



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

**McCOY PETROLEUM CORPORATION**

**Wichita, Kansas**

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

Well Name: Patterson-O'Brate 'A' #3-17

API: 15-119-21,378-00-00

Location: SW - NE - NW of Sec. 17 - T. 30 S. - R. 30 W.

License Number: KCC # 5003

Region: MEADE CO., KS.

Spud Date: 10-25-2014

Drilling Completed: 11-10-24

Surface Coordinates: SPOT: 990' FNL & 1650' FWL

**Bottom Hole**

**Coordinates:**

Ground Elevation (ft): 2814'

K.B. Elevation (ft): 2825'

Logged Interval (ft): 1858' To: 5702' Total Depth (ft): RTD: 5700' LTD:5702'

Formation: MISSISSIPPIAN "ST. LOUIS"

Type of Drilling Fluid: CHEMICAL/POLYMER/GEL. & MUD DISPLACEMENT @ 3000'.

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

**OPERATOR**

Company: McCOY PETROLEUM CORPORATION KCC LIC. NO. # 5003

Address: 9342 E. CENTRAL

WICHITA, KANSAS 67206-2573

**GEOLOGIST**

Name: Zach Wiele

Company: McCoy Petroleum Corporation

Address: 9342 E. Central

Wichita, Kansas 67206

**CASING & DEVIATION**

Surface Casing: Spud at 8:15 pm on 11/03/14. Drilled 12-1/4" to 1862'. Ran 44 joints of new 24#, 8-5/8" casing. Tallied 1843.62'. Set at 1857' KB. Welded straps on shoe, bottom 3 joints and top 2 joints. Tacked collars on the remainder. Centralizers (4) on joints 1-3-5-7. Float insert in top of 1st joint. Cemented with 670 sks 65/35 Class A; 3% CC & 1/4# FS. Tailed with 200 sks Class A; 3% CC; 1/4# FS. Cement did not circulate. Plug down at 11:30 am on 11/05/14. Allied Cementing ticket #61687. Went down annulus with 1" tubing to top of cement at 100' and cemented with 120 sks Class A, 3% CC. Job completed at 3:30 pm on 11/05/14.

Deviation Survey's Taken: @ 1862' = 1/2 degree; @ 5700' = 1-3/4 degree

**DSTs**

NONE TAKEN.

### ROCK TYPES

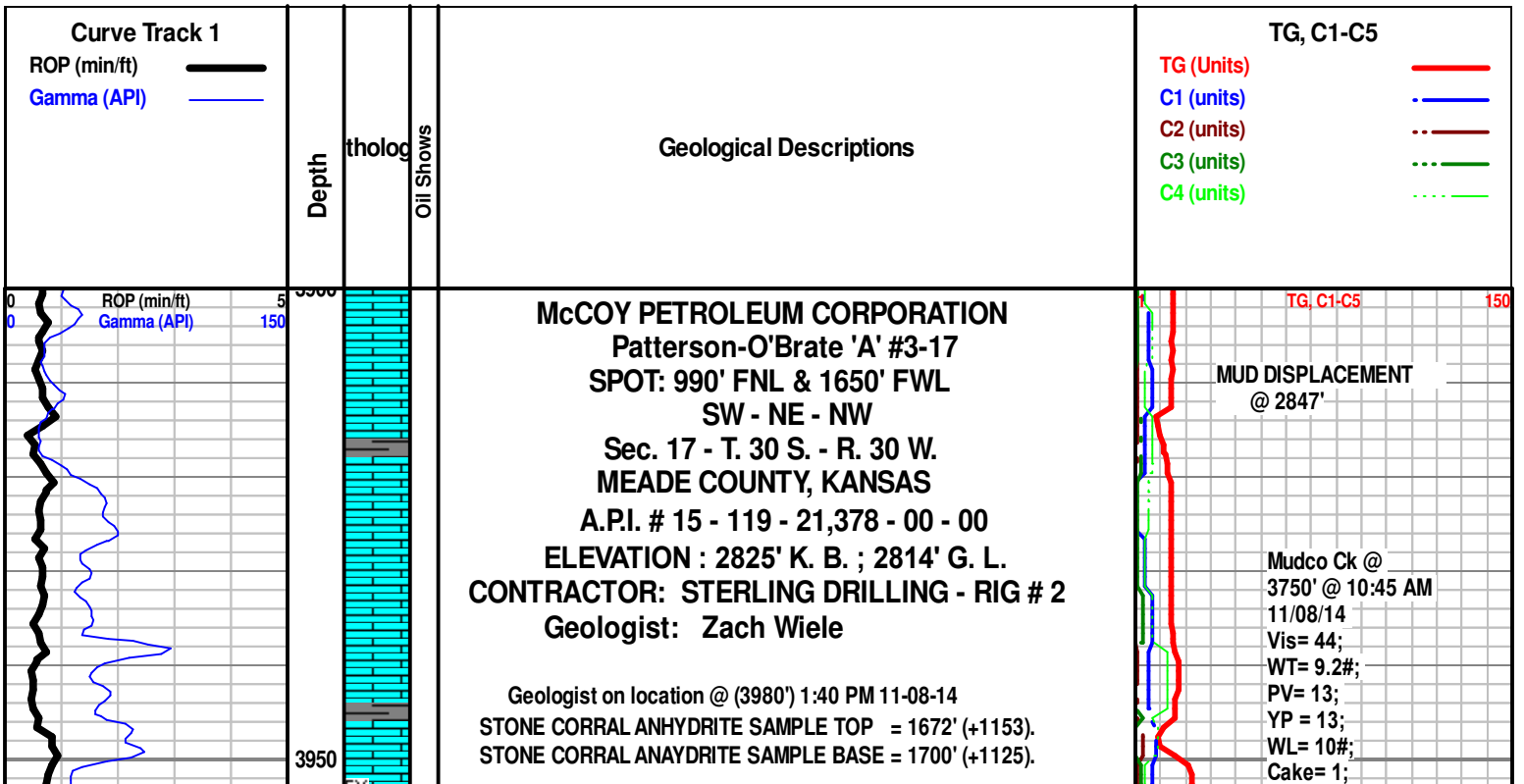
|  |         |  |        |  |        |  |           |  |       |
|--|---------|--|--------|--|--------|--|-----------|--|-------|
|  | Anhy    |  | Clyst  |  | Gry sh |  | Mrlst     |  | Shgy  |
|  | Bent    |  | Coal   |  | Gyp    |  | Red shale |  | Sltst |
|  | Brec    |  | Congl  |  | Igne   |  | Salt      |  | Ss    |
|  | Carb sh |  | Dol    |  | Lmst   |  | Shale     |  | Till  |
|  | Cht     |  | Grn sh |  | Meta   |  | Shcol     |  |       |

### ACCESSORIES

|                |          |               |         |       |         |                 |                |         |          |        |
|----------------|----------|---------------|---------|-------|---------|-----------------|----------------|---------|----------|--------|
| <b>MINERAL</b> |          | Hvymin        |         | Belm  |         | Pellet          | <b>TEXTURE</b> |         |          |        |
|                | Anhy     |               | Kaol    |       | Bioclst |                 | Pisolite       |         | Boundst  |        |
|                | Arggrn   |               | Marl    |       | Brach   |                 | Plant          |         | Chalky   |        |
|                | Arg      |               | Minxl   |       | Bryozoa |                 | Strom          |         | Cryxln   |        |
|                | Bent     |               | Nodule  |       | Cephal  | <b>STRINGER</b> |                | Anhy    |          | Earthy |
|                | Bit      |               | Phos    |       | Coral   |                 | Arg            |         | Finexln  |        |
|                | Brecfrag |               | Pyr     |       | Crin    |                 | Bent           |         | Grainst  |        |
|                | Calc     |               | Salt    |       | Echin   |                 | Coal           |         | Lithogr  |        |
|                | Carb     |               | Sandy   |       | Fish    |                 | Dol            |         | Microxln |        |
|                | Chtdk    |               | Silt    |       | Foram   |                 | Gyp            |         | Mudst    |        |
|                | Chtlt    |               | Sil     |       | Fossil  |                 | Ls             |         | Packst   |        |
|                | Dol      |               | Sulphur |       | Fuss    |                 | Mrst           |         | Wackest  |        |
|                | Feldspar | <b>FOSSIL</b> |         | Algae |         | Gastro          |                | Sltstrg |          |        |
|                | Ferrpel  |               | Amph    |       | Oolite  |                 | Ssstrg         |         |          |        |
|                | Ferr     |               |         |       | Oomold  |                 |                |         |          |        |
|                | Glau     |               |         |       | Ostra   |                 |                |         |          |        |
|                | Gyp      |               |         |       | Pelec   |                 |                |         |          |        |

### OTHER SYMBOLS

|                 |          |                 |                 |          |                 |              |          |  |
|-----------------|----------|-----------------|-----------------|----------|-----------------|--------------|----------|--|
| <b>POROSITY</b> |          | Vuggy           | <b>ROUNDING</b> |          | Even            | <b>EVENT</b> |          |  |
|                 | Earthy   |                 | Rounded         |          | Spotted         |              | Rft      |  |
|                 | Fenest   |                 | Subrnd          |          | Ques            |              | Sidewall |  |
|                 | Fracture |                 | Subang          |          | Dead            |              |          |  |
|                 | Inter    | <b>SORTING</b>  |                 | Angular  | <b>INTERVAL</b> |              |          |  |
|                 | Moldic   |                 | Well            |          | Dst             |              |          |  |
|                 | Organic  |                 | Moderate        |          | Dst_alt         |              |          |  |
|                 | Pinpoint |                 | Poor            |          |                 |              |          |  |
|                 |          | <b>OIL SHOW</b> |                 | Gas show |                 |              |          |  |



Chl= 5,400 Ppm;  
Cal = 20;  
Sol = 6.1%.  
LCM = 4#;  
DMC=\$1,558.55;  
CMC=\$14,260.60.

Deviation Survey's Taken: @ 1862' = 1/2 degree;

Note: All samples have been lagged to depth by calculated time.  
Begin 31' Sample Examination @ 4040'.

Ls Wht-Crm-Gry, FxIn micrite grad poor PP InxIn Por, Chlky, Sh Mrn, (1pc) soft, no odr, no flor, no stn, NS

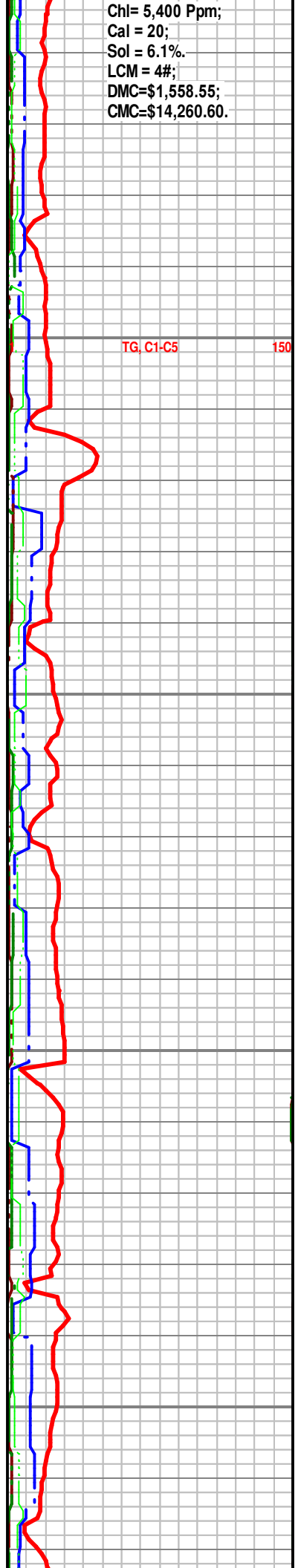
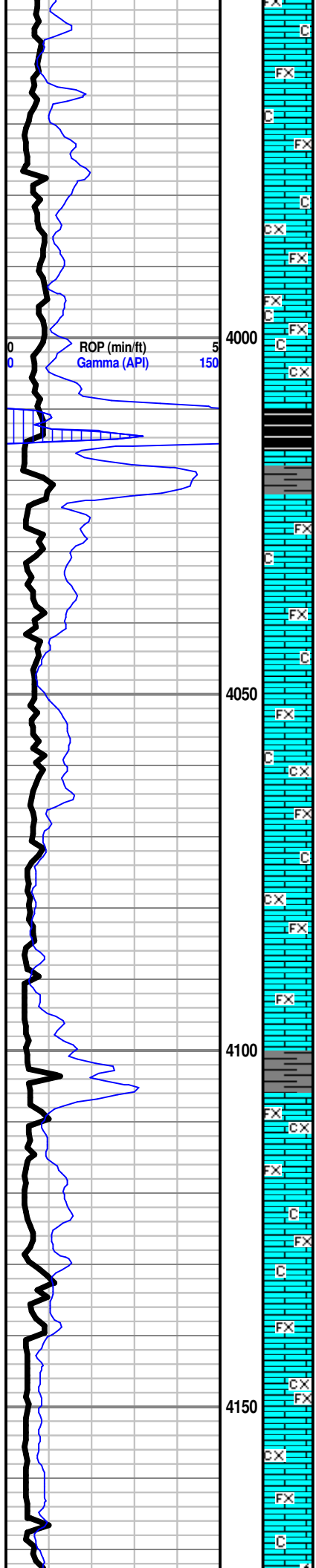
Ls Crm-Gry, FxIn micrite grad poor PP InxIn Por, Chlky, Sh Blk Carb-Drk Gry-Gry, soft, no odr, no flor, no stn, NS

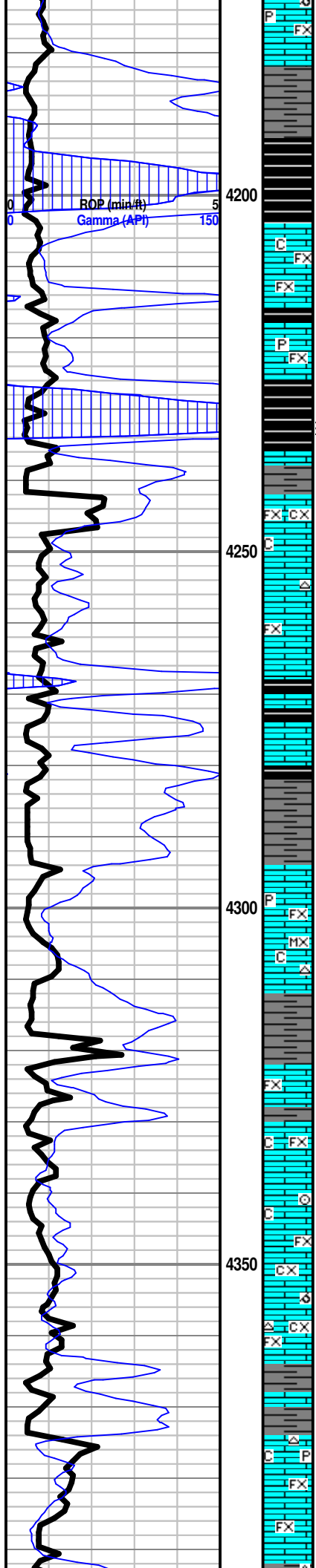
Ls Wht-Crm-Gry, FxIn micrite grad poor PP InxIn Por, scat poor vug dissolu, Chlky, trc foss (Fuss), Sh Char-Gry-Lt Gry, soft, no odr, no flor, no stn, NS

Ls Wht-Crm-Lt Tan-Lt Gry, FxIn micrite grad poor PP InxIn Por, grad poor oom por w/dissolu vug, Chlk, Sh Gry-Drk Gry, soft, no odr, no flor, no stn, NS

Ls Gry-Lt Tan-Crm-Wht, FxIn micrite grad poor PP InxIn Por w/sli dissolu/poor leaching vugs, Chlk (abd), Sh Gry-Drk Gry, soft-med soft w/trc pyr inclus, no odr, no flor, no stn, NS

Ls Crm-Wht-Gry, FxIn poor InxIn Por grad poor-fair PP InxIn vug por, poor dissolu vugs, sli trc oom por w/vsmall ooids in plc, Chlk, Sh Drk Gry-Gry, soft trc pyr inclus, no odr, no flor, no stn, NS





Ls Crm-Gry-Wht, FxIn micrite (w/scat trc pyr inclus) grad poor PP InxIn vug por, vry sli trc poor oom Por, Chlky (abd), Sh Gry-Drk Gry-Red, soft(gummy) fiss, no odr, no flor, no stn, NS

Ls Wht-Crm, FxIn micrite, poor PP InxIn vug por w/scat pyr inclus, Chlk (abd), Sh Blk Carb-Dark Gry-Gry, soft fiss w/strks pyr, Chrt Wht-Crm, transi-op, shp vit, no odr, no flor, no stn, NS

**HEEBNER 4228' (-1403)**

**TORONTO 4246' (-1421)**

Ls Wht-Crm-Gry, FxIn micrite grad poor PP InxIn Por w/scat dissolu vugs & foss inclus, Chlk, Chrt Wht-Lt Gry, op shp vit, Sh Blk Carb(w/GB)-Gry-Char-Red, soft w/ pyr inclus, no odr, no flor, no stn, NS

Sh Char-Gry-Blk Carb, soft w/pyr inclus, Ls Wht-Crm-Gry, F-MicroIn dns micrite grad poor InxIn Por, foss inclus(crin) w/scat vugs, Chlk, Chrt Wht-Lt Gry op shp vit, , no odr, no flor, no stn, NS

**LANSING 4295' (-1470)**

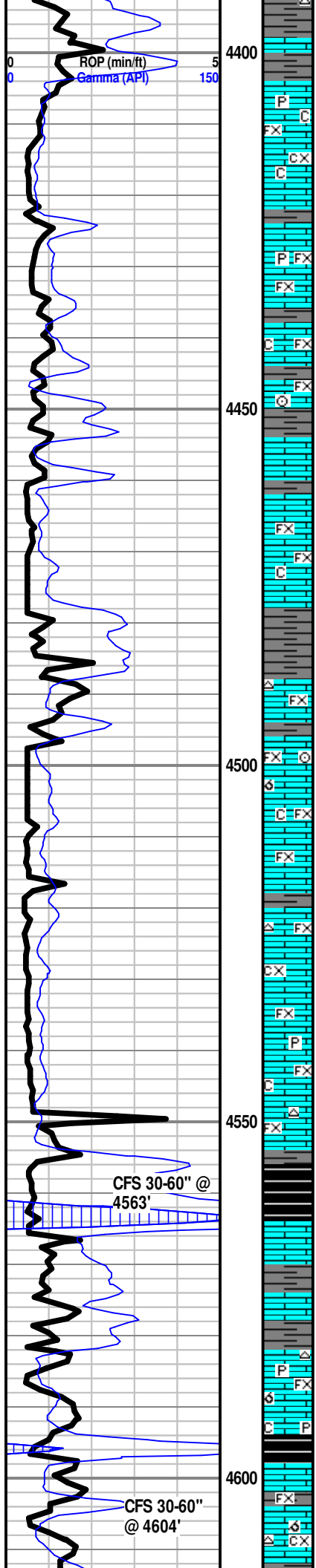
Ls Wht-Crm-Gry, F-MicroIn dns micrite, no vis por, grad poor InxIn/vug Por, sli foss inclus(spicul), Chlk, scat pyr inclus, Sh Blk Carb-Gry-Aqua-Red, soft fiss, Pyr mass, Chrt Wht, op shp vit, no odr, no flor, no stn, NS

Ls Crm-Wht-Gry, FxIn micrite grad poor PP InxIn Por, trc poor oom por (w/ooids in plc, 2 pc), Chlk, foss(crin mass), Sh Gry-Blk Carb-Lt Grn-Brn, soft fiss (silty in prt), Chrt Wht, op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Lt Tan-Gry, FxIn dns micrite(mainly) grad poor PP InxIn Por w/scat vugs, Foss(fus), Chlk, Sh Gry-Drk Gry-Grn, soft, Chrt Wht-Crm, op shp vit, no odr, no flor, no

TG, C1-C5 150

SH GAS KICK = 97 UNITS



Ls Wht-Crm-Tan-Gry, FxIn micrite grad poor-fair PP InxIn/vug Por, grad poor-fair InxIn/oom Por w/fair dissolu-leaching vugs, foss(brach, spicul inclus), no odr, spty grn/yel flor, vry lt spty stn, show GB after 10% HCl (GB do flor), no show FO, Sh Gry-Mrn-Brn-Grn, soft fiss, Chrt Wht-Crm-Tan, transl-op shp vit, scat mineral flor, mod show GB

TG, C1-C5 150

Ls Wht-Crm-Gry, FxIn micrite grad poor-fair InxIn por, poor oom por w/foss inclus (spicul), Chlk, pyr mass, Sh Gry-Char-Mrn-Grn (abd) soft fiss w/pyr inclus, Chrt Tan Transp-op shp, frsh vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FxIn micrite, poor InxIn-Introom Por w/porr develop dissolu vugs, por leaching, foss(crin), Sh Char-Gry-Mrn-Grn, soft, Chrt Wht-Tan transl, op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan-Gry, FxIn micrite, poor PP InxIn Por, foss & sml grnvlr inclus w/poor ingrn por, trc ool w/poor oocl por & dissolu vugs, scat foss frag(crin) Sh Gry-Brn-Mrn-Aqua-Blk Carb, soft, Chrt Wht-Tan, op shp vit, no odr, no flor, no stn, NS

60 UNIT GAS KICK

30" CFS @ 4563' Ls Wht-Crm-Tan, FxIn dns micrite grad poor InxIn oom Por w/poor dissolu & leached vugs, 1 pc w/good oom/ool vug por, Chlk (vry abd), Sh Gry-Mrn-Char-Grn, soft fiss, Chrt Wht-Gry op shp vit, no odr, no flor(some mineral flor), no stn, NS

56 UNIT GAS KICK

60" CFS @ 4563' Ls Crm-Gry-Lt Tan, FxIn dns micrite grad poor InxIn Por, sli foss(crin), Chlk (abd) Sh Blk Carb(w/SGB)-Gry-Mrn, fiss, Chrt Wht-Tan-Gry, transl-op shp vit, no odr, no flor, no stn, NS

Scale Change TG, C1-C5 300

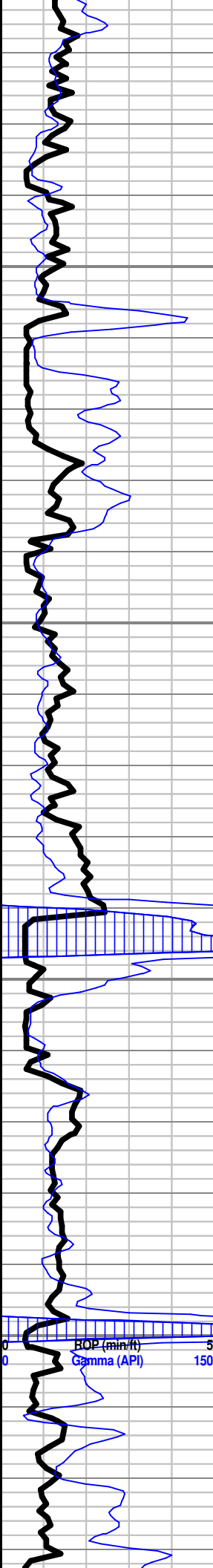
**LANSING 'G' 4578' (-1753)**

30" CFS @ 4604' Ls Wht-Crm-Lt Tan, FxIn dns micrite (w/pyr inclus) grad poor PP InxIn Por w/trc dissolu vugs, oolitic in part w/smal ooids in plc, Chlk, Sh Gry-Char-Blk Carb-Mrn, soft fiss, Chrt Wht-Gry-Tan, transl-op shp vit, no odr, no flor, no stn, NS

188 UNIT GAS KICK

60" CFS @ 4604' Ls Wht-Crm-Lt Tan, FxIn dns micrite grad poor-fair PP InxIn sucrr Por w/trc dissolu vugs, 1 pc w/good oom por(goo dissolu vugs, w sli show GB aft 10%HCL, GB did flor), Chlk, Sh Gry-Char-Blk Carb-Mrn, soft fiss, pyr mass, Chrt Wht-Gry-Tan, transl-op shp vit, no odr, no flor, no stn, NS

TG, C1-C5 300



4650  
4700  
4750  
4800



Ls Wht-Crm-Tan, F-MicroIn dns micrite grad poor-far PP InxIn Por, trc poor oom Por w/poor dissolu vugs, poor leaching, (2 pc), Chlky, foss(fus), few pyr inclus, Sh Gry-Grn-Red-Blk Carb, fiss, Chrt Gry op shp vit, no odr, no flor, no stn, NS

Ls Gry-Crm-Wht, F-MicroIn dns micrite, few w/poor PP InxIn Por grad fair sucro PP InxIn Por, foss(crin), scat pyr, Sh Drk Gry-Gry, soft fiss, Chrt Wht-Tan-Gry, transl-op shp vit, no odr, no flor, no stn, NS

Ls, Crm-Tan-Wht, MicroIn dns micrite grad FxIn, poor InxIn Por w/minor develop dissolu vugs, scat ool/clastic inclus, 1 pc w/good oom por(good dissolu/leach vugs), chlky, Chrt Tan-Gry, op-shp vit w/foss (brach, crin), Sh Chr-Lt Gray, soft gummy, pyr mass, no odr, no flor, no stn, NS

Ls Wht-Crm-Gry-Tan, MicroIn dns micrite grad FxIn, poor-fair PP InxIn sucro Por(trc), Chlky, Chrt Tan-Gry-Wht, transl-op shp vit-dull, Sh Gry-Mrn-Drk Gry, soft w/scat pyr, foss frgmts(fus), no odr, no flor, no stn, NS

Ls Wht-Crm-Gry-Brn, MicroIn dns micrite w/trc dissolu/leached vugs, Chlky, Chrt Tan-Gry translu-op, shp vit, Sh Blk Carb-Gry-Mrn, fiss, w/pyrinclus, foss, no odr, no flor, no stn, NS

Ls, Tan-Crm-Wht-Gry, Micro-FxIn dns micrite grad poor PP InxIn oom Por, poor develop dissolu vugs, por leaching, Chly (abd), Chrt Tan-Gry, op-shp vit, Sh Blk Carb-Bry, fiss gritty, scat foss, no odr, no flor, no stn, NS

Ls Crm-Tan-Gry, F-MicroIn Dns micrite, fair-good oom Por w/good develop dissolut & leached vugs(2-3% in tray), few ooids in plc, vry fnt odr, spty grn flor, no vis stn, fair show GB aft 10%HCL(GB do flor), no show FO, chlky, Chrt Tan-Gry op shp vit, Sh Blk Car-Gry-Grn-Mrn, fiss, mass pyr

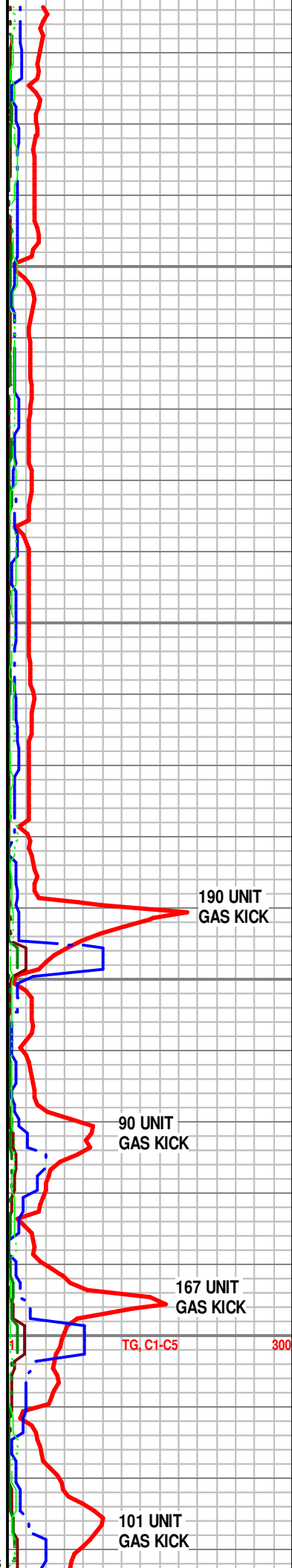
Ls Tan-Gry-Crm-Wht, FxIn dns micrite, grad poor-fair PP InxIn sucro Por, grad fair-good oom por w/fair dissolu vugs, fair leaching w/few smal ooids

STARK SHALE 4742' (-1917)

SWOPE Ø 4752' (-1927)

HUSHPUCKNEY SHALE 4799' (-1974)

HERTHA Ø 4815' (-1990)



190 UNIT GAS KICK

90 UNIT GAS KICK

167 UNIT GAS KICK

TG, C1-C5

300

101 UNIT GAS KICK

in plc, vry fnt odr, mod grn/yel flor, med show GB aft 10%HCL(GB did flor), spyt vry lt brn stn(on few), No Show FO, Chlky, Sh Blk Carb-Gry-Mrn, fiss, Chrt AA

Ls, Crm-Tan-Wht, FxIn dns micrite(mainly), trc fair InxIn oom/vug por, fair dissolu, poor-fair leaching, Chlky, Cht, Wht-Tan op shp vit, Sh Gry-Blk Carb-Aqua, soft, scat pyr inclus, no odr, no flor, no stn, NS

**MARMATON 4880' (-2055)**

Ls Gry-Tan-Crm-Wht, FxIn-Fgrn dns micrite grad poor-fair PP InxIn/Ingrn Por, grad fair-good oom Por, good Interom Por w/sml ooid in plc, fair delevp dissolu & leach vugs, no odr, trc dull grn/yel flor, sli show GB in acid dish(GB do flor), no vis stn, No FO, Chlky, Chrt Tan- Gry, op shp vit with matted foss inclus, Sh Blk Carb-Gry-Red, soft fiss, no odr, sli flor, no stn, sli SGB, No Show FO

Ls Wht-Crm-Tan-Brn, FxIn micrite, poor PP InxIn Por, poor-fair oom por w/sml ooids in plc(sli flor w/GB AA), foss(spiulitic inclus), scat dissolu & leached vugs, Chlky, Chrt AA, Sh Blk Carb- Gry-Lt Red, soft fiss silty grad Qtz SS Gry(w/CaCO3 matrix), no odr, no flor(few from abv), no stn, NS

Ls Wht-Crm-Tan Gry, FxIn micrite, poor-fair PP InxIn Por, 1 Pc w/Good PP InxIn Sucro Por poor-fair oom Por, foss(crin, spiculitic), poor delevp dissolu vugs, Chlky, Sh Gry-Brn-Blk Carb, fiss grny, no odr, no flor, no stn, NS

Sh Blk Carb w/SGB GB do flor, Ls AA w/trc gluc inclus

**PAWNEE 4984' (-2159)**

Ls Crm-Tan, F-MicroxIn dns micrite, matted foss(crin),Chlky w/clastic inclus, Chrt Tan-Wht, Trans-Op shp vit, Sh Blk Carb w/SGB, no odr, no flor, no stn, NS

**FT. SCOTT 5019' (-2194)**

**CHEROKEE SHALE 5030' (-2205)**

Mudco Ck @  
4867' @ 9:10 AM  
11/09/14  
Vis= 44;  
WT= 9.35#;  
PV= 13;  
YP= 14;  
WL= 11.6#;  
Cake= 1;  
Chl= 4,400 Ppm;  
Cal = 20;  
Sol = 6.9%.  
LCM = 2#;  
DMC=\$3,151.45;  
CMC=\$17,412.05.

86 UNIT  
GAS KICK

TG, C1-C5 300

90 UNIT  
GAS KICK

82 UNIT GAS  
KICK

4850

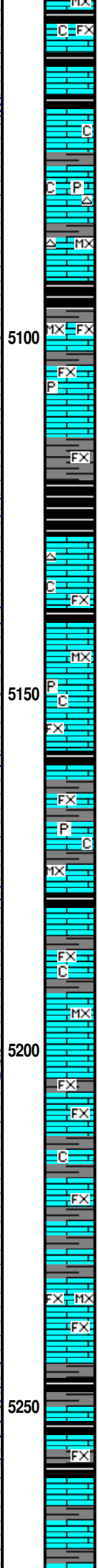
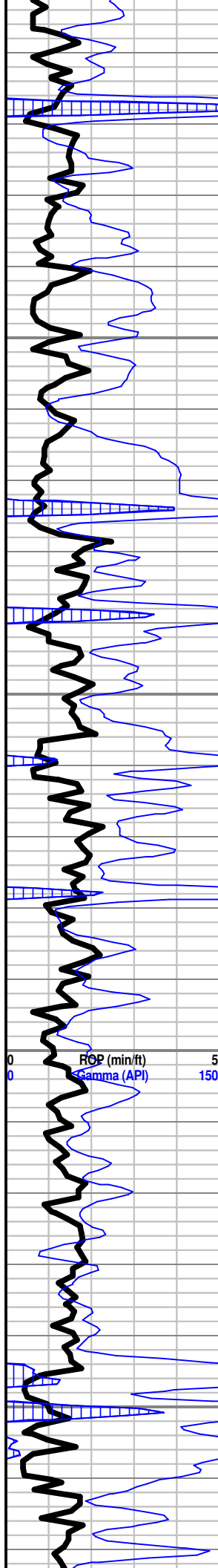
4900

4950

5000

5050

ROP (min/ft)  
Gamma (API)



Sh Blk Carb-Gry, fiss silty, Ls Tan-Crm-Wht-Gry, F-MicroIn dns micrite, poor PP InxIn Por w/chrt & foss inclus, scat oolitic Ls w/ poor-fair oom por, poor leaching w/ spty grn flor, Chlky, Chrt Tan-Wht trans-op shp vit with foss & matted ool inclus, no odr, no flor, no stn, NS

Sh Blk Carb-Gry-Brn, soft fiss, Ls Crm-Tan-Wht, MicroIn dns micrite grad FxIn w/poor-fair PP InxIn/foss Por, poor oom Por, rnd clastic inclus, Chlk, trc pyr, Chrt, Wht-Tan, op-shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Gry, FxIn micrite grad poor InxIn foss Por(matted fus, spicul inclus), trc poor oom por, scat pyr inclus, Sh Gry-Grn-Blk Carb(w/SGB), Chrt, Tan-Gry op shp vit, no odr, no flor, no stn, NS

Ls, Crm-Wht-Tan F-MicroIn dns micrite, poor PP InxIn Por, Chlk, Sh Blk Carb-Gry, fiss silty, no odr, no flor, no stn, NS

Ls Crm-Tan-Wht, FxIn micrite, grad poor-fair PP InxIn Por, soft fri w/vry lt spty stn, faint odr, scat grn/yel flor, fair show GB aft 10%HCL(GB do flor), strem blue wht cut(2-3% in tray), Chlky, matted ool, trc gluc inclus, Chrt Tan-Wht trmslu-op shp vit foss, Sh Blk Carb-Gry, soft fiss, fair SGB, No vis FO

Ls Wht-Crm-Tan, FxIn dns micrite, scat dissolu vugs, pyr inclus, Sh Blk Carb-Gry-Brn, fiss, no odr, no flor, no stn(strks blk gil stn), NS

Ls Wht-Crm-Tan, FxIn dns micrite, poor PP InxIn Por, pyr & foss inclus(brch, spicul), Sh Blk Carb-Gry-Brn-Grn, fiss, Chrt Tan op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, dns micrite, trc FxIn w/fair PP InxIn Por, chlky w/pyr inclus, Sh Blk Carb-Brn, fiss, foss(crin), no odr, no flor, few strks blk gil stn, NS

Ls Wht-Crm-Gry, FxIn micrite grad poor InxIn foss Por(matted fus, spicul inclus), trc poor oom por, scat pyr inclus, Sh Gry-Grn-Blk Carb, Chrt, Tan-Gry op shp vit, no odr, no flor, no stn, NS

Ls Gry-Tan-Wht, FxIn dns micrite, Sh Blk Carb-Drk Gry, soft fiss, pyr mass, no odr, no flor, no stn, NS

Ls Gry-Wht-Crm, FxIn micrite grad poor PP InxIn Por w/scat dissolu vugs, faint odr, strks lt brn stn, sli show GB w/10% HCL(GB do flor, few coated w/brn oil residu), No Shw FO, Sh Blk Carb-Gry, fiss

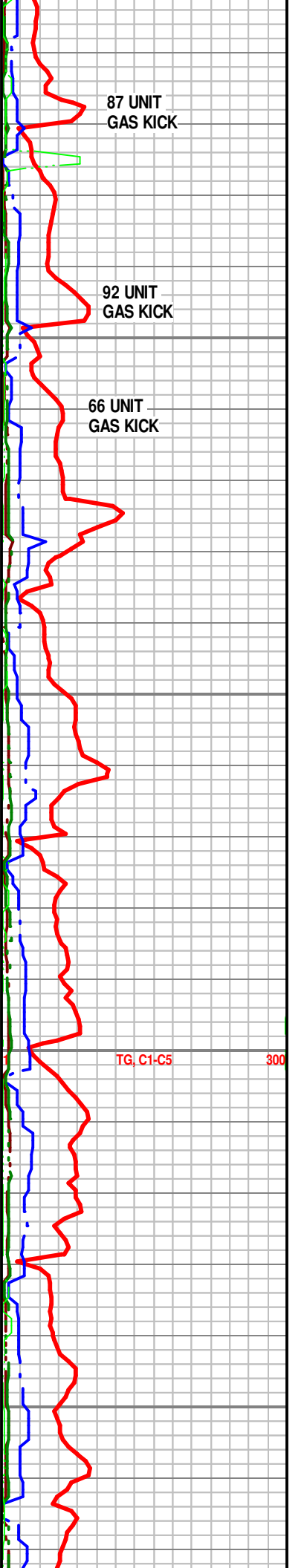
Ls Gry-Wht-Tan, FxIn dns micrite w/matted foss(fus), Chlk, Sh Blk Carb-Gry, fiss w/pyr inclus, Chrt Tan Tranp-Op, Shp Vit, no odr, no flor, no stn, NS

Sh Gry-Char-Blk Carb- fiss, foss(brach,bryz), Ls Wht-Crm-Gry, FxIn poor PP InxIn Por, 1 Pc fair oom por, strks blk gil stn, Chlky, no odr, no flor, no stn, NS

**ATOKA 5245' (-2420)**

Sh Char-Gry-Brn-Blk Carb-Grn, soft fiss, Ls Tan-Crm, F-MicroIn micrite grad poor InxIn vug Por, Chalk, matt foss(fuss), Chrt Gry-Wht-Blk, op shp vit, sli odr, no flor, scat blk gil stn,, NS

Sh Gry-Brn-Blk Carb, soft fiss, Ls Wht-Crm, FxIn micrite, poor PP InxIn Por, 1 Pc w/drck brn-blk residual hvy gil stn, scat strks lt brn stn, sli odr, no flor, NS





Sh Blk Carb-Char-Gry, fiss, Ls Crm-Tan-Crm, F-MicroIn dns micrite grad poor-fair PP InxIn vug Por, few w/sat hvy brn stn, sli show GB and sli show FO aft 10%HCL(did not flor), fair odr,(1-2%in tray)

**MORROW SHALE 5290' (-2465)**

**CHESTER 5293' (-2468)**

30' CFS @ 5320' Ls Wht-Crm-Tan, FxIn, fair-good PP InxIn/Ool Por w/sml ooids in plc, good InxIn Foss Por w/Crin, Fus,Brach,Spicul inclus, vry friable, soft, Strong odr, strky to sat even brn stn(abd), no flor, Good Show FO in tray(abd), Good Sh GB aft 10%HCl, (Oil & GB did not flor), sli trc gluc inclus, Chlky, MicroxIn micrite, Sh Gry-Blk Carb-Grn, soft fiss, scat pyr, GSG & GSFO

60" CFS @ 5320' Ls Wht-Crm-Tan, FxIn-MicroxIn dns micrite, grad fair-good PP InxIn Foss Por w/ Crin & ool inclus, vry friable, soft, Strong odr, strky to sat even brn stn, no flor, sli Show FO in tray(Good Show aft 10% HCL), Good Sh GB aft 10%HCl, (Oil & GB did not flor), sli trc gluc inclus, Chlky, Hvy Drk Brn Gil stn, Sh Gry-Blk Carb-Grn, soft fiss, scat pyr, GSG & GSFO

60"CFS @ 5350' Sh Char-Gry-Blk Carb-Grn-Red, soft fiss, Ls Wht-Crm F-MicroxIn dns micrite(w/pc from above), Chlky, strks blk hvy gil stn, scat foss frags(brach)

Sh Gry-Lt Gry-Grn, soft fiss thin laminated, Ls Wht-Crm-Gry, FxIn dns micrite, poor-Fair PP InxIn Por, foss(spiculitic inclus), Chrt Wht-Lt Gry, translu-op shp vit, no odr, no flor, strks hvy blk gil stn, NS

Ls Wht-Crm-Tan-Gry, FxIn dns micrite, grad poor PP InxIn Por, sli trc poor oom vug por w/ gluc inclus, Chlky, Sh Gry-Grn-Blk Carb, soft fiss, foss frag(crin), no odr, no flor, no stn, NS

Sh Gry-Aqua-Drk Gry, soft fiss w/strk pyr, Ls Wht-Crm Gry, FxIn micrite, foss & clast inclus, trc poor PP InxIn Por,Chlky, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FxIn Dns Micrite grad poor-fair PP InxIn Por, Sh Gry-Lt Gry-Aqua-Blk Carb, fiss soft, mass pyr, no odr, no flor, no stn, NS

Sh Gry-Lt Gry-Aqua-Yell-Purp, soft fiss, Ls Wht-Crm FxIn micrite grad fair PP InxIn sucro por, scat foss, no odr, no flor, no stn, NS

Sh Gry-Mrn-Red-Aqua-Purp, soft fiss, Ls Wht-Crm FxIn micrite grad poor-fair PP InxIn sucro Por, Chrt Amb-Wht translu shp vit, trc pyr inclus, trc gluc inclus, foss(brach) no odr, no flor, no stn, NS

**ST. GEN 5472' (-2647)**

Ls Wht-Crm F-MicroxIn dns micrite, arenaceous in part w/poor inGrn por, Chlk, Sh Gry-Mrn-Red-Aqua-Purp, soft fiss, no odr, no flor, no stn, NS

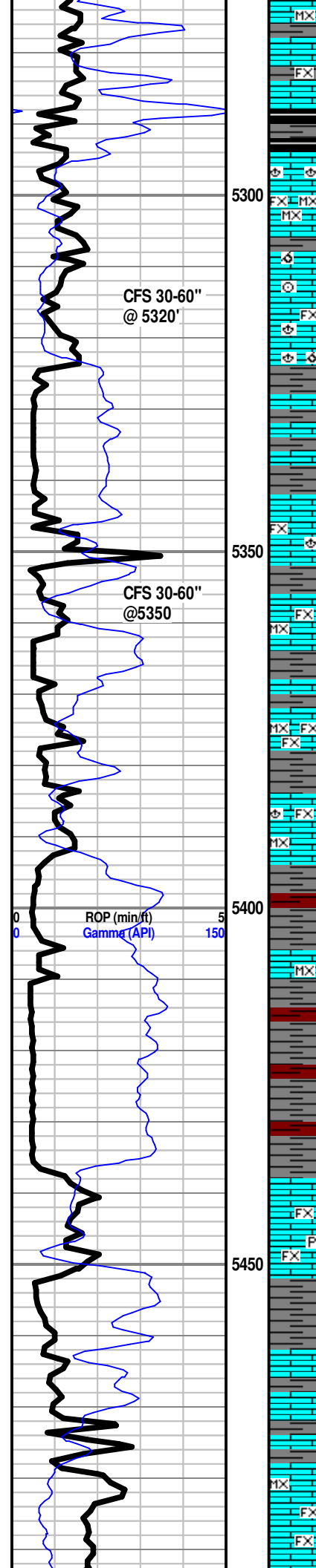
Ls Wht, VFgrn, arenaceous w/poor InGrn por, soft, vry friable w/satur Brn stn, mod odr, sli show GB and sli show FO aft 10% HCl, (GB & FO did not flor), Chlk, Sh Gry-Mrn-Red-Aqua-Purp, soft fiss, Sli Show GB & Sli Show FO

108 UNIT GAS KICK

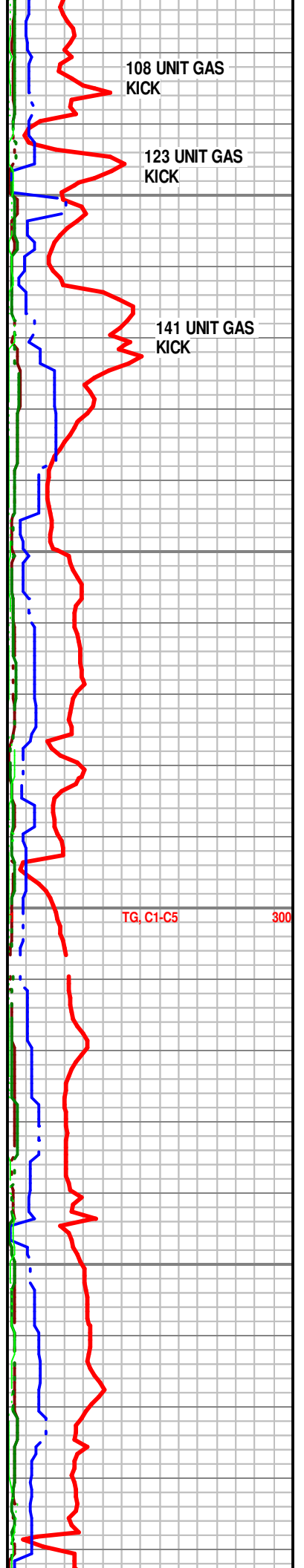
123 UNIT GAS KICK

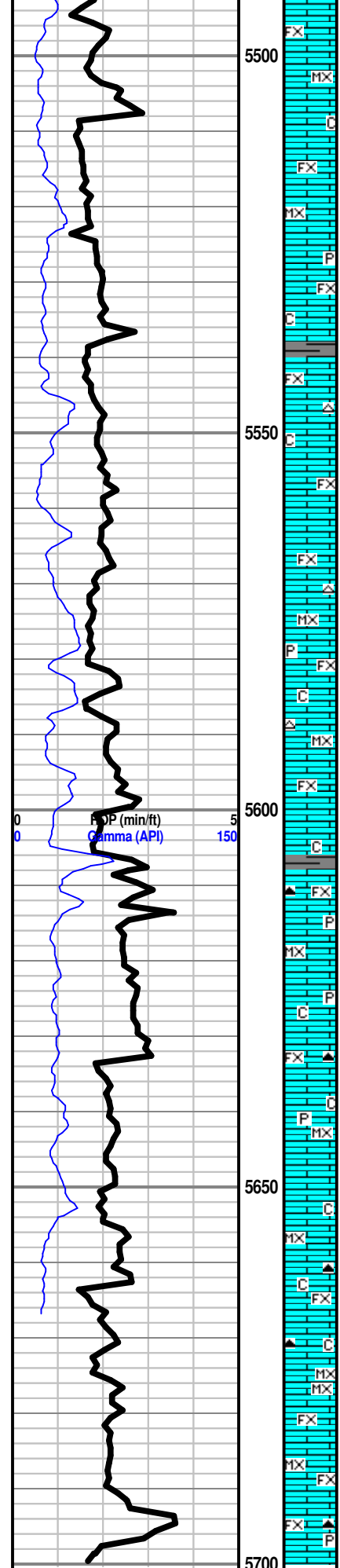
141 UNIT GAS KICK

TG, C1-C5 300



Geological log with lithology symbols (FX, MX, etc.) and descriptive text for each interval. The text describes rock types, porosity, and other characteristics. Key sections include MORROW SHALE, CHESTER, and ST. GEN.





Ls Wht-Crm-Tan, VFgrn arenaceous w/poor InGrn por, soft, vry friable grad FxIn micrite w/poor-fair PP InxIn Por, strks pyr inclus, trc gluc inclus, Sh Gry-Grn-Blk Carb, Chrt Tan op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, VFgrn arenaceous w/poor InGrn por, soft, vry friable grad FxIn micrite w/poor PP InxIn Por, trc gluc inclus, Sh Gry-Grn-Blk Carb, Chrt Wht-Tan op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm, VFgrn arenaceous w/poor InGrn por, soft, vry friable grad FxIn micrite w/poor-fair PP InxIn Por, strks pyr inclus, trc gluc inclus, Sh Gry-Grn-Blk Carb-Yell, Chrt Wht-Orng, transl-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm, VFgrn arenaceous w/poor InGrn por, soft, vry friable grad FxIn micrite w/poor-fair PP InxIn Por, strks pyr inclus, trc gluc inclus, Sh Red-Gry-Aqua, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FGrn arenaceous, poor InGrn por w/smal ooid in plc, FxIn-MicroxIn dns micricte, trc gluc inclus, Sh Red-Aqua-Grn-Lt Gry-Drk Gry-Blk Carb, soft fiss smooth, Chrt Wht Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FGrn arenaceous, poor InGrn por w/smal-med ooid in plc, FxIn-MicroxIn dns micricte, trc gluc inclus, Sh Red-Aqua-Turq-Lt Gry-Drk Gry-Blk Carb, soft fiss smooth, Chrt Wht-Orng Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm, VFgrn arenaceous, poor InGrn por w/smal ooid in plc, FxIn-MicroxIn dns micricte, scat gluc inclus, Sh Red-Aqua-Turq-Lt Gry-Drk Gry-Purp, soft fiss, Mass Pyr, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FxIn-MicroxIn dns micricte grad poor-fair PP InxIn Por, VFgrn arenaceous, poor InGrn por w/smal-med ool in plc, trc gluc inclus, Sh Gry-Red-Aqua, soft fiss, scat pyr Chrt Wht-Org Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FxIn-MicroxIn dns micricte grad poor-fair PP InxIn Por w/ool inclus, VFgrn arenaceous, poor InGrn por w/smal-med ool in plc, trc gluc inclus, Sh Gry-Red-Aqua, soft fiss, scat pyr Chrt Wht-Org Translu-op shp vit, no odr, no flor, no stn, NS

**ST. LOUIS Ø 4588' (-2763)**

Ls Wht-Crm-Tan, FxIn-MicroxIn dns micricte grad poor-fair PP InxIn Por w/med-smal ooid inclus, scat vug por, trc pyr inclus, VFgrn arenaceous in prt, trc gluc inclus, Sh Gry-Red-Aqua-Blk Carb, soft fiss, Chrt Wht-Org Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FxIn-MicroxIn dns micricte grad poor-fair PP InxIn Por w/med-smal ooid inclus, scat vug por, poor leach, friable, Chlk Sh Gry-Lt Gry, soft, Chrt Wht-Pnk Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FxIn-MicroxIn dns micricte grad poor-fair InxIn Por w/med-smal ooid inclus, poor ool por, poor leach, chlk, trc pyr inclus, VFgrn arenaceous in prt, trc gluc inclus, Sh Gry-Blk Carb-Grn-Mrn, soft fiss, Chrt Wht-Pch Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FxIn-MicroxIn dns micricte grad poor-fair InxIn Por w/med-smal ooid inclus, poor ool por, poor leach, chlk, trc pyr inclus, arenaceous in prt, trc gluc inclus, Sh Gry-Blk Carb-Grn-Mrn-Turq, soft fiss, Chrt Wht-Pch-Amb Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm, FxIn-MicroxIn dns micricte grad poor InxIn Por w/med-smal ooid inclus, poor ool por, poor leach, chlk, trc pyr inclus, arenaceous in prt, trc gluc inclus, Sh Gry-Blk Carb-Grn-Mrn-Turq, soft fiss, Chrt Wht-Pch-Amb Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm, FxIn-MicroxIn dns micricte grad poor PP InxIn Por w/med-smal ooid inclus, poor ool por, trc poor leach, chlk, arenaceous in prt, trc gluc inclus, Sh Gry-Blk Carb-Grn-Mrn-Turq, soft fiss, Chrt Wht-Pch-Amb Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan, FxIn-MicroxIn dns micricte grad poor PP InxIn Vug Por, arenaceous in prt w/med-smal ooid inclus, poor ool por, trc poor leach, chlk, scat pyr, trc gluc inclus, Sh Gry-Blk Carb-Grn-Mrn-Turq, soft fiss, Chrt Wht Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan-Gry, FxIn-MicroxIn dns micricte grad poor PP InxIn Vug Por, arenaceous in prt w/med-smal ooid inclus, poor ool por, trc poor leach, chlk, scat pyr, trc gluc inclus, Sh Gry-Blk Carb-Aqua-Mrn-Red-Yell, soft fiss, Chrt Wht-Blk-Drk Gry, Translu-op shp vit, no odr, no flor, no stn, NS

Ls Wht-Crm-Tan-Gry, FxIn-MicroxIn dns micricte grad poor InxIn Vug Por, arenaceous in prt w/med-smal ooid inclus, poor ool por, trc poor leach, chlk, scat pyr, trc gluc inclus, Sh Gry-Blk Carb-Grass Grn-Mrn-Red-Yell, soft fiss, Chrt Wht-Drk Gry-Org, Translu-op shp vit, no odr, no flor, no stn, NS

30" CFS @ 5700' Ls Wht-Crm-Tan, FxIn-MicroxIn dns micricte grad poor InxIn Vug Por, arenaceous in prt w/med-smal ooid inclus, poor ool por, trc poor leach, chlk, trc gluc inclus, Sh Gry-Blk Carb-Aqua-Mrn-Red-Yell, soft fiss, Chrt Wht-Drk Gry, Translu-op shp, mass foss(crin) vit, no odr, no flor, no stn, NS

60" CFS @ 5700' Ls Wht-Crm-Tan, FxIn-MicroxIn dns micricte grad poor InxIn Vug Por, arenaceous in prt w/med-smal ooid inclus, poor ool por, trc poor leach, chlk, trc gluc inclus, Sh Gry-Blk Carb-Aqua-Mrn, soft fiss, Chrt Wht-Drk Gry-Yell, Translu-op shp, mass foss(crin) vit, no odr, no flor, no stn, NS

TG, C1-C5 300

Mudco Ck @  
5627' @ 8:15 AM  
11/10/14  
Vis= 48;  
WT= 9.25#;  
PV= 16;  
YP = 16;  
WL= 8#;  
Cake= 1;  
Chl= 1,600 ppm;  
Cal = 20;  
Sol = 6.3%.  
LCM = 4#;  
DMC=\$3,458.85;  
CMC=\$20,870.90.

RTD: 5700' (-2875)  
LTD: 5702' (-2877)  
CFS 30-60"  
@ 5700'

Shot Trip to  
Surface Casing

DEV @ 5700' = 1 3/4  
Degree

Geologist left location @ 8:00 AM on 11-11-14

Electric Logs Run: By Weatherford Logging: Dual Induction;  
Compensated Density-Neutron; Sonic; & Microresistivity Logs.

5750