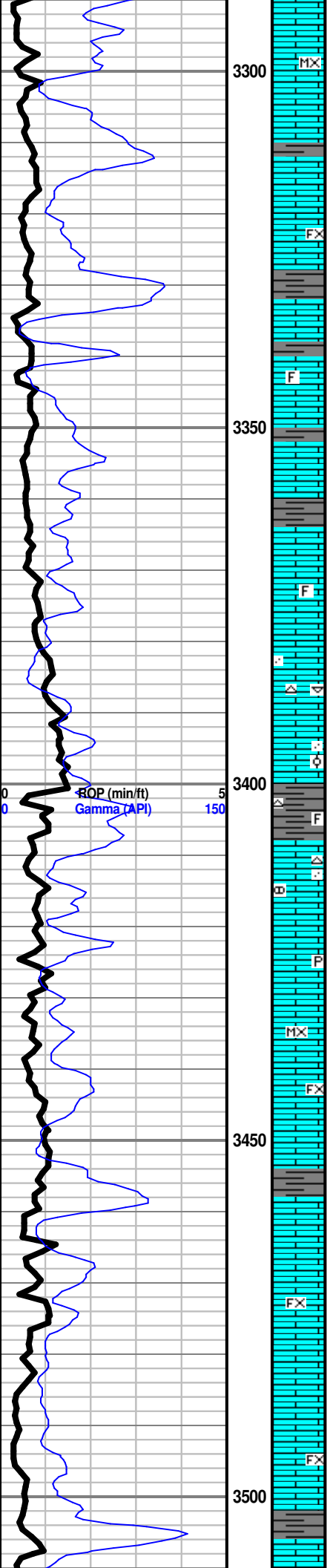
Sh: red-lt grn-gry, sft earthy, Ls: wht-crm-lt gry, dns micrite grd fnxln, sli ool, prly srted w/ isolated vugs, trc w/ gd inxln oom vug por, minor detrital inclus, chlky, no odr, no fluor, no stn, NS



Mudco Ck Rpt @ 2732'
 7:25 AM 03/11/17
 Vis=32; WT=9.25#;
 PV=3; YP= 4; Cake= -;
 Chl=59,500; Cal=HVY;
 Sol=2.8%. LCM=1#;
 DMC=\$ 6,060.92
 CMC=\$ 8,690.87

3-11-2017
 CHANGE GAS
 EXTRACTOR & GAS
 TEST 118 UNITS@
 2706' LAG DEPTH

MUD DISPLACEMENT @



Ls: crm-lt gry-lt tan, micrite, grd vfnxn, sli dol in prt, pr-mod pp inxn por, chlky, Sh: red-gry, sft, no odr, no fluor, no stn, NS

Ls: crm-lt gry, dns micrite grd fnxln vr pr pp inxn por, scat vugs, sli foss & mottled w/ blk rnd inclus, chlky, trc chrt, Sh: red-lt grnish gry, no odr, no fluor, no stn, NS

Ls: lt gry-crm, vfn-fnxln, mottled w/ blk-gry rnd/ang fragmented inclus, sli foss(bryz) w/scat vuggy por, trc ool Ls: tan, w/gd oom vug lnxln por, chlky, Sh: red-brnish red-gry, sft, no odr, no fluor, no stn, NS

Ls: lt gry-tan-grnish gry-brnish red, micrite grd vfnxn, sli dol w/ vfn-medgrn ool & frag inclus, minor inxn & pp por, chlky, Sh: red-brnish red, silty, no odr, no fluor, no stn, NS

Ls: wht-crm-lt gry, mstly microxn micrite w/ no vis por, grd vfnxn w/ scat vuggy por, chlky, Chrt: lt tan, foss, Sh: red-gry, no odr, no fluor, no stn, NS

Ls: gry-lt gry-crm, vfn-microxn, pitted w/ fragmented grn inclst & foss inclus, minor pp vug por, Chrt: wht, foss, sub opq, shp, no odr, no fluor, no stn, NS

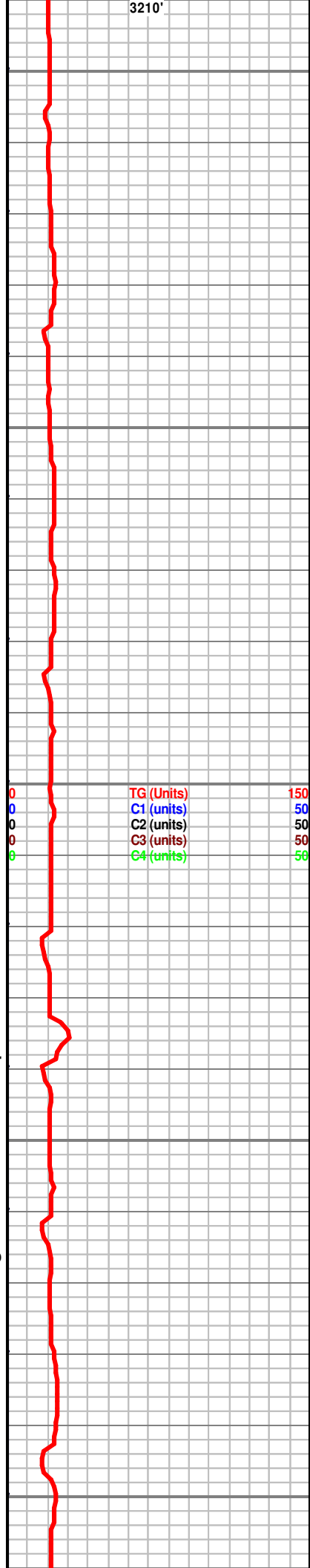
Ls: crm-gry-tan, fn-vfnxn, foss silty in prt w/ prly srted grn & frag inclus, minor foss leached vugs, strky pp/vuggy inxn por, trc pry inclus, Sh: drk gry-gry-redish brn, sft, no odr, no fluor, no stn, NS

Sh: red-redish brn-gry-lt grn, sft, silty, Ls: gry-buff-tan, fnxln, mot, foss & rnd chrty inclus, pr-mod pp lnxln por in prt, sli trc gd oom por w/ vfn-med disl vugs, no odr, no fluor, no stn, NS

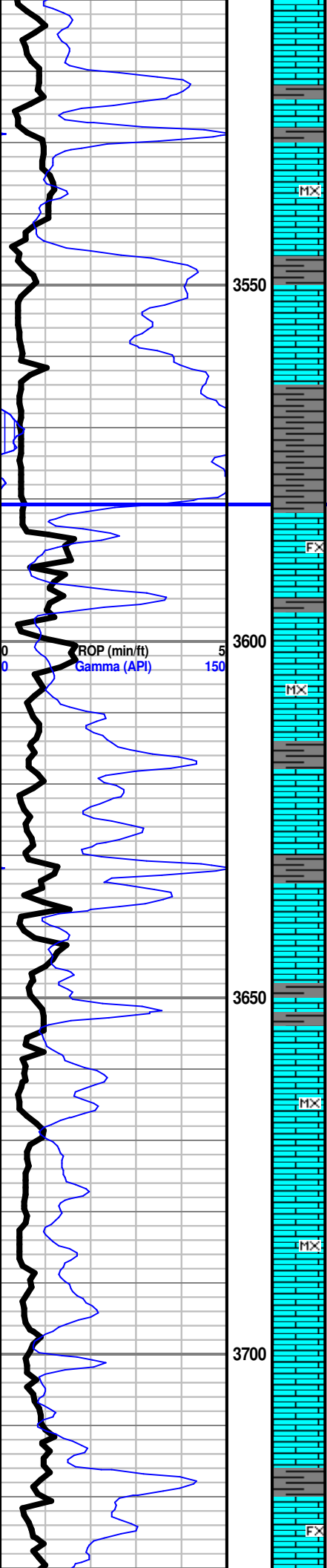
Ls: buff-gry-tan, dns micrite grd fnxln, foss, silty, grd sli ool-ool w/ pr ingrn ooc vug por & pr leching, Sh: red-gry, sft, silty, Chrt: foss, no odr, no fluor, no stn, NS

Sh: red-grn aqua-gry, sft, pitted, Ls: vfn-fnxln, foss w/ clst inclus, pr pp lnxln por, few w/ vuggy por, trc Chrt, no odr, no fluor, no stn, NS

Ls: tan-buff, micrite grd to fnxln, few w/scat isolated vuggy por, sli ool, prly srted, well cemented, chrty, minor Sh: red-redish brn, no odr, no fluor, no stn, NS



0	TG (Units)	150
0	C1 (units)	50
0	C2 (units)	50
0	C3 (units)	50
6	C4 (units)	50



Ls: gry-lt gry-crm, fn-vfnxn, foss, sndy, trc mod pp lnxln vug por, scat pyr inclus, trc Dol w/ grn gluc inclus, Chrt: tan-gry, sub opq, shp, foss, Sh: red-purp-mrrn-mstrd yel, slty, no odr, sli mineral fluor, no stn, NS

Ls: crm-tan, micrite, grd gry-lt gry vfnxn, foss, w/ pr inxn por, trc ool Ls: tan, w/ pr oom vuggy por, Sh: red-gry-drk gry, slty, mica, no odr, no fluor, no stn, NS

STOTLER 3581' (-842)

Ls: tan-crm-buff, fn-vfnxn, sli foss w/ pel inclus, ool in prt, fn-med grn w/gd oom & ingrn vug por, Sh: redish brn, silty, no odr, no fluor, no stn, NS

Sh: redish brn-lt gry-grnsh gry-mrrn, sft slty, muddy, Ls: crm-gry, microxn micrite, trc fnxln ool, no odr, no fluor, no stn, NS

Sh: gry-grnsh gry-redish brn, sft, glssy, trc pyr inclus, Ls: crm-tan-buff, micrite, pitted/vuggy in prt, grd fnxln, minor foss & ool inclus w/ spty inxn por, no odr, no fluor, no stn, NS

Ls: crm-lt tan, mstly vfn-microxn foss micrite w/ no vis por, Sh: gry-mrrn-yelish brn, erthy, sft, pitted, scat Chrt: wht-tan-orng, sub transl to sub opq, shp, foss, no odr, no fluor, no stn, NS

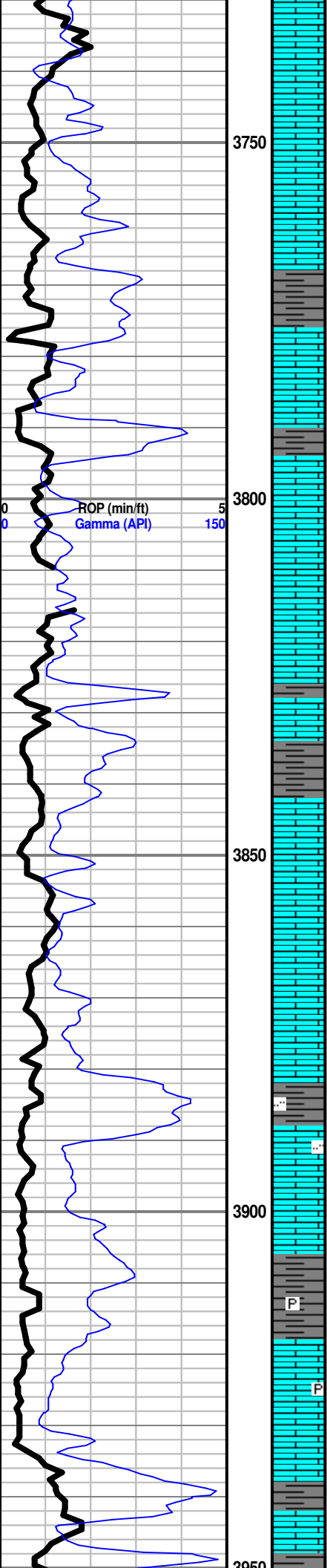
Sh: gry-lt brn-mrrn-blk, pitted, slty, Ls: buff-crm-gry, fn-vfnxn, pr pp por in few, trc gluc, chlky, no odr, no fluor, no stn, NS

Ls: crm-tan, mstly micrite grd fnxln, sli foss, pitted w/ no vis por, minor disl vugs in few, chlky, Sh: gry(w/red bands)-grn-redish brn, slty in prt, no odr, no fluor, no stn, NS

Ls: crm-buff, vfnxn, pr pp inxn por, minor foss frags, chlky, Chrt: wht-lt gry, sub opq, Sh: lt gry-redish brn, slty, limey in prt, no odr, no fluor, no stn, NS

Ls: vry chlky, grd wht-crm-lt gry, fn-microxn micrite, trc pr pp por, vry sft, scat gluc inclus, Sh: gry-lt brn-mrrn brn, sft silty, no odr, no fluor, no stn, NS

0	TG (Units)	150
0	C1 (units)	50
0	C2 (units)	50
0	C3 (units)	50
0	C4 (units)	50



Ls: tan, micrite grd to oolc, prly srted, tghtly cemented, foss in prt, Sh: grn-gry, limey Siltstone in prt, no odr, no fluor, no stn, NS

Ls: lt gry-orm, micrite, sli foss, mott in prt, chlky w/ pyr inclus, mass crin foss, no odr, no fluor, no stn, NS

Ls: crm-lt gry-lt tan, foss micrite, grd vfnxln w/sli trc pp por, chlky, Sh: redish brn-gry, slty, no odr, no fluor, no stn, NS

Ls: gry-tan-orm, dns micrite, blocky grd to prly sorted oolic pk/wkstn, foss w/ vr pr oom/vuggy por, Sh: (vr abnt), drk gry-gry-red, soft, no odr, no fluor, no stn, NS

Ls: tan-gry, foss micrite w/minor p disl vugs, ool/pell mudstn/wkstn, Chrt: tan-clr, sub transl, foss, shrp, Sh: drk gry-gry, slty, trc gluc, no odr, no fluor, no stn, NS

Ls: crm-buff-tan, vfnxln, dns, grd oolcastic, prly sortd, mod-gd inprticle/vuggy por, chlky, Chrt: wht, sup opq-sub transl, shp, Sh: gry-red, slty, trc pyr, no odr, no fluor, no stn, NS

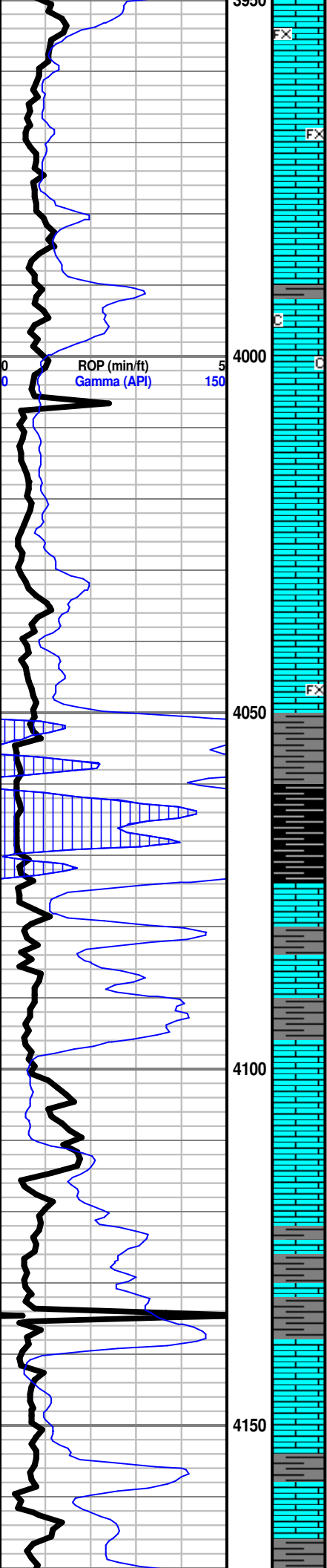
Ls: crm-buff-tan, vfnxln, dns w/ pr pp por, grd to sli foss-oolcastic, well cemented, chrt in prt w/crin foss inclus, Sh: gry-brn-grnish gry, slty, no odr, no fluor, no stn, NS

Ls: buff-tanish gry, vfn-microxln micrite, dns, chlky, Siltstone: brn, limey in prt, Sh: lt gry-redish brn, sft, smooth, no odr, no fluor, no stn, NS

Ls: lt tan-orm-buff, vfnxln micrite, dns, sli foss w/ trc isolated disl vugs, minor pyr, Sh: lt gry-lt grn gry, no odr, no fluor, no stn, NS

Sh/Siltstn: gry-brn-lt gry, limey, intrbd strky chrt, Ls: gry-tan, vfnxln, foss w/ vr pr rexized pp por, Sh: grn-gry-red, no odr, no fluor, no stn, NS

TG (Units) 150
C1 (units) 50
C2 (units) 50
C3 (units) 50
C4 (units) 50
NO DATA



Ls: crm-lt tan, vr chlky grd dns foss micrite, grd foss-oolc well cemented pkstn, minor leched foss vugs, Sh: gry, slty mica, no odr, no fluor, no stn, NS

Ls: lt gry-crm-tan, dns micrite grd to vfxln w/vpr pp inxln por, sli foss(crin,fus), chlky, scat pyr, Chrt: wht-lt tanish gry, sub opq, Sh: grnish gry-brn, slty, no odr, no fluor, no stn, NS

Ls: tan-crm, dns micrite grd fnxln w/ mod pp inxln por, 3-4 pc w/mod oom por, limey Dol: lt gry, micro suc w/mod-pr pp inxln por, Chrt: lt tan-wht opq-sub opq, shp, Sh: brn-red, slty w/ minor pyr inclus, no odr, no fluor, no stn, NS

Ls: gry-crm, micrite, mott in prt w/ scat rexized vuggy por, Chrt: wht-lt gry, foss(crin), chlky, Sh: grn, no odr, no fluor, no stn, NS

Ls: brnish gry-crm, mott in prt, vfn-microxln, dns w/ no vis por, grd to pr pp inxln por, Chrt: tan, sub opq-sub transl, shp, chlky, no odr, no fluor, no stn, NS

Ls: crm-lt tan-lt gry, vr dns, grd med-coxln, vr chrty w/ pr inxln por, chlk, mass foss frag(fus) Sh: gry-redish brn, no odr, no fluor, no stn, NS

Sh: drk gry-blk-char-gry, Ls: buff-tan-Ggy, mott/ strky in prt, dolomitic, fn-vfxln, mod micro suc pp por, grd fair vuggy inxln por, chrty, trc anhy, no odr, no fluor, no stn, NS

Sh: blk-char-gry-brn, slty, Ls: gry-brn-blk-wht, fnxln, vr dns/hrd, sli dolomitic, few w/ intraclst & foss frag inclus, sli trc pyr, no odr, no fluor, no stn, NS

Ls/Dol, gry, vfxln w/mod pp inxln por, Ls: tan, mott in prt, Dol: crm-lt gry, suc w/ pr pp por, chlky, Chrt: tan-opq, shp, Sh: gry-grn, limey, no odr, no fluor, no stn, NS

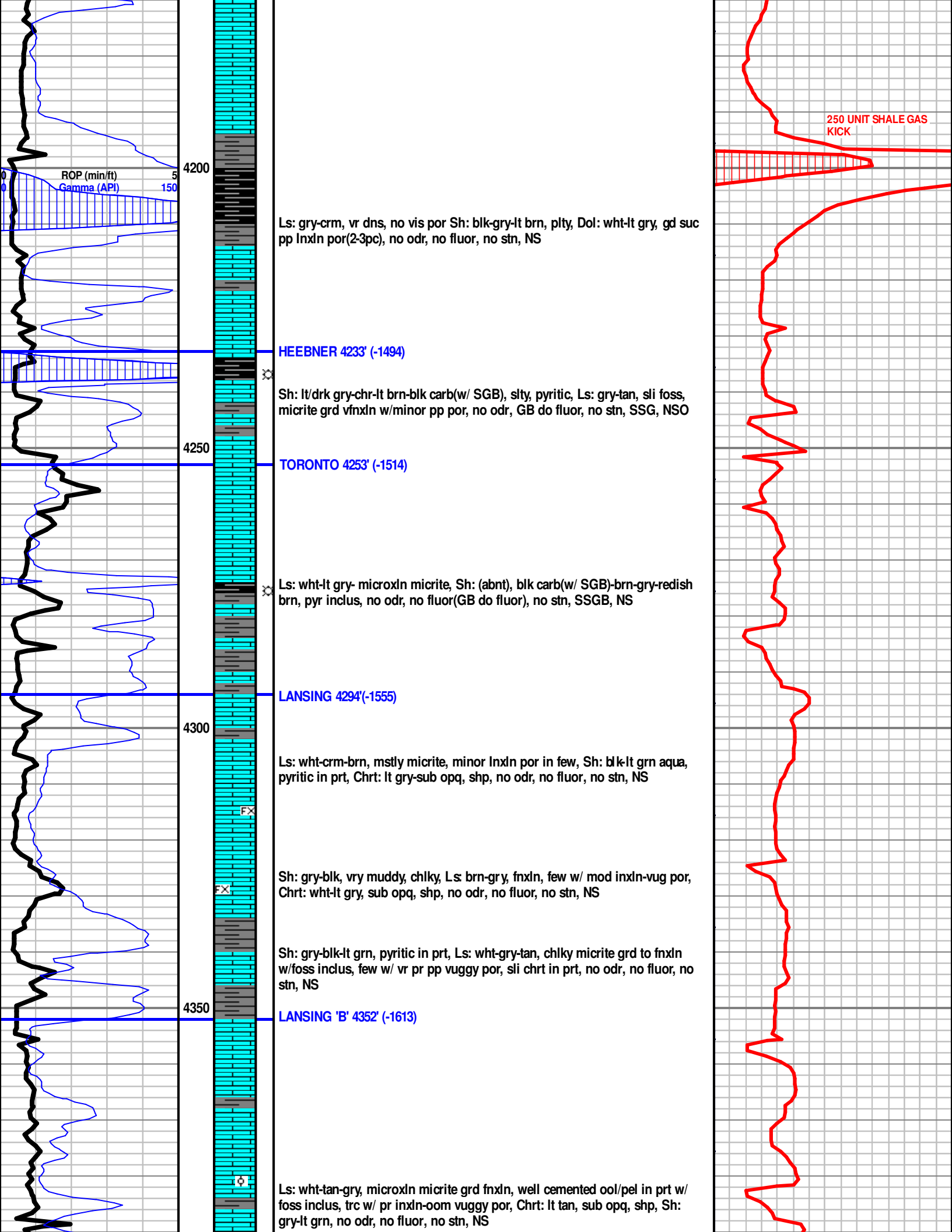
Ls dolomitic, Gry-Brnish Gry, micro suc, vr dns, mott w/ Drk Gry/Blk - Tan Inclus, strky inxln por thr out, trc pyr, Sh: Drk Gry, no odr, no fluor, no stn, NS

Sh: char-gry-lt brn(w/pyr inclus), Ls: crm-gry, vr chlky, micro xln micrite grd to foss w/ pr pp inxln por, fn-med xln w/ trc pr-gd inxln vuggy por, sli chrt, no odr, no fluor, no stn, NS

Sh: gry-blk-brn, vr muddy, Ls: tan-gry, microxln, no odr, no fluor, no stn, NS

Mud Ck Rpt @
3955'
5:55 AM 03/12/17
Vis=48;
WT=9.0#; PV=14;
YP= 14; Cake=1;
Chl=3,100; Cal
=20; Sol=4.8%.
LCM=3#;
DMC=\$ 1,402.87
CMC=\$ 10,093.74

TG (Units) 150
C1 (units) 50
C2 (units) 50
C3 (units) 50
C4 (units) 50



4200

ROP (min/ft)
Gamma (API)

Ls: gry-crm, vr dns, no vis por Sh: blk-gry-lt brn, plty, Dol: wht-lt gry, gd suc pp lnxln por(2-3pc), no odr, no fluor, no stn, NS

HEEBNER 4233' (-1494)

Sh: lt/drk gry-chr-lt brn-blk carb(w/ SGB), slty, pyritic, Ls: gry-tan, sli foss, micrite grd vfnxn w/minor pp por, no odr, GB do fluor, no stn, SSG, NSO

4250

TORONTO 4253' (-1514)

Ls: wht-lt gry- microxln micrite, Sh: (abnt), blk carb(w/ SGB)-brn-gry-redish brn, pyr inclus, no odr, no fluor(GB do fluor), no stn, SSG, NS

4300

LANSING 4294'(-1555)

Ls: wht-crm-brn, mstly micrite, minor lnxln por in few, Sh: blk-lt grn aqua, pyritic in prt, Chrt: lt gry-sub opq, shp, no odr, no fluor, no stn, NS

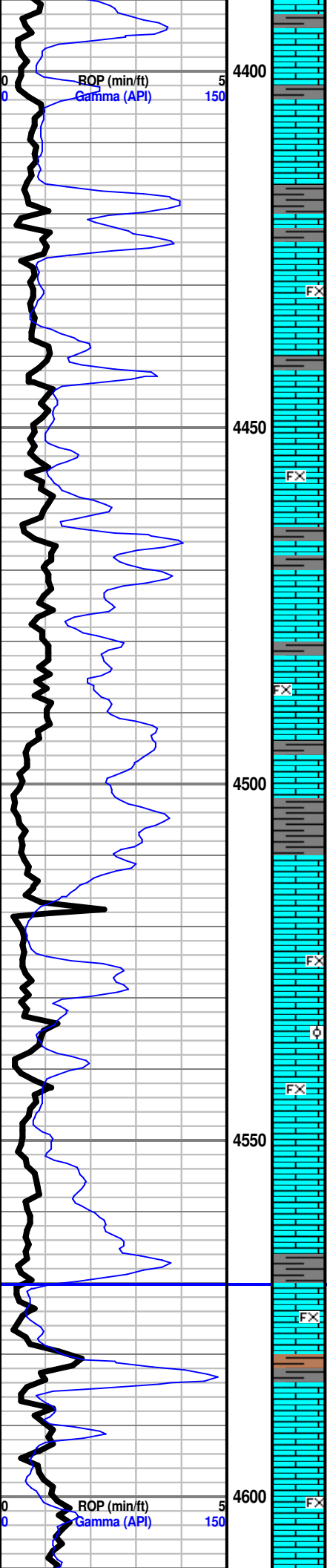
Sh: gry-blk, vry muddy, chlky, Ls: brn-gry, fnxln, few w/ mod inxln-vug por, Chrt: wht-lt gry, sub opq, shp, no odr, no fluor, no stn, NS

4350

LANSING 'B' 4352' (-1613)

Ls: wht-tan-gry, microxln micrite grd fnxln, well cemented ool/pel in prt w/ foss inclus, trc w/ pr inxln-oom vuggy por, Chrt: lt tan, sub opq, shp, Sh: gry-lt grn, no odr, no fluor, no stn, NS

250 UNIT SHALE GAS KICK



Ls: gry-tan, fnxln, foss, dns w/ vr sli trc pp por, chlky, trc Sh: blk-gry, few chrty foss frags, no odr, no fluor, no stn, NS

Ls: lt gry-crm-tan, fnxln, foss & chrty in prt, limey Dol: brn, fnxln w/mod pp inxln suc por, Chrt: drk gry-wht, sub opq, shp, Sh: blk carb-mrrn-brn-gryish grn, sft, fiss, no odr, no fluor, no stn, NS

Ls: gry-brn, fn-coxln, pitted w/ pr inxln vug por, foss, trc pyr inclus, no odr, no fluor, no stn, NS

Ls: mottled gry-brn, fn-coxln, foss vr dns grd to fair pp foss inxln por w/mod leached vuggy por(<2%), chlky, scat foss chrt, no odr, no fluor, no stn, NS

Ls: wht-gry-brn, fn-mxln, vr pr inxln por, foss in prt w/pr pp inxln por, no odr, no stn, no fluor, NS

Ls: gry-crm-tan, fnxln, foss & sli ool, mstly dns w/trc pp inxln por, chlky, trc Chrt: lt gry, sub opq, shrp, scat Sh: blk-gry, no odr, no fluor, no stn, NS

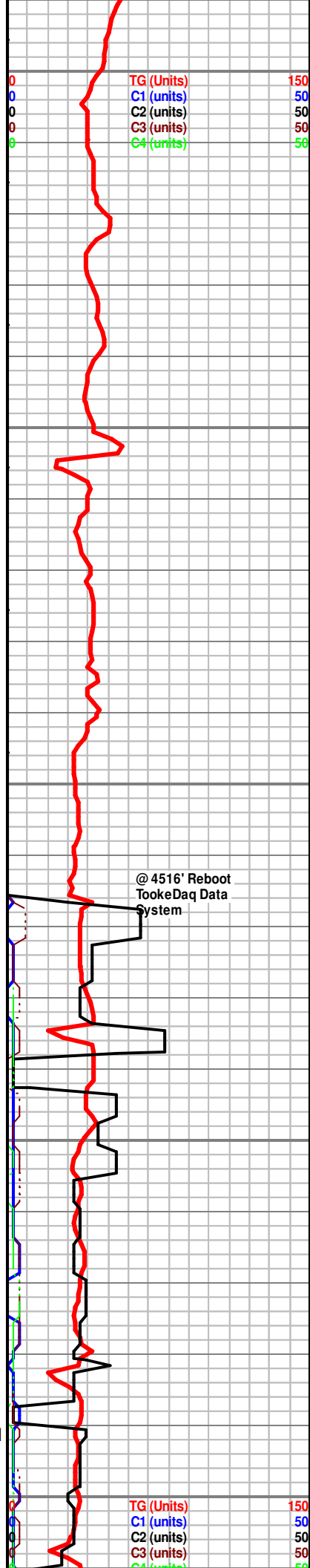
Ls: gry-tan, vfn-fnxln, foss w/minor pp por, oolitic in prt w/gd vuggy-oom & inxln por(3-4pc), trc free ooid grns, chlky, Sh: blk-gry-mrrn, no odr, no fluor, no stn, NS

IOLA 4570' (-1831)

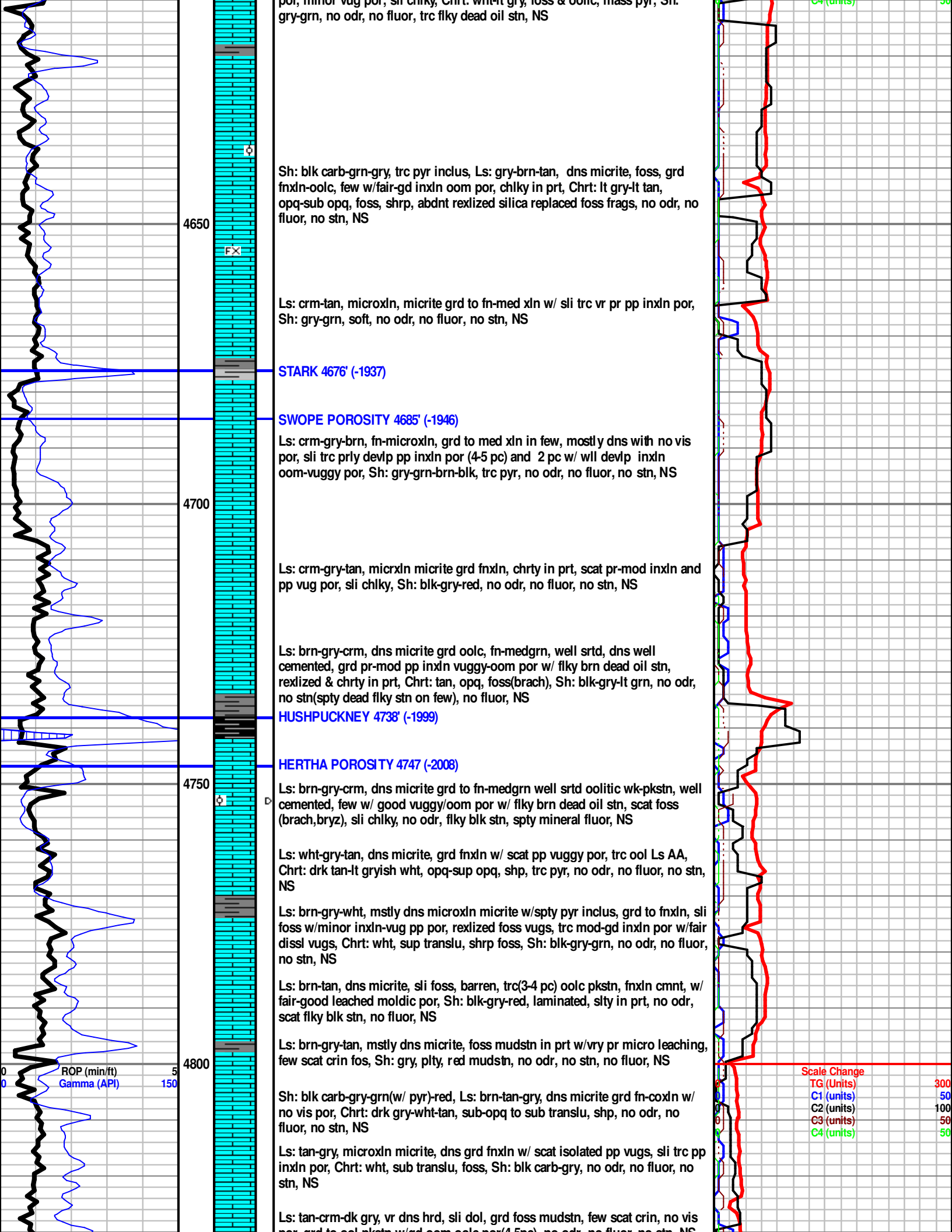
Ls: gry-tan-crm, fnxln, mstly dns grd to pr-fair pp inxln por w/scat pyr inclus, scat isolated vuggy oom por, scat free ooid grns, chlky, Sh: gry-brn-orng-red, foss(brach), w/stirky chrt, no odr, no fluor, no stn, NS

Ls: crm-gry, fn-microxln, foss w/pr grd to fair pp inxln por, ool in prt(trc) w/gd foss vugg-oom inxln por, scat isolated disl vugs, chlky, Sh: blk-drk gry-grn, trc chrt, no odr, no fluor (sm mineral), no stn, NS

Ls: crm-gry-lt brn, fnxln, foss, ool in prt, dns-well cemented, scat pr pp inxln por, minor vug por, sli chlky, Chrt: wht lt gry, foss & oolitic, mass pyr, Sh:



© 4516' Reboot TookeDaq Data System



Sh: blk carb-grn-gry, trc pyr inclus, Ls: gry-brn-tan, dns micrite, foss, grd fnxln-oolc, few w/fair-gd inxln oom por, chlky in prt, Chrt: lt gry-lt tan, opq-sub opq, foss, shrp, abndnt rexized silica replaced foss frags, no odr, no fluor, no stn, NS

Ls: crm-tan, microxln, micrite grd to fn-med xln w/ sli trc vr pr pp inxln por, Sh: gry-grn, soft, no odr, no fluor, no stn, NS

STARK 4676' (-1937)

SWOPE POROSITY 4685' (-1946)

Ls: crm-gry-brn, fn-microxln, grd to med xln in few, mostly dns with no vis por, sli trc prly devlp pp inxln por (4-5 pc) and 2 pc w/ wll devlp inxln oom-vuggy por, Sh: gry-grn-brn-blk, trc pyr, no odr, no fluor, no stn, NS

Ls: crm-gry-tan, microxln micrite grd fnxln, chrt in prt, scat pr-mod inxln and pp vug por, sli chlky, Sh: blk-gry-red, no odr, no fluor, no stn, NS

Ls: brn-gry-crm, dns micrite grd oolc, fn-medgrn, well srtd, dns well cemented, grd pr-mod pp inxln vuggy-oom por w/ flky brn dead oil stn, rexized & chrt in prt, Chrt: tan, opq, foss(brach), Sh: blk-gry-lt grn, no odr, no stn(spty dead flky stn on few), no fluor, NS

HUSHPUCKNEY 4738' (-1999)

HERTHA POROSITY 4747' (-2008)

Ls: brn-gry-crm, dns micrite grd to fn-medgrn well srtd oolitic wk-pkstn, well cemented, few w/ good vuggy/oom por w/ flky brn dead oil stn, scat foss (brach,bryz), sli chlky, no odr, flky blk stn, spty mineral fluor, NS

Ls: wht-gry-tan, dns micrite, grd fnxln w/ scat pp vuggy por, trc ool Ls AA, Chrt: drk tan-lt gryish wht, opq-sup opq, shp, trc pyr, no odr, no fluor, no stn, NS

Ls: brn-gry-wht, mstly dns microxln micrite w/spty pyr inclus, grd to fnxln, sli foss w/minor inxln-vug pp por, rexized foss vugs, trc mod-gd inxln por w/fair dissl vugs, Chrt: wht, sup transl, shrp foss, Sh: blk-gry-grn, no odr, no fluor, no stn, NS

Ls: brn-tan, dns micrite, sli foss, barren, trc(3-4 pc) oolc pkstn, fnxln cmnt, w/ fair-good leached moldic por, Sh: blk-gry-red, laminated, slty in prt, no odr, scat flky blk stn, no fluor, NS

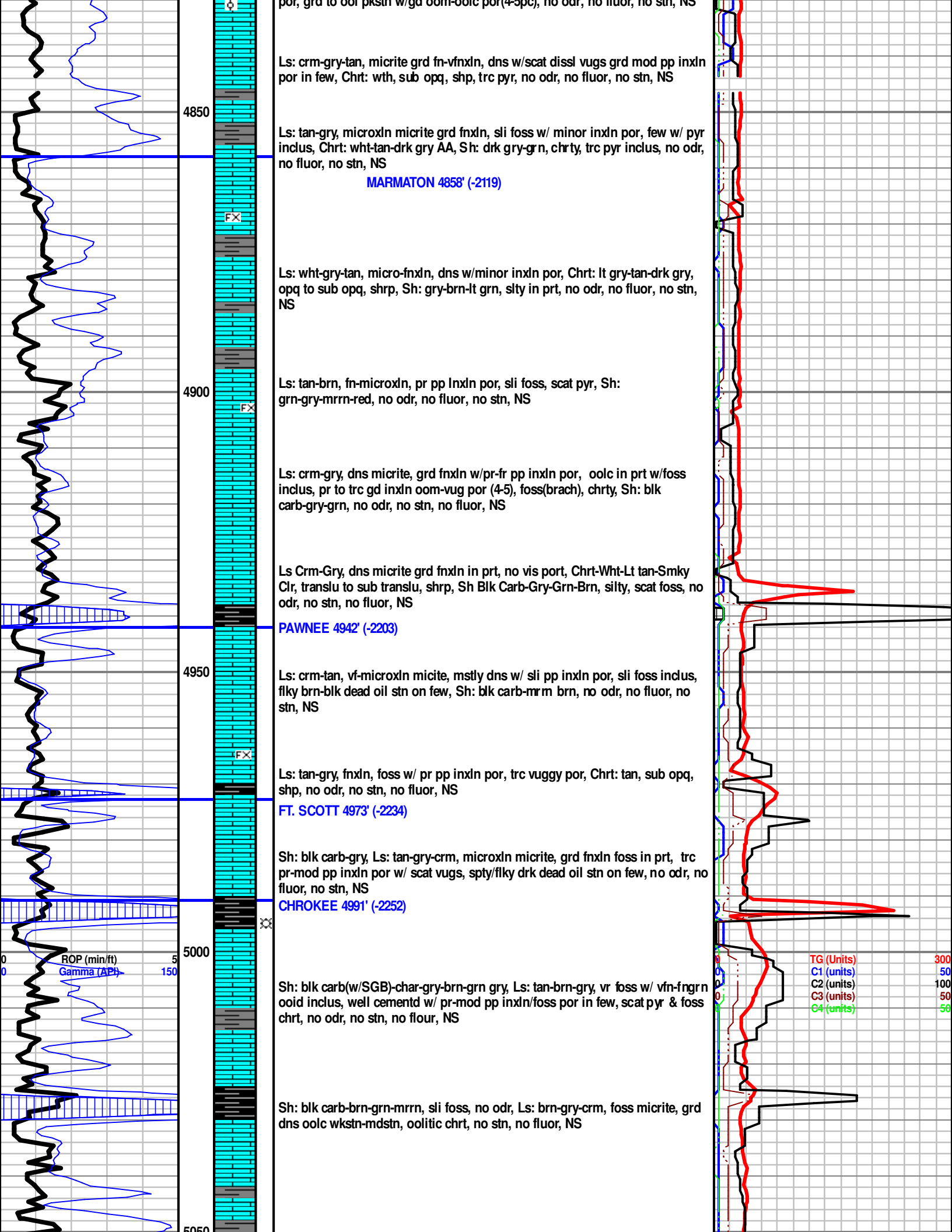
Ls: brn-gry-tan, mstly dns micrite, foss mudstn in prt w/vry pr micro leaching, few scat crin fos, Sh: gry, plty, red mudstn, no odr, no stn, no fluor, NS

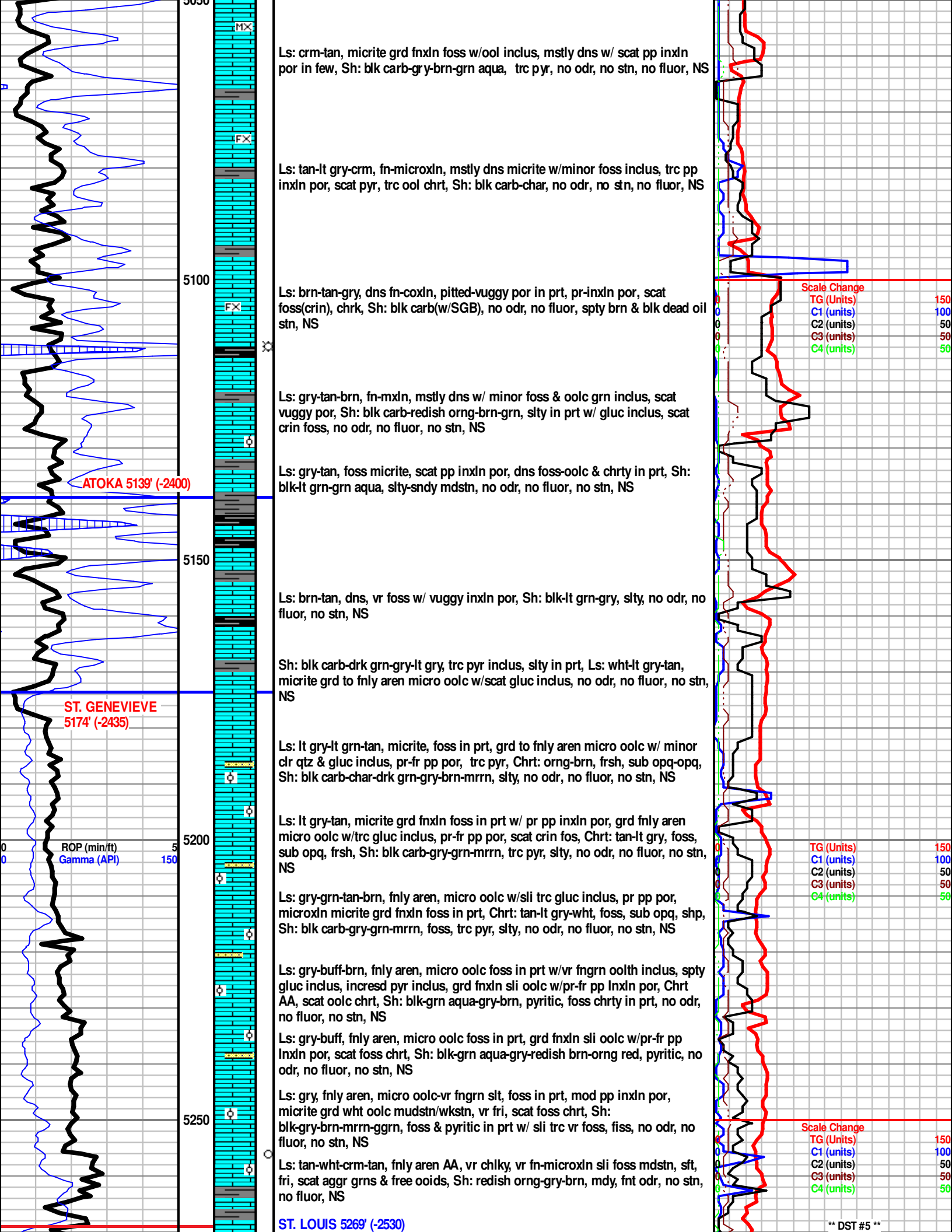
Sh: blk carb-gry-grn(w/ pyr)-red, Ls: brn-tan-gry, dns micrite grd fn-coxln w/ no vis por, Chrt: drk gry-wht-tan, sub-opq to sub transl, shp, no odr, no fluor, no stn, NS

Ls: tan-gry, microxln micrite, dns grd fnxln w/ scat isolated pp vugs, sli trc pp inxln por, Chrt: wht, sub transl, foss, Sh: blk carb-gry, no odr, no fluor, no stn, NS

Ls: tan-crm-dk gry, vr dns hrd, sli dol, grd foss mudstn, few scat crin, no vis por, grd to oolc pkstn w/grd com oolc per(4.5pc), no odr, no fluor, no stn, NS

Scale Change
 TG (Units) 300
 C1 (units) 50
 C2 (units) 100
 C3 (units) 50
 C4 (units) 50





Ls: crm-tan, micrite grd fnxln foss w/ool inclus, mstly dns w/ scat pp inxln por in few, Sh: blk carb-gry-brn-grn aqua, trc pyr, no odr, no stn, no fluor, NS

Ls: tan-lt gry-crm, fn-microxln, mstly dns micrite w/minor foss inclus, trc pp inxln por, scat pyr, trc ool chrt, Sh: blk carb-char, no odr, no stn, no fluor, NS

Ls: brn-tan-gry, dns fn-coxln, pitted-vuggy por in prt, pr-inxln por, scat foss(crin), chrk, Sh: blk carb(w/SGB), no odr, no fluor, sply brn & blk dead oil stn, NS

Ls: gry-tan-brn, fn-mxln, mstly dns w/ minor foss & oolc grn inclus, scat vuggy por, Sh: blk carb-redish orng-brn-grn, slty in prt w/ gluc inclus, scat crin foss, no odr, no fluor, no stn, NS

Ls: gry-tan, foss micrite, scat pp inxln por, dns foss-oolc & chrty in prt, Sh: blk-lt grn-grn aqua, slty-sndy mdstn, no odr, no fluor, no stn, NS

Ls: brn-tan, dns, vr foss w/ vuggy inxln por, Sh: blk-lt grn-gry, slty, no odr, no fluor, no stn, NS

Sh: blk carb-drk grn-gry-lt gry, trc pyr inclus, slty in prt, Ls: wht-lt gry-tan, micrite grd to fnly aren micro oolc w/scat gluc inclus, no odr, no fluor, no stn, NS

Ls: lt gry-lt grn-tan, micrite, foss in prt, grd to fnly aren micro oolc w/ minor clr qtz & gluc inclus, pr-fr pp por, trc pyr, Chrt: orng-brn, frsh, sub opq-opq, Sh: blk carb-char-drk grn-gry-brn-mrrn, slty, no odr, no fluor, no stn, NS

Ls: lt gry-tan, micrite grd fnxln foss in prt w/ pr pp inxln por, grd fnly aren micro oolc w/trc gluc inclus, pr-fr pp por, scat crin fos, Chrt: tan-lt gry, foss, sub opq, frsh, Sh: blk carb-gry-grn-mrrn, trc pyr, slty, no odr, no fluor, no stn, NS

Ls: gry-grn-tan-brn, fnly aren, micro oolc w/sli trc gluc inclus, pr pp por, microxln micrite grd fnxln foss in prt, Chrt: tan-lt gry-wht, foss, sub opq, shp, Sh: blk carb-gry-grn-mrrn, foss, trc pyr, slty, no odr, no fluor, no stn, NS

Ls: gry-buff-brn, fnly aren, micro oolc foss in prt w/vr fngrn oolth inclus, sply gluc inclus, incred pyr inclus, grd fnxln sli oolc w/pr-fr pp inxln por, Chrt AA, scat oolc chrt, Sh: blk-grn aqua-gry-brn, pyritic, foss chrty in prt, no odr, no fluor, no stn, NS

Ls: gry-buff, fnly aren, micro oolc foss in prt, grd fnxln sli oolc w/pr-fr pp inxln por, scat foss chrt, Sh: blk-grn aqua-gry-redish brn-orng red, pyritic, no odr, no fluor, no stn, NS

Ls: gry, fnly aren, micro oolc-vr fngrn slt, foss in prt, mod pp inxln por, micrite grd wht oolc mudstn/wkstn, vr fri, scat foss chrt, Sh: blk-gry-brn-mrrn-ggrn, foss & pyritic in prt w/ sli trc vr foss, fiss, no odr, no fluor, no stn, NS

Ls: tan-wht-crm-tan, fnly aren AA, vr chlky, vr fn-microxln sli foss mdstn, sft, fri, scat aggr grns & free ooids, Sh: redish orng-gry-brn, mdy, fnt odr, no stn, no fluor, NS

Scale Change
 TG (Units) 150
 C1 (units) 100
 C2 (units) 50
 C3 (units) 50
 C4 (units) 50

TG (Units) 150
 C1 (units) 100
 C2 (units) 50
 C3 (units) 50
 C4 (units) 50

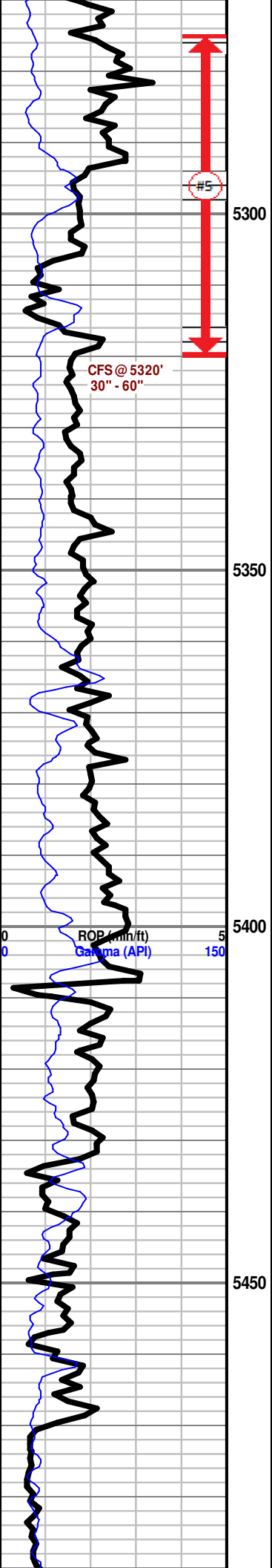
Scale Change
 TG (Units) 150
 C1 (units) 100
 C2 (units) 50
 C3 (units) 50
 C4 (units) 50

ATOKA 5139' (-2400)

ST. GENEVIEVE 5174' (-2435)

ROP (min/ft)
 Gamma (API)

ST. LOUIS 5269' (-2530)



5275'-5320'
 IF: Built to 1/2" blw
 IS: No return blw
 FF: Built to wk surface blw
 FS: No return blw
 Rec: 70' Mud
 Pressures:
 IH: 2751
 FH: 2700
 IF: 42-49
 FF: 46-86
 ISP: 1674 #
 FSP: 1390 #
 TEMP: 122 Deg F

Ls: wht-lt tan, dns micrite, scat fngn oolc mdstn, minr pp vug por, scat fus/crin foss, Chrt: drk tan-drk gry, sub opq, shp, dns, Sh: gry-red-blk-grn, no odr, no fluor, no stn, NS

Ls: crm-lt tan, dns micrite, vfnxn foss mdstn, vr pr to no vis por, scat free ooids, few w/ flky brn dead oil stn, Chrt AA, Sh: blk-gry, no odr, no fluor, NS

Ls: lt gry-lt tan, dns mcrite AA w/scat medgrn oolith inclus, grd fnly aren w/mod pp inxln por, scat Chrt: wht-lt gry, sub opq-sub translu, flky drk brn & blk dead o stn, Sh: blk-mrrn red, sft mdy, no odr, no fluor, no stn, NS

30" CFS @ 5320' Ls: wht-lt tan-crm, vr chlky/mdy, dns mcxln micrite, grd to sli foss oolc mdstn, fri w/ pr pp inxln por, abndnt free ooid grns (vfn-medgrn) & scat foss frag, minor chrt, Sh: gry-grn, sli pyr, fair odr in cup, no stn, no fluor, NS

60" CFS @ 5320' Ls: AA, less freqnt/ more co-grn free ooids in tray, less freq oolc mdstn grd to dns micrite, sli foss, less chlky, more abndnt chrt & Sh, no odr, no flour, poss spty brn stn on few, NS

Ls: lt gry-tan, fnly aren, sity w/ fn-med grn oolith inclus, mod pp inxln por, scat gluc inclus, grd foss oolc mdstn/wkstn, dns, well cmnt, Chrt: tan, Sh: blk-drk grn-gry-red, fiss, no odr, no stn, no fluor, NS

Ls: tan-brn-gry, fnly aren micro oolc w/mod pp inxln por grd fnxln prly strd ool wkstn-pckstn, sli foss in prt, dns-well cmtd, scat Chrt: org, sup opq-sup trnslu, shp, Sh: brn-drk gry-grn, no odr, no fluor, no stn, NS

Ls: tan-gry, dns micrite, fnly aren grd foss micro-fngn oolc, minor gluc inclus, grd to more abndnt fnxln ool wkstn, trc pkstn, dns, prly strd in prt w/ pr ingrn-inxln vuggy por(vr few), scat pyr & foss, no odr, no stn, no fluor, NS

Ls: lt crm-lt gry-tan, foss ool micrite, Ls: gry-lt grn aqua, fnly arnc, sity, suc w/ micro ool inclus, grd to fn-microxln, sli foss-ool wkstn w/gluc inclus, no odr, no stn, no fluor, NS

Ls: lt gry-lt tan, fn-med xln, dns grd fnly aren sity in prt, pr pp inxln por, scat oolc mdstn, dns w/ trc vug por, Sh: blk-gry-Grn, no odr, no stn, no fluor, NS

Ls: gry-tan, vfn-mxln, dns mdstn, fnly arnc gry-grn sity in prt w/ minor gluc & pyr inclus, pr-md pp inxln por, Chrt: lt tan-lt gry's h wht, sup opq, shp, minor Sh: lt grn aqua, spty brn-drk brn flky stn on few, no odr, no fluor, NS

Ls: lt tan-lt gry-crm, sli chlky txtr, fn-microxln micrite, sity-fnly arenc, sli ool w/ fngn ool inclus, scat pr-mod pp inxln por, minor chrt, trc Sh: gry, no odr, no stn, no fluor, NS

Ls: gry-tan, fnly aren micro ool w/fair pp inxln pr, oolc mudstn grd oolc wkstn, minor vuggy por, scat pyr inclus, trc spty drk brn flky stn, Sh: blk-red, no odr, no fluor, NS

Ls: crm-lt gry, chlky micrite, grd fnxln foss-oolc mdstn/wkstn, pr-fair pitted/vuggy inxln por, Dol: lt gry-brn, vf fnxln, micro suc w/mod pp inxln por, Sh: grn-gry-red, dns, foss, grainy, no odr, no fluor, spty/flky brn-blk dead o stn, NS

Ls: tan-crm-gry, dns micrite, fnxln, scat pp inxln por, chlky, Chrt: tan, sub opq, shp, Sh: blk carb-grn, no odr, no stn, no fluor, NS

Ls: gry-tan, sli aren, sity in prt, fn-mxln, pr inxln por, grd dns micrite, Chrt: wht-lt gry, opq-sub opq, foss, sli trc pyr, Sh: blk-grn-red, earthy, no odr, no fluor, no stn, NS

Dol: lt gry, limey, vfnxn, pr micro suc pp por, Ls: crm-tan, micrite grd fnxln foss oolc mdstn-wkstn, minor inxln por, Sh: drk gry-grn-blk-red, no odr, no fluor, no stn, NS

Ls: crm-lt tan-gry, mstly microxln micrite, sli foss & scat ool, dolomitic w/ trc micro suc por, Sh: (less abndnt) grn-blk-red, no odr, scat drk brn stn, no fluor, NS

Ls: crm-wht, microxln micrite, sli dol, grd fnxln in prt, trc vr fngn ool wkstn w/minor free ooid grns, few w/pr-fr pp vugy por, Sh: grn-gry, sli pyritic, no odr, no stn, no fluor, NS

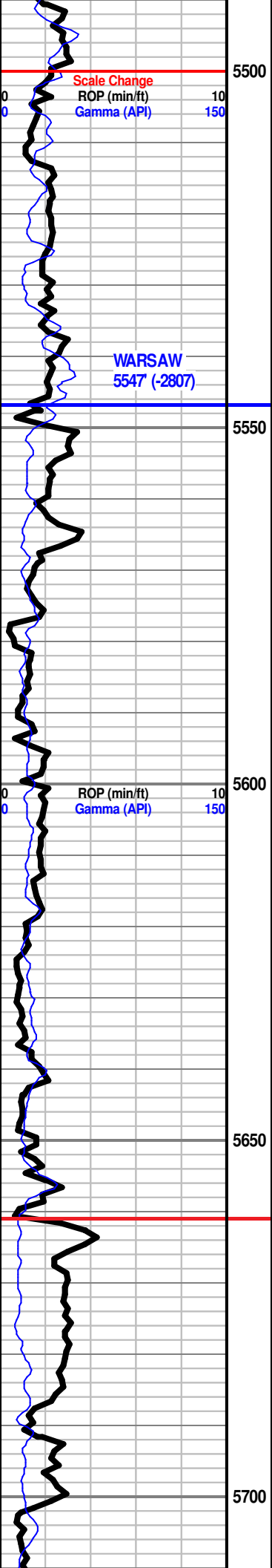
Ls: gry-tan, vn-vfnxn, dol w/gd suc pp inxln por, pel mdstn, foss ool wk-pkstn, fri, pr inprt vug por, free vf n-mdgrn ooids, coated in prt, Sh: gry-mrrn, no odr, no fluor, no stn, NS

Ls/Dol: gry-lt tan-brn, fnxln, dns grd to foss-pel-ool vfn-fngn ang inclus, fair-gd intrfoss-vug por, fair leach & disl vug, fair pp inxln suc por in few, grsy lustr, 1-2 pc w/saturd brght yel fluor, vry lt brn stn, brt yel fluor GB aft 10% hcl, instant Bright yel/wht cut, vr lt floating oil sheen

Ls/Dol: gry-lt brn-wht, micrite grd fnxln, foss-pel-ool w/ agg intracst, pr-gd inxln vug por, fair pp suc-inxln por, chrt in prt, Sh: blk-gry, spty/flky lt brn-drk brn dead o stn, no odr, no fluor, NS

Mud-Co Ck
 @ 5320'
 11:20 AM 3/13/17
 Vis: 50 WT: 9.0#;
 PV=16 YP= 16
 Cake=1 Chl=2,400
 ppm
 Cal=20 Sol=4.9%
 LCM: 2 #
 DMC= \$3,820.80
 CMC= \$13,914.54

TG (units) 150
 C1 (units) 100
 C2 (units) 50
 C3 (units) 50
 C4 (units) 50



Ls/Dol: AA Ls: wht-crm, vfnxn, foss, fair inxn-foss por, fri, grd Chrt: wht, foss, dns shp, sub opq, grd to oolc mdstn-wkstn, dns micrite, vr fnt odr, scat drk flky stn, no fluor, NS

Ls: gry-tan-crm, dns pel micrite, grd fnxln, sli dol, foss-oolc, limey Dol: fair-gd pp inxn/foss-moldic por in few, scat brn-blk flky dead o stn, Sh: gry-mrrn, no odr, no fluor, NS

Ls: crm-tan-brn, micrite w/fnxln filled moldic pores, grd fnxln foss sli pel/oolc in prt, pr inxn por, Dol: lt brn, micro sucro, foss in prt w/ drsy calc filled foss vugs, flky brn-blk dead o stn, trc foss chrt, Sh: grn-gry-mrrn, no odr, no fluor, dead flky stn, NS

Ls: crm-tan, micrite, pel micrite, grd fn-microxn, foss, blocky, prly wshed in prt, scat pp inxn-vuggy por, trc pyr, Sh: blk-gry-grn-mrrn, no odr, no fluor, abndt flky brn-blk stn, NS

Ls: crm-gry-wht, chlky micrite, grd fnxln, foss sly, suc in prt, trc w/ fair pp & inxn por, Chrt: wht, sub opq, shp, scat foss frags, Sh: gry-grn, trc pyr, no odr, no flour, no stn, NS

Ls: gry-tan-wht, sft micrite, grd sli foss oolc mdstn-wkstn, scat vfn-medgrn free ooids, 5-6 w/ brght yel-wht fluor, no stn, no odr, NS

Ls: gry-lt brn-wth, micrite grd vrfnxln, foss, sli oolc mdstn in prt, friable w/minor vuggy inxn disl por, poss lt brn stn on few, laminated flat bottom chl, scat flky dead o stn, no odr, no fluor, NS

Ls Crm-Lt Tan-Gry, mstly dns w/ no vis por grd to trc fnxln ool wkstn w/fair vuggy diss & pp inxn por in in prt, chlky, Sh Grn-Gry-Red, sli pyr, Chrt Orng, opq, grainy, no odr, no fluor, no stn, NS

Ls: tan-lt gry, fn-microxn micrite, mdgrn oolc mudstn in prt, minor isolatd vuggy por grd pr inxn por, Sh: blk-gry-drk grn, fiss, no odr, no stn, no fluor, NS

Ls: wht-tan, vr chlky, mstly foss mdstn, grd to vr friable fnxln foss oolc wkstn, trc pckstn w/ vuggy inxn por, scat free ooids, no odr, no fluor, no stn, NS

Ls: wht-tan, mstly chlky micrite w/scat ool, no odr, no fluor, no stn, NS

Ls: crm-lt gry-tan, chlky, chrt, fn-coxn, gd inxn-ingrn por in prt, Dol: lt gry-lt brn, spiculitic/foss, suc in prt, fr-vr gd foss vuggy-moldic inxn por, Chrt: wht-lt gry, foss, no odr, spty stn, no fluor, NS

Ls: wht-tan, fnxln, oolc in prt w/ fair-gd inxn moldic-vuggy por, abnd fn-cogrn free ooids & ls frags thr out, minor Sh: blk-grn-red, no odr, no flour, no stn, NS

Ls: AA, more abndt Sh: grn-red-blk, chlky, Chrt: lt gry-tan, sub opq, spcultic, vr sli gluc inclus, no odr, no stn, no flor, NS

OSAGE MARKER 5661' (-2922)

Ls: tan-gry, (hvly washed out sample), mstly dns broken fine frags of ls, trc crin foss, chlky mudstn, 1 pc dol w/ grn gluc inclus, trc chrt, no odr, no flour, no stn, NS

Ls: tan-gry, (hvly flushed sample AA vrfn broken frags), Ls: redish tan, mstly dns grd foss mdstn, Dol/Ls: lt grnsh gry, micrite, hvly bio eroded w/ gd disl vugs, Dol: lt gry-lt brn, vfnxn pr micro suc por, chlky, Sh: gry-lt teal-grn, no odr, no fluor, flky blk stn, NS

(hvly flushed samle AA) Dol: lt gry-lt brn, fnly suc w/pr pp inxn por, dns Dol/Ls, bio eroded micrite AA, Ls: pinkish tan, micrite grd foss md-wkstn, scat crin foss, Sh: blk carb-teal grn-drk grn-red, sli trc oolc pk-grmstn w/gd oolc por, trc grn arenc sndy Ls, no odr, flky blk stn, no fluor, NS

(hvly flushed samle AA) Dol: lt gry-lt brn, fnly suc w/pr pp inxln por, dns Ls/Dol: bio eroded micrite AA, Ls: tan-gry, micrite grd foss md-wkstn, Sh: blk carb-teal-grn-drk grn-red, no odr, flky blk stn, no fluor, NS

Ls/Dol: gry-redish tan, foss micrite, cryptoxln in prt w/ deeply cut moldic por & calc seams, grd vfn-fnxln foss wkstns w/ pr-gd pp suc ingn/inxln vugy por, Sh: gry-brn-blk, trc pyr, Chrt: wht, foss, no odr, no flour, no stn, NS

Sh: gry-lt gry-gluc grn, slty cly in prt, Dol: lt gry, vfnxln, suc, sli foss, bio eroded vugfy pors, Ls: pnkish tan-brn, micrite grd fnxn wkstn, trc pyr, foss chrt, no odr, no fluor, no stn, NS

Dol: lt gry, dns grd fnxn foss mdstn, sli ool, fnly suc w/gd vuggy por in prt, trc grn spty gluc inclus, chrt w/calc veins, minor Sh: gry, no odr, no stn, no fluor, NS

Ls/Dol: mud rich matrix, abndt sket foss, w/ internal cavities & brwd vugs, fnxn filld cmnt, fibrous calcite grwth, chlky laminated mud, foss, Sh: grn-gry-red, scat pyr, no odr, brn strky stn on few, no fluor, NS

Ls: tanish pink-gry, fnxn, foss w/ chrt clst, fr pp inxln por in few, grd ool grnstrn (2-3 pc), lt gry dol in prt, Sh: gry, slty w/qtz inclus, no odr, no fluor, no stn, NS

Ls: tan, micrite grd Dol/Ls: foss wkstn(bryz), grysh grn dns micrite w/ gd bioeroded vuggy por, Sh: grn-gry, soft, muddy, no odr, no stn, no flour, NS

Dol: lt gry-lt brn-lt grn, fnxn, pr suc inxln por, foss wkstn in prt w/ internal foss cavities, fnxn cement, radial/fib calc grwth, pr devlp por thr out, Sh: blk-gry, pltty, fiss, no odr, no stn, no fluor, NS

Dol: gry-lt gry-crm, dns, fnly suc in prt w/ pr pp inxln por, Ls/Dol: dns micrite w/bio eroded-burrowed vugs, trc foss wkstn, w/ fnxn cmnt & radial fibrous calc grwth, trc gluc, Chrt: wht, sub-opq, no odr, 4-5 pc w/dull yel min flour, no stn, NS

Dol: gry-lt gry-crm, dns, vfnxln, pr pp suc inxln por, Chrt: clr-wht, trnsl-sub trnsl, trc gluc, no odr, no fluor, no stn, NS

Dol: gry-drk gry-lt tan, vr hrd/dns sli foss micrite, grd fnxn w/ drk-chrt clst, no odr, no stn, no fluor, NS

Dol: gry, vr hrd/dns, sli foss mdstn w/spty fnxn calc, drk chrt clst, Sh: blk carb-gry, Ls: pnkish tan-golden tan, dns micrite, no odr, no stn, no fluor, NS

Sh: blk carb-grn-red, vr dns, fiss, Ls: crm-gr, microxln, ool-foss mdstn-wkstn & Lt gr silty qtz grn siltstn, w/ banded-nodlur chrt/peloid clst w/ minor pyr seams, minor pp inxln por, scat lithic brkn frags & free fn-med ool grns, no odr, no flour, no stn, NS

Ls: wht-lt gry-crm-tan, dolo in prt, fnxn, friable, grd foss limey Dol: fnxn, w/ calc filled pp vugs, scat chrt clst, Sh: blk carb-gry-red, no odr, flky brn stn, no fluor, NS

Dol: gry-lt gry, vfn-cryptoxln, vr pr micro suc por, few micro boring pors & disl vugs, grd Ls: lt tan, foss mdstn (bryz), w/ fnxn cemnt in prt, few w/pp vuggy por, Chrt: wht-gry, sub opq, no odr, no stn, no fluor, NS

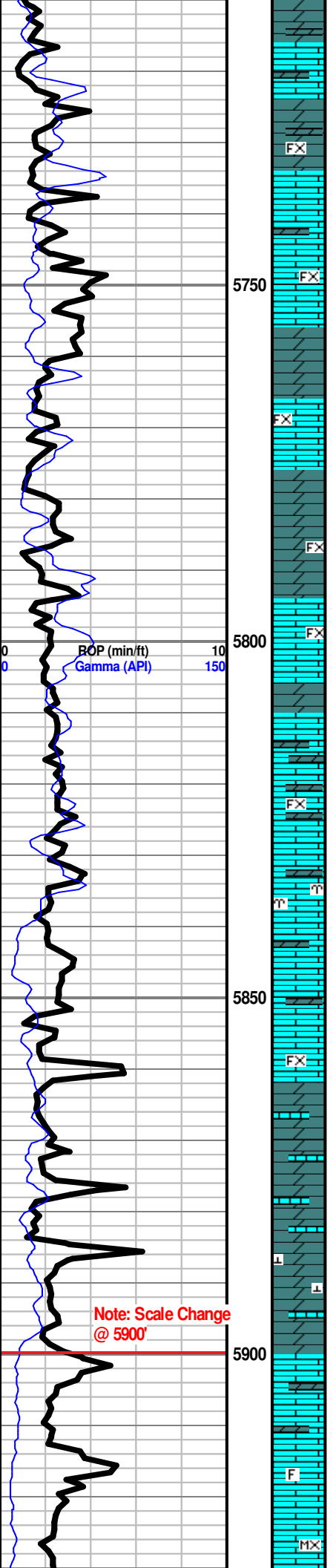
Dol: lt gry-lt brn-crm, dns, micro-vfnxln, sli suc w/ pr pp inxln por, trc gluc, lmy in prt, grd Ls: tan-redish tan, microxln w/ no vis por, Chrt: lt gry-wht, sub opq, shp, no odr, no stn, no fluor, NS

Dol: lt gry-lt tan-lt grn, vr fnxn, pr devlp suc por, spty gluc inclus, grd Ls: foss pel wkstn, vr pr por thr out, Chrt: lt gry-wht, sub trnsl-sub opq, shp, foss, Sh: blk carb, no odr, no stn, no fluor, NS

Dol: lt gry, glucntic, fnxn, pr-fair pp suc inxln por, foss ool pkstn in prt w/rexilized calc cmnt in prt w, grd to Ls/Dol: lt gry-lt brn, chlky micrite, grd vr fnxn foss wkstn-pkstn, scat foss, Chrt: drk tan-lt gryish wht, ndulr-shp, opq-sub opq, no odr, no stn, no fluor, NS

Ls: tan-wht, chlky micrite, grd to vfnxln, sft fri, lmy Dol: lt gry, vr glucntic, fnxn w/ gd pp inxln por, scat foss chrt, Sh: gry, slty-muddy, vr fnt odr in cup, flky/spty blk stn, spty minrl fluor, NS

Ls: wht-goldn brn-lt gry, mstly chlky foss mdstn, sft, fri, no odr, no fluor, no stn, NS

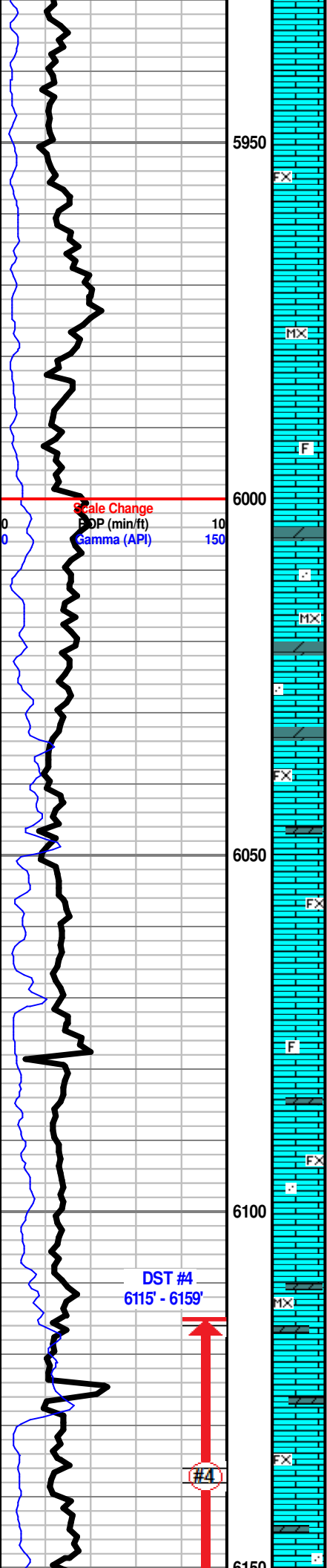


Mud-Co Ck @ 5802' 7:50 AM 3/14/17 Vis:52 WT: 9.1#; PV=16 YP= 16 Cake=1 Chl=1,450 ppm Cal=20 Sol=5.7%. LCM: 8 # DMC= \$5,463.96 CMC= \$19,378.50

Scale Change TG (units) 100 C1 (units) 100 C2 (units) 50 C3 (units) 50 C4 (units) 50

Vis 53 wt 9.3 LCM #8

Note: Scale Change @ 5900'



Dol: lt gry-lt brn-wht, vfnxn in prt, pr devlp suc por, few w/ isolated micor vugs, foss & lmy in prt, wht chlky mud w/brn stn & blk stylolite features, no odr, no fluor, no stn, NS

Ls: wht-tan, chlky foss mdstn, grd to oolc Grnstrn (1-2pc), fngrn, well srtd, prly cmntd, sli Dol: fnxln, w/ pr inxln por, scat Chrt: drk-lght, sub opq-opq, dns, Sh: blk carb, no odr, no stn, no fluor, NS

Ls: wht-crm-tan, chlky micrite, Dol: lt brn, fnxln, suc, mod pp inxln por, grd to SiltStn: lt gry-grn aqua, lmy, Sh: gry-drk grn-mrrn red, no odr, no stn, no fluor, NS

Ls/Dol: wht-tan-gry, micrite grd to vfnxn foss mdstn, pr pp por in few, trc gluc, no odr, no stn, no fluor, NS

Ls: wht-tan, chlky micrite, Ls/Dol: grnish gry-tan gry, fnxln, suc w/ gd pp inxln por, scat vuggy por in few, scat Chrt: wht-lt gry, sub trnl - sub opq, Sh: blk carb-grn, dns, trc foss frags, no odr, no stn, no fluor, NS

Dol: grnish gry-lt gry w/ spty gluc, fr pp inxln por, scat foss Chrt: lt gry-wht, sub opq, shp, no odr, no stn, no fluor, NS

Ls/Dol: wht-lt gry, mstly mud rich wkstn-pkstn, abndt sket foss (foram,bryz,brnching frags), w/ internal cavities - brwd vugs- & dissl pors, fnxln cmnt, fibrous calcite grwth on few, pr-gd vug-inxln por, minor gluc inclus, Sh: blk-grn-gry, no odr, no fluor, no stn, NS

Ls: lt gry-tan AA,grd to compacted wkstn, mud matrnx w/boring sketal foss in fnxln cmnt w/rexlized fibrous radial calc, Ls/Dol: lt grn, vr dns micrite, Sh: blk carb, scat fnxln seams, no odr, no stn, no fluor, NS

Sh: blk-gry-drk grn-red, foss & silty in prt, Ls: skel ool/pel mdstn, dolomitic cmnt in prt, few w/ fibrous calc grwth, minor disl vugs w/trc gd inxln suc por, spty bk flky stn, no odr, no fluor, NS

Ls: wht-lt gry, mstly crin-oolc mdstn, grd fnly arenic silt in prt, trc gluc, Sh: blk-gry-grn-mrrn, silty w/trc pyr, no odr, no stn, no fluor, NS

Sh: blk carb-gry-grn-mrrn, Ls: crm, micrite grd mdgrn ool wkstn (2pc w/brn etchd stn) grd oolc pkstn w/mod intrprt por(vr minor), Ls/Dol: fn-microxln skel micrite w/minor vugs & flky blk stn, no odr, no fluor, NS

Ls: gm, dns/hrd micrite, grd skel wkstn/pkstn w/ fnxln filled intrnal cavities, few w/ radial/ fibrous calc grwth, grd gry sli aren crin-mdstn, trc pyr & gluc, Sh: blk carb-gry, dns, foss, no odr, no stn, no fluor, NS

Ls: tan, fnxln, oolc pkstn(vr sli trc), fn-mdgrn well cemnt,(sli trc), grd skel wkstn w/ fnxln filled cavities, grd lt grn vr dns/hrd micrite w/ abndt burrowd vugs, Sh: mrrn-grn-gry-blk carb, slty in prt, no odr, no stn, no fluor, NS

Ls: tan-lt gry, mstly dns micrite, dol in prt, sli suc w/ pel inclus, Sh: mrrn-grn-gry-blk, Chrt: lt gry-wht, sub trnsl-sub opq, shrp, no odr, no stn, no fluor, NS

Ls: wht-lt tanish gry, muddy/chlky micrite, grd fnxln, flattend pel in prt, Sh: lt grn-gry-mrrn- blk, sli pyr, Chrt: AA, no odr, no fluor, no stn, NS

Ls: wht-lt gry, chlky micrite, laminated, trc pyr inclus, grd fnxln, dns cmntd wkstn w/spty gluc inclus, Chrt: dr-wht-lt gry, trnsl-sub trnslu, shp, no odr, no stn, no fluor, NS

Ls/Dol: wht-lt gry-lt brn, chlky micrite, grd vfnxn sket mdstn, frstd cmnt, minor disl & vuggy por, Sh: purplish mrrn-gry-orngish red, no odr, no stn, no fluor, NS

Ls: lt gry-wht, sli foss/pel wkstn, tghtly pcked w/fnxln drusy calc cmnt, fnly arenic in prt w/ pr pp inxln por, minor Sh: mrrn-lt grn-gry-blk, no odr, no fluor, no stn, NS

Ls: wht-lt gry, muddy/chlky, laminated in prt, grd dns foss wkstn w/microxln calc filled desciaation cracks & pitted surf, minor intrpart por, spty gluc, no odr, no fluor, no stn, NS

Ls/Dol lt gry-brn, fnly arenic, foss mdstn, grd dns fnxln foss wkstn, fnxln cment, few w/ fibrous grwth, prly devlp to no vis por, no odr, no fluor, no stn, NS

Ls: wht-lt tan-lt gry, chlky micrite grd to foss wk-pkstn, fnxln cmnt, radial/fibrous calc grwth, minor micro frac por, strky brn-blk stn (trc), Chrt: orng, sub opq, pitted, shrp, no odr, spty stn, no fluor, NS

Vis 55
wt 9.2
LCM #8

Vis 55
wt 9.2
LCM #8

TG (Units) 100
C1 (units) 100
C2 (units) 50
C3 (units) 50
C4 (units) 50

WOB 14-16
RPM 95+
SPM 55
PSI 850

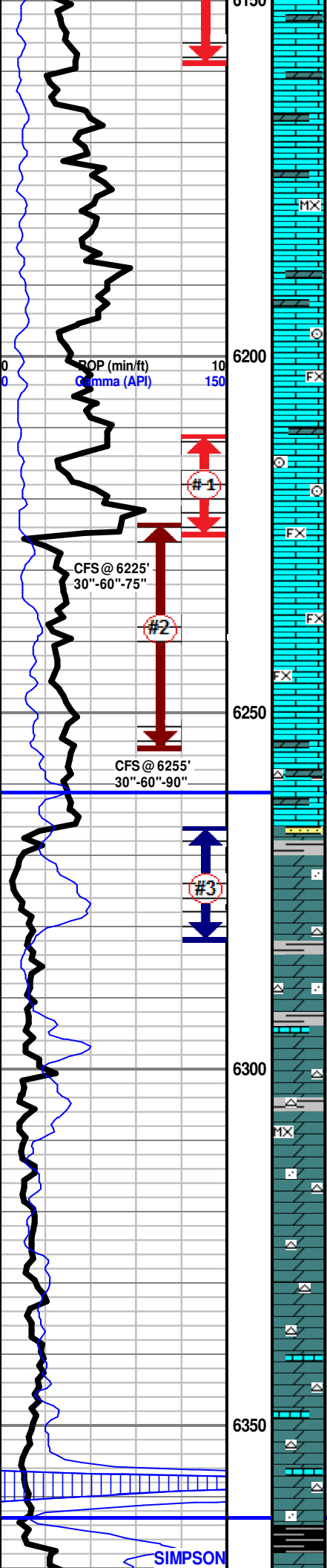
Vis 57
wt 9.2
LCM #8

Vis 55
wt 9.2
LCM #8

WOB 14-16
RPM 95+
SPM 55
PSI 850

NOTE: DST #4 SHOULD HAVE BEEN 6140'-6184' IN THE COMPTON, TESTER CALCULATED INCORRECT, INSTEAD DST #4 = 6115-6159'

** DST #4 **
(STRADDLE)
6115' - 6159'
IF:Blt to 1/8" blw
IS:No return blw
FF:Wk surface blw died in 5 min
FS:No return blw
Rec: 5' mud
Pressures:
IH:3191
FH:2960
IF:41-44
FF:40-46
ISP:2362#
FSIP:1329#
Temp: 127 Deg F



Ls/Dol: Lt gry-tan brn, mstly dns wkstn-mdstn, Chrt: Mt grysh wht-tan-org, sub opq, foss in prt, trc Sh: blk carb-lt grn, no odr, no stn, no fluor, NS

Ls/Dol: wht-tan-lt gry, laminatd micrite, dns compact/flattend foss wkstn to trc pkstn, minor pp vug por, spty blk gil stn in few, trc Sh: grn-mrrn-blk, no odr, no fluor, NS

Ls: Lt gry-lt tan, vr dns, foss-chrt in prt, Sh: blk carb(foss)-gry, no odr, trc blk gil stn on 2-3 pc, no fluor, NS

Ls: Lt gry-crm, micrite grd foss md-wkstn, trc Dol: Lt gry, vfnxln, pr pp suc inxln por, Chrt: Lt gryish wht-lt tan, sub trnsl-sub opq, foss, shp, Sh: blk carb, no odr, no fluor, spty/flky blk stn on few, NS

Ls/Dol: Lt gry-lt brn-grnsh gry, vr dns/hrd micrite w/micro bio vugs, grd vfnxln foss mdstn-wkstn, fibrous calc grwth in few, mstly dns w/minor frac por, Chrt: Lt gryish wht, foss, no odr, spty/flky dead o stn, no fluor, NS

Ls: Lt gry-tan, dns foss mdstn, Chrt: Lt gry-wht-org, sub opq-sub trnl, shp, foss, Sh: Lt grn-mrrn-red-gry-blk, foss in prt, sli trc laminated chlky micrite, no odr, no stn, no fluor, NS

45"-60"-90" CFS @ 6225' Ls/Dol: sft micrite, fnxln, laminated foss, grd mstly mud rich wkstn-pkstn, abndt sket foss (foram, crin, brach, pel), w/ internal cavities filld w/ fnxln cmnt w/ fibrous calcite grwth, pr-mod w/trc gd inxln por, minor bio eroded v vugs, skeloolc pks tn stringer w/pr-mod intrpart/moldic por, spty glu c inclus, Sh Blk-Gry-Grn-Mrrn, Chrt AA, fair odr, spty brght-dulye l fluor, spty/stryky brn & blk stn, NSFO

30"-60"-90" CFS @ 6255' Shale: Gry-Red-Blk-Teal-Mustard Yellow, wa xy, foss, silty in prt, grad to Dol: Gry-Lt Brn, vfn-fnxln, pr-mod pp suc por in few, vr foss w/isolated vugs, silty w/recrystallized lime cement, mod-strng odor in 90" sample, oily rainbow sheen in water, spty lt brn & flky blk stn, brght yel min fluor, no cut, no show fee oil

VIOLA 6261' (-3522)

Dol: Lt gry, micro suc, pr pp inxln por w/minor fenstr/vug por, sli foss wkstn in prt, trc medgrn pkstn, Sh: grn-red-gry-lt brn-blk, laminated, rnd co-grn clr qtz inclus, Qtz SS/Siltstn, vfnrn, well srtd, pr cmnt, rnd-subrtd, friable, pr-fair intrgrn por, Chrt: wht-lt pale gry-gry, sub opq-sub transl, chlky, no odr, no fluor (some mineral fluor), no stn, NS

Sh: AA silty, Increase in Clr Qtz SS wht-lt brn mtrx, subrnd-subang, vfngrn, pr-fair intrgrn por, w/ spty brn stn, Chrt: wht-lt gry, AA, scat crin fos, Dol: Lt gry-lt brn, foss wkstn w/ silica replaced internal cavities, fnt odr, spty brn stn, mineral fluor, NSFO

Dol: Lt Ggy-lt brn, vfnxln, silty in prt, pr devlp micro suc por, sli limey matrix w/clr silica clst inclus, scat Chrt: wht-lt gry, sub opq, shrp, fn-med grn wkstn w/ pr vuggy ingrn por, sli chlky, Sh: AA w/silica filled stylolites, no odr, spty mineral fluor, flky dead stn on few, NS

Dol Brn-Lt Gry-Crm, dns fnxln with pr developed suc por, impure silica & calc mixed cmnt w/fair inxln differential por in prt, Sh AA, no odr, no stn, sme miner fluor, NS

Dol Brn-Gry, dns micro suc grd fnxln w/ pr-fair inxln suc por, Ls Lt Gry, fn-microxln, pr inxln por in few, Chrt Wht-Lt Gry-Blk, sub opq-sub trnl, vit shp, Sh Grn-Teal-Gry-Blk-Red, no odr, no stn, no fluor, NS

Dol Lt Brn-Lt Gryish Crm, fnxln, suc w/ fair-gd pp inxln por, friable in pc w/gd vuggy fenstrl disl por, Ls Lt Tanish Gry, fn-microxln micrite, sli chlky, Sh Blk/carb-Red Chrt Wht-Lt Crm Gry, opq-sub opq, fnt odr

**** DST #1 ****
6211' - 6225'
3"-60"-60"-90"
IF: Blt to wk surf blw
IS: No return
FF: No blw
FS: No return
Rec: 10 mud 100%
Pressures:
IH: 3114
FH: 2933
IF: 19-35
FF: 32-35
ISP: 2428 #
FSIP: 1254 #
TEMP: 128 Deg F

Mud-Co Ck
@ 6225'
7:50 AM 3/15/17
Vis: 48 WT: 9.2#; PV=16
YP= 16 Cake=1
Chl=2,450 ppm
Cal=20 Sol=6.3%
LCM: 7.5 #
DMC= \$2,852.79
CMC= \$22,231.29

Mud-Co Ck
@ 6240'
9:10 AM 3/16/17
Vis: 91 WT: 8.9#;
PV=22 YP= 25 Cake=1

Chl=2,850 ppm
Cal=40 Sol=4.2%
LCM: 7 #
DMC= \$1,513.21
CMC= \$23,744.50

**** DST #2 ****
6224' - 6255'
3"-60"-30"-45"
IF: Blt to wk surf blw
IS: No return
FF: No blw
FS: No return
Rec: 2' mud 100%
Pressures:
IH: 3223
FH: 3093
IF: 27-28
FF: 28-29
ISP: 97 #
FSIP: 44 #
TEMP: 123 Deg F

**** DST #3 ****
6266' - 6282'
3"-60"-30"-30"
IF: Blt to wk surf blw
IS: No return
FF: No blw
FS: No return
Rec: 5' mud 100%
Pressures:
IH: 3159
FH: 2958
IF: 19-20
FF: 18-21
ISP: 2195 #
FSIP: 1269 #
TEMP: 127 Deg F

Mud-Co Ck
@ 6282'
8:10 AM 3/17/17
Vis: 55 WT: 9.0#; PV=17
YP= 18 Cake=1
Chl=2,750 ppm
Cal=60 Sol=4.8%
LCM: 6 #
DMC= \$165.77 CMC= \$23,910.27

6363 (-3624)

ARBUCKLE
6384 (-3645)

ROP (min/ft) 10
Gamma (API) 150

6400

6450

6500

DEV 1 degree

RTD 6500'
LTD 6495'

Qtz SS Clr-Wht-Lt Gry, co-grn grd to vrfgrn, sub ang-sub rnd, prly srted, poor grad to gd ingrn por, w/strky to saturated brn stn, 1 spot free oil, fnt odr, Sh & Dol AA w/cogrnd qtz inclus in few, sli pyritic, no odr, no fluor

Dol Lt Gry-Lt Brn, fnxln oolc pckstn w/gd oom vuggy por w/leached disl vugs, etchd to saturated brn stn, fnt odr, abndt dull to brght yel fluor, sply-sat stn

Dol Lt Brn-Lt Gry, sli dnser matrix, suc w/mod pp inxln por, Chrt Wht-Lt Gryish Wht sub opq, shp, frstd xln in prt, Sh Blk-Gry-Brn-Grn-Red, pyritic

Dol Lt Gry-Lt Brn-Wht, fnxln AA w/sply brn stn

Dol Lt Brn, vfnxln, poor suc por, some rhombic xls, scat calcite filled vugs, no odr, no fluor, no stn, NS

Dol Lt Brn-Crm-Lt Gry, dns, sucrosic, poor-mod suc-interxln por, scat spotty stn, no odr, trc faint fluor, NS

Dol Lt Brn-Lt Gry-Crm, dns fnxln, poor suc-interxln por, no odr, no stn, no fluor, NS

Dol Lt Brn-Lt Gry-Wht, mostly fn-microxln, some rhombic xls, poor-fr interxln por, no odr, no stn, no fluor, NS

Evan Stone relieved Zach Wiele at 1:00 PM on 3/18/2017

RTD 6500'
LTD 6495'

Electric Logs run by Weatherford:
Dual Induction, Neutron Density, Microlog, & Sonic

Geologist Left Location @ 4:52 PM on 3/19/2017

TG (Units) 100
C1 (units) 100
C2 (units) 50
C3 (units) 50
C4 (units) 50

Mud-Co Ck @ 6500'
11:50 AM 3/18/17
Vis: 65 WT: 9.3#; PV=20
YP= 22 Cake=1
Chl=3,000 ppm
CaI=40 Sol=7.0%
LCM: 4.5 #
DMC= \$15.45 CMC= \$23,925.72