



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

**Well Name:** JAMES KOEHN #1-31 (NW)  
**Location:** E2-SW-SE-NW 1/4 SEC. 31 - 28 S. - 30 W.  
**License Number:** 15-069-20393-00-00  
**Spud Date:** 09/05/12  
**Surface Coordinates:** 2310' FNL & 1670' FWL

**Region:** Gray Co., KS.  
**Drilling Completed:** 9/19/12

**Bottom Hole  
Coordinates:**  
**Ground Elevation (ft):** 2829'                      **K.B. Elevation (ft):** 2842'  
**Logged Interval (ft):** Surface Cs>To: 5548'      **Total Depth (ft):** 5525'  
**Formation:** Mississippian  
**Type of Drilling Fluid:** Chemical Mud

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

**OPERATOR**

**Company:** Falcon Exploration, Inc.  
**Address:** 125 North Market Street, Ste. #1252  
Wichita, Kansas 67202

**GEOLOGIST**

**Name:** David P. Williams  
**Company:** DW Energy, LLC  
**Address:** 312 North Broadview Street  
Wichita, Kansas 67208

**Casing & Deviation Survey's**

Spud on 09/05/12. Ran 44 joints of new 24#, 8-5/8" casing. Tallied 1858'. Set at 1839' KB . Welded straps on GS & bottom 3 joints, then tack welded all collars. Float insert in 1st collar. Centralizers (3) 14-23-33. Baskets (3) 1-19-42. Cemented with 450 sks Class A; 2% Gel; 2% Gyp; 2% MTTSA & 1/4# FS; Tailed wiith 150 sks Class C; 2% CC. Cement did circulate to pit. Allied Cementing ticket #52685.

**Deviation Survey's Taken:** @ 1863' = 1/2 degree; @ 3338' = 1 degree; @ 4680' = 1 degree; @ 5175' = 1 1/2 degrees; @ 5418' = 1 degree; @ 5550' = 3/4 degree.

5 1/2"

## DSTs

**DST # 1 3125'-3220'.** Straddle w/118' Tail. Times: 5"- 90"- 60"- 120"; Blow: IF= Strong/ BOB/1" Sli. Surface Blow Back During ISIP. FF= Strong Blow BOB/2". Recovery: 1310' SW:(175'HWCM; 765' MCW; 370' VSMCWM). Tool Spl: 2% G; 4% O; 72%W & 22% M. Pressures: IH= 1343#; FH= 1341#; IF= 140-301#; FF= 321-684#; ISIP= 705#; FSIP= 703#; Temp= 100 degrees F. Chl.= 116,000 Ppm. RW= .07 @ 79 degrees F.

**DST # 2 4948'-4680'.** Times: 5"- 90"- 60"- 90"; Blow: IF= Weak 1/4""; FF= Weak 1/2". Recovery: 60' M: Pressures: IH = 2206#; FH= 2206#; IF= 8-12#; FF= 14-40#; ISIP= 1417#; FSIP= 1285#; Temp= 115 degrees F.

**DST # 3 5138'-3175'.** Times: 5"- 90"- 75"-150". Blow: IF= Strong/ BOB / 2". Sli. Surface Blow Back During ISIP. FF= Strong Blow BOB / Instant With GTS @ 15" into FF TSTM. Strong Blow Back During FSIP. Rec: 3650' GIP: 1455' TF: (1210' GSMCO (7% G; 89% O; 6% M)); (245' GMCO (9% G; 61% O; 30% M)). Tool Spl: NA (Gas Blew It Out). Pressures: IH= 2393#; FH= 2393#; IF = 80-120#; FF = 143-411#; ISIP=1440#; FSIP=1427#; T=128 deg. F; API Grv.= 24 degrees.

**DST # 4 5175'-5224'.** Times: 5"-90"-75"-150"; Blow: IF=Strong/ BOB / 45 Sec.. 1.5" Surface Blow Back During ISIP. FF= Strong Blow BOB / 15 Sec. With GTS @ 9" Into FF= TSTM. BOB Blow Back During FSIP. (See Gas Gauge Below). Rec: 3560' GIP: 1585' TF: (1465' GVSMCO (9% G; 88% O; 3% M)); (60' GSWMCO (5% G; 88% O; 5% M' 2% Wtr)); 60" GOWCM (20% G; 16% O; 43% M; 21% Wtr)). Tool Spl: (39% O; 8% M/ 3% Wtr). Chl.= 19,000 Ppm; PH=7.0; RW=.34 @ 68 degrees F. Pressures: IH= 2366#; FH= 2364#; IF = 76-92#; FF = 114-414#; ISIP = 1449#; FSIP = 1431#; T.=128 deg. F. API Grv.= 25 degrees. FF Gas Gauge: @ 20" = 43.9 Mcf; @ 30" = 14.3 Mcf; @ 40" - 11.02 Mcf; @ 50" = 2.76 Mcf; @ 60" = 3.92 Mcf; @ 70" = 4.42 Mcf; @ 75" 4.42 Mcf.

**DST # 5 5390'-5418'.** Times: 5"-90"-60"-120"; Blow: IF= Strong/ BOB / 9". Bled Off Surface Blow Back During ISIP. FF= Strong Blow BOB / 15 Sec.No Blow Back During FSIP. Rec: 1010" GIP: 190' TF: (5' CO (100% O); 65' GO (7% G; 93% O); 60" VSOCM (17% G; 2% O; 81% M); 60' GCMCO: (25% G; 42% O; 22% M; 11% Wtr). Tool Spl: (3% G; 69% O; 16% M; 11% Wtr). Chl.= 35,000 Ppm; PH=7.0; RW=.34 @ 81 degrees F. API Grv= 24 degrees. Pressures: IH= 2547#; FH= 2544#; IF = 18-29#; FF = 31-89#; ISIP = 1481#; FSIP = 1343#;


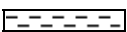

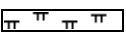

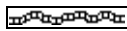




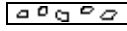


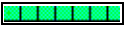




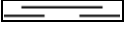




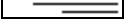
## Comments

After review of all geologic samples as examined, combined with the fluid and pressures results from all drill stem tests taken and analysis from the electric logs run, it was determined by all parties that production casing should be run in order to further evaluate this well.

Respectfully submitted,

David P. Williams, P.G

## ROCK TYPES

	Anhy		Clyst		Gry shale		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**

- MINERAL**
- Anhy
  - Arggrn
  - Arg
  - Bent
  - Bit
  - Breclrag
  - Calc
  - Carb
  - Chtdk
  - Chtlt
  - Dol
  - Feldspar
  - Ferrpel
  - Ferr
  - Glau
  - Gyp

- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

- FOSSIL**
- Algae
  - Amph

- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Fuss
- Gastro
- Oolite
- Oomold
- Ostra
- Pelec

- Pellet
- Pisolite
- Plant
- Strom

- STRINGER**
- Anhyt
  - Arg
  - Bent
  - Coal
  - Dol
  - Gryslt
  - Grysh
  - Gyp
  - Ls
  - Mrst
  - Sandylms

- Sltstrg
- Ssstrg

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

**OTHER SYMBOLS**

- POROSITY**
- Earthy
  - Fenest
  - Fracture
  - Inter
  - Moldic
  - Organic
  - Pinpoint

- Vuggy
- SORTING**
- Well
  - Moderate
  - Poor

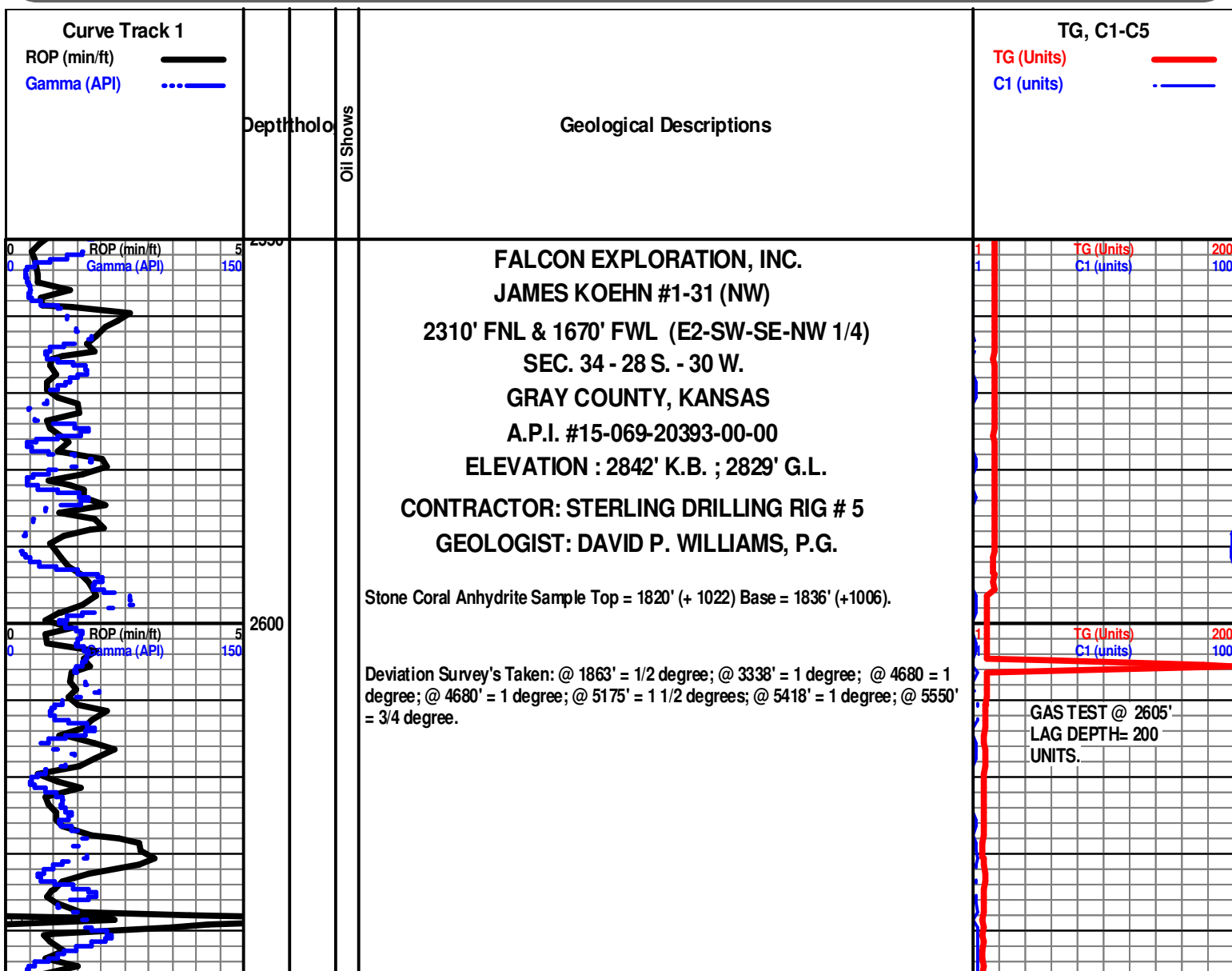
- ROUNDING**
- Rounded
  - Subrnd
  - Subang
  - Angular

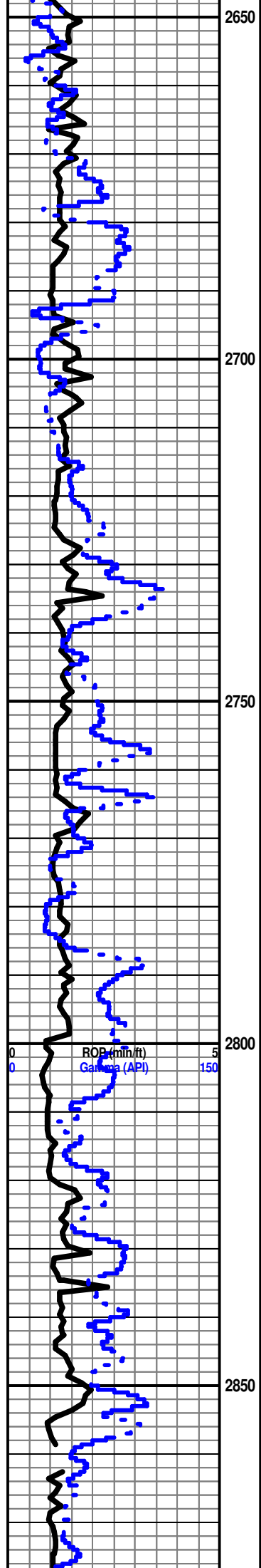
- OIL SHOW**
- Gas show

- Even
- Spotted
- Ques
- Dead

- INTERVAL**
- Dst
  - Dst\_alt

- Core
- EVENT**
- Rft
  - Sidewall



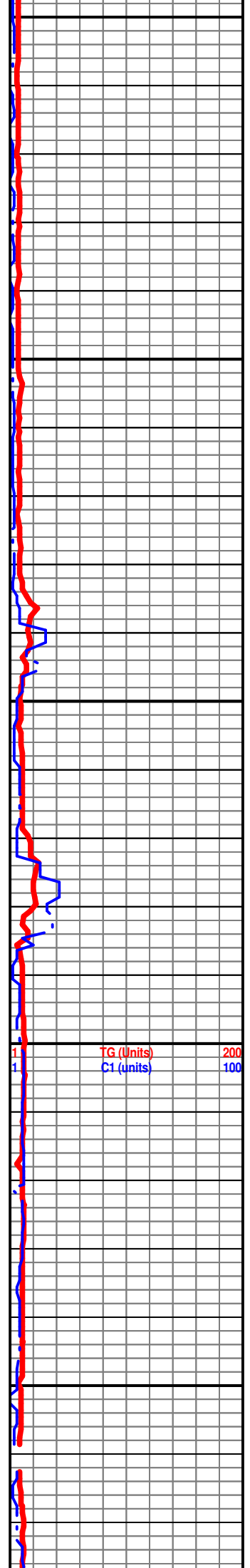


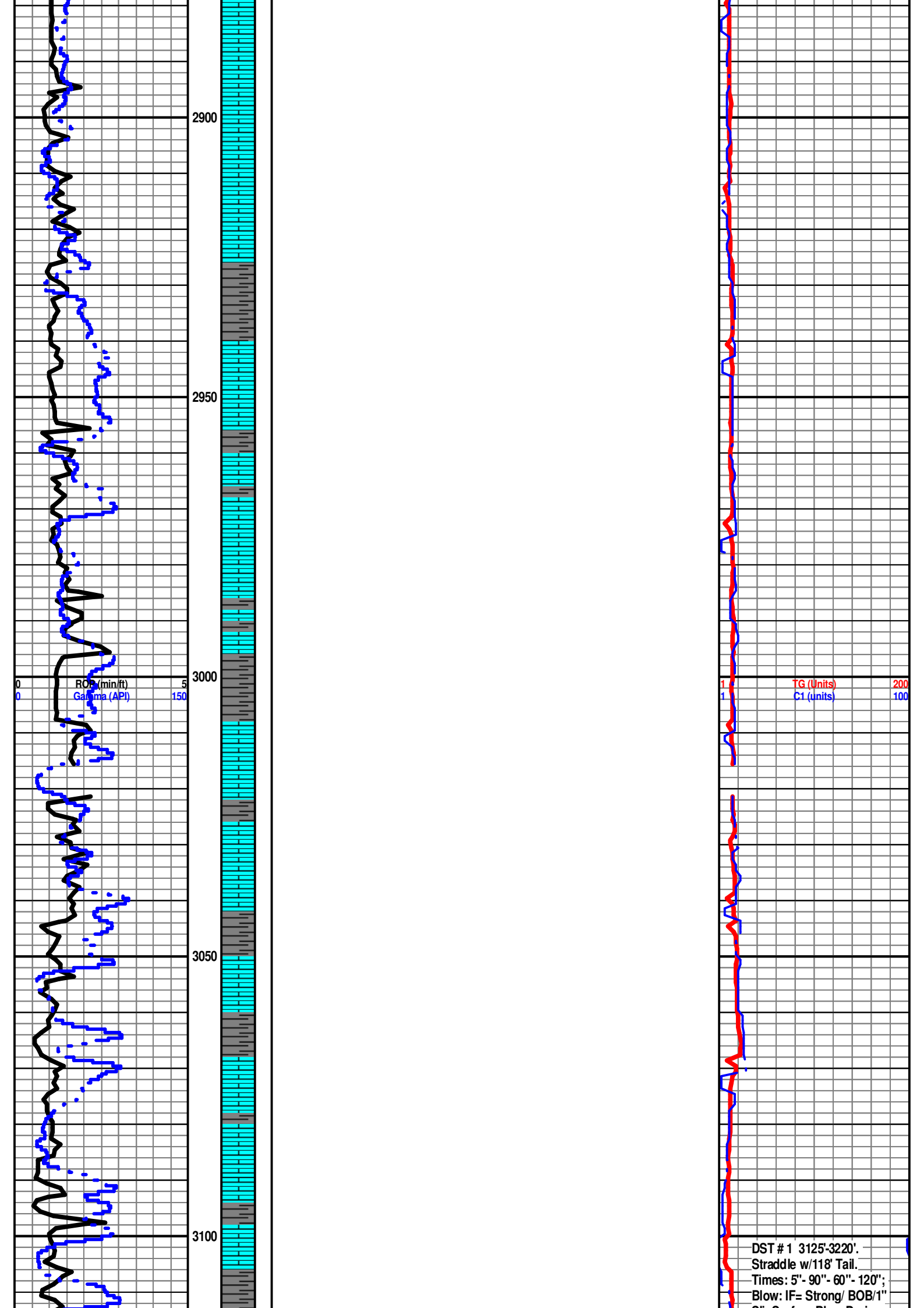
CHASE GROUP 2702' (+ 140)

WINFIELD 2769' (+ 73)

TOWANDA 2820' (+ 22)

FORT RILEY 2862' (- 20)





2900

2950

3000

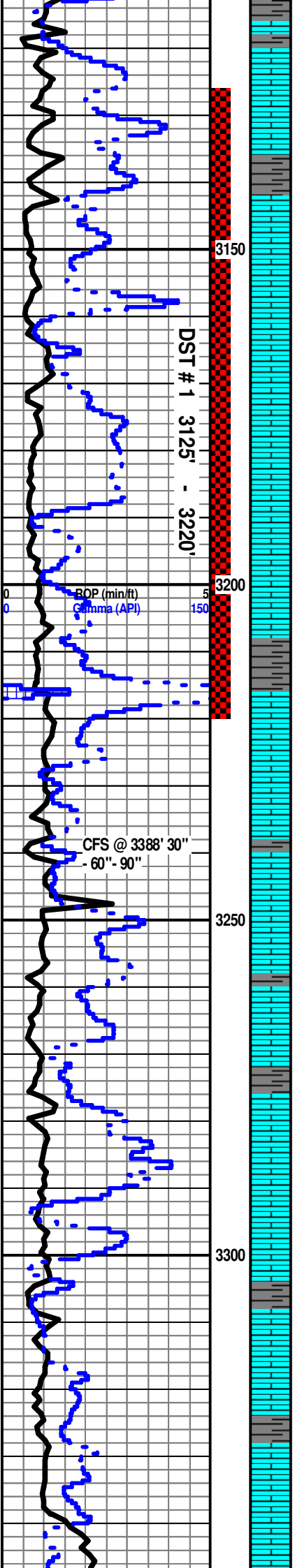
3050

3100

ROP (min/ft)  
Gamma (API)

TG (Units)  
C1 (units)

DST # 1 3125'-3220'.  
Straddle w/118' Tail.  
Times: 5"- 90"- 60"- 120";  
Blow: IF= Strong/ BOB/1"



COTTONWOOD 3144' (-304)

NEVA 3196' (-354)

FORAKER 3308' (-466)

Geologist: David P. Williams on location @ 11:15 PM 9-09-12 @ 3338'

Sil. Surface Blow During  
ISIP. FF= Strong Blow  
BOB/2'.  
Recovery: 1310' SW:  
(175'HWCM; 765' MCW; 370'  
VSMCWM). Tool Spl: 2% G;  
4% O; 72% W & 22% M.  
Pressures:  
IH= 1343#;  
FH= 1341#;  
IF= 140-301#;  
FF= 321-684#;  
ISIP= 705#; FSIP=  
703#;  
Temp= 100 degrees F.  
Chl.= 116,000 Ppm.  
RW= .07 @ 79 degrees F.

GAS KICK =  
174 UNITS

GAS RECYCLE =  
110 UNITS

Mudco Ck @  
3227'  
10:45 AM  
9/09/12  
Vis 50;  
WT= 8.55;  
PV= 16;  
YP= 18;  
WL= NC;  
Cake= 1;  
Chl= 3400;  
Cal = 2;  
Sol= 2.0%.  
LCM= 2#;  
DMC=\$  
3559.60;  
CMC=\$  
10,289.30

Scale Change  
TG (Units) 100  
C1 (units) 100

@ 3388' Change PCD  
to TriCone Bit.

Note: All samples have been lagged to depth by calculated time.

Begin 10' Sample Examination @ 3400'.

Ls Gry-Tr Crm FxIn Poor IxIn Grad Micrite Cht-Wht-Drk Gry Op (w/Fos Includ) Shp Vit Fos (Fuss) No Odor no Stn No Flor NS

Ls Crm FxIn IxIn Por Cht Gry Op Shp Vit Sh Char-Drk Gry Fissil Chalky No Odor No Stn No Flor NS

Ls Crm-Gry-Wht MxIn Grad OOM Por Fair-Med Dissolu Fair-Med Leaching Cht Drk Gry Op Shp Vit Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Gry-Wht MxIn Grad OOM Por Fair-Med Dissolu Fair-Med Leaching Cht Drk Gry Op Shp Vit Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Gry-Wht MxIn Grad OOM Por Fair-Med Dissolu Fair-Med Leaching Cht Gry Op Shp Vit Fos (Fuss) Abd Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Gry-Wht MxIn Grad OOM Por Fair-Med Dissolu Fair-Med Leaching Cht Gry Op Shp Vit Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

**FALL CITY 3441' (- 599)**

Ls Crm-Gry-Wht FxIn Grad Micritic Por Cht Gry Op Shp Vit Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Gry-Wht FxIn Grad Micritic Por Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Gry-Wht FxIn Grad Micritic Por Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Grad Pin-Pt Por Fair-Med IxIn Por Grad Poor OOM Por Poor Dissolu Poor Leaching Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn-MxIn Grad Pin-Pt Por Fair-Med IxIn Por Grad Poor OOM Por Poor Dissolu Poor Leaching Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn-MxIn Grad Pin-Pt Por Fair-Med IxIn Por Grad Poor OOM Por Poor Dissolu Poor Leaching Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn-MxIn Grad Pin-Pt Por Fair-Med IxIn Por Grad Poor OOM Por Poor Dissolu Poor Leaching Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

LS Crm-Gry FxIn IxIn Por Micritic Dsn No Vis Por Barren Sh Grn-Red Soft Fissil Dec Fos (Brach, Fuss) Chalk Wht Abd No Odor No Flor No Stn Fair ? Min Flor (Lt Grn) NS

**ROOT SHALE 3527' (- 685)**

Sh Red-Gry Fissil-Soft V Abd (Spl Wash Red) LS Crm-Gry FxIn Micritic AA Poor IxIn Por No Odor No Stn ? Min Flor AA NS

Sh Red-Gry Fissil-Soft V Abd (Spl Wash Red) LS Crm-Gry FxIn Micritic AA Poor IxIn Por No Odor No Stn ? Min Flor AA NS

**STOTLER 3542' (- 700)**

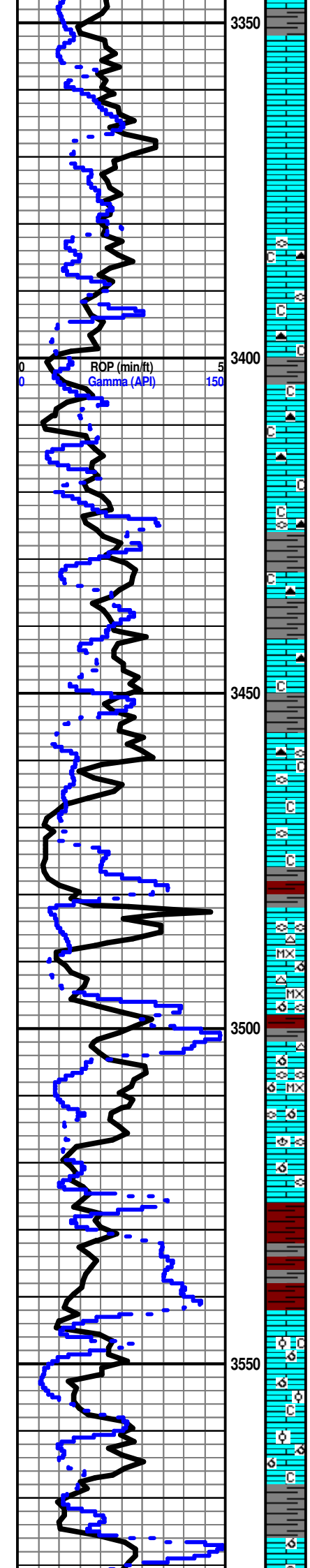
LS Wht-Crm-Gry MicroxIn-FxIn IxIn Por Micritic Dsn Barren Tr/Fair-Med OOM Por w/OOL in pl (Small-Med) Poor-Fair InterOOM/OOL Por Fair Leaching Fair Disolu Sh Grn-Red Soft Chalk Wht Abd No Odor Fair Flor (Lt Grn-Wht) No Stn NS

LS Wht-Crm-Gry MicroxIn-FxIn IxIn Por Micritic Dsn Barren Grad Tr/Fair OOM Por w/OOL (Small) in pl Fair InterOOM/OOL Por Fair Leaching Fair Disolu Sh Grn-Red Soft Fos (Brach) Chalk Wht Abd No Odor Med-Good Flor No Stn NS

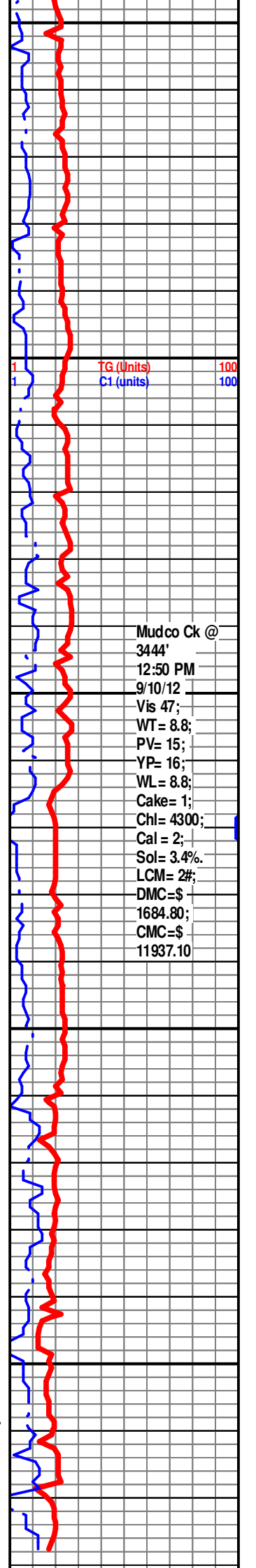
LS Wht-Crm-Gry MicroxIn-FxIn IxIn Por Micritic Dsn Barren Grad Tr/Fair OOM Por w/OOL (Small) in pl Fair InterOOM/OOL Por Fair Leaching Fair Disolu Sh Grn-Red Soft Fos Chalk Wht Abd No Odor Med-Good Flor (Lt Wht) No Stn NS

TG (Units) 100  
C1 (units) 100

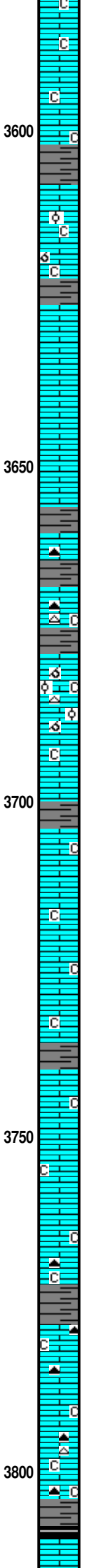
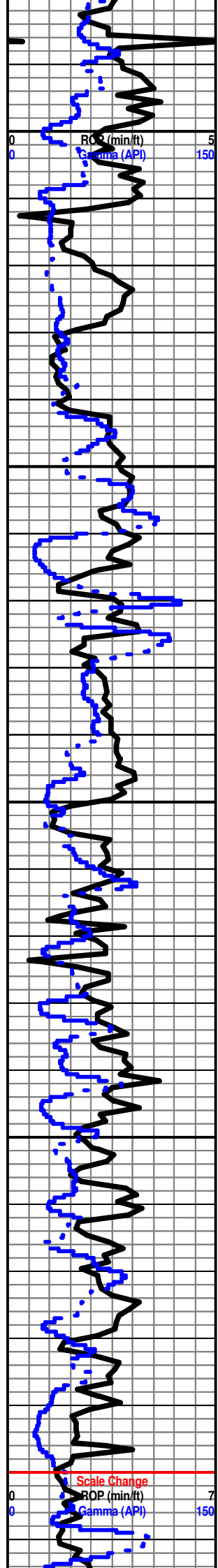
Mudco Ck @  
3444'  
12:50 PM  
9/10/12  
Vis 47;  
WT= 8.8;  
PV= 15;  
YP= 16;  
WL= 8.8;  
Cake= 1;  
Chl= 4300;  
Cal = 2;  
Sol= 3.4%.  
LCM= 2#;  
DMC=\$  
1684.80;  
CMC=\$  
11937.10



3350  
3400  
3450  
3500  
3550







LS Gry-Crm MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht Abd Fos (Crin, Fuss) Sh Gry Soft No Odor Tr/ Min Flor (Lt Wht) No Stn NS

LS Wht-Crm-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Sh Gry Soft No Odor Min Flor (Lt Wht) AA No Stn NS

**TARKIO 3608' (- 766)**

LS Wht-Crm-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Sh Gry-Char-Tr/Aqua Soft-Fissil No Odor ? Med Min Flor (Lt Wht) No Stn NS

LS Wht-Crm Fxln Ixln Por Grad Fair OOM Pow/OOL in pl w/Fair-Med InterOOM Por Poor Leaching Poor Disolu Sh Gm-Red-Char Soft Fissil Cht Wht Op Shp Vit Chalk Wht Soft No Odor No Stn Med Flor (Lt Grn-Lt Wht) NS

LS Wht-Crm Fxln Ixln Por Grad Fair OOM Pow/OOL in pl w/Fair-Med InterOOM Por Poor Leaching Poor Disolu Sh Gm-Red-Char Soft Fissil Cht Wht Op Shp Vit Chalk Wht Soft No Odor No Stn Med Flor (Lt Grn-Lt Wht-25% of Spl) Dec NS

LS Wht-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Cht Crm-Gry Op Shp Fos (Fuss) Sh Gry-Char-Red Soft No Odor ? Med Min Flor (Lt Wht) No Stn NS

LS Crm-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Cht Crm-Gry Op-Transl Shp Vit Fos (Crin, Fuss) Sh Gry-Char Soft No Odor ? Med Min Flor (Lt Wht) No Stn NS

LS Wht-Crm-Gry MicroXln-Fxln Ixln Por Micritic Grad Poor Pin-Pt Xln Por Cht Gry Op-Shp-Vit Chalk Wht V Abd Sh Gry-Char-Blk Carb Fissil Soft No Odor ? Med Min Flor (Lt Wht) No Stn NS

LS Wht-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht Abd Cht Gry Op-Shp-Vit Sh Gry-Char-Brn Soft No Odor ? Med Min Flor Dec No Stn NS

LS Wht-Crm MicroXln-Fxln Ixln Por Micritic Dsn Barren Grad Tr/Poor OOM Por w/OOL (Small) in pl Poor InterOOM Por Poor Leaching Poor-No Disolu Sh Char-Brn Soft Fos (Crin) Chalk Wht Abd No Odor ? Min Flor (Dull Wht) Inc No Stn NS

**BERN 3695' (- 853)**

LS Wht-Gry Fxln Ixln Pin-Pt Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Sh Gry-Char-Tr/ Blk-Carb FissilGry-Char Soft No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Ixln Pin-Pt Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Sh Char-Gry Fissi No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht V Abd Cht-Wht-Tan Op Shp Vit Sh Gry-Char Soft No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Sh Gry-Char Soft No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Tr/Poor Ixln Por Mostly Micritic Granular Pin-Pt Por (Poor) Dsn Barren Cht Wht-Brn Op Shp Vit Chalk Wht-Brn Abd Sh Gry-Char Soft No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht V Abd Sh Gry-Char Soft No Odor No Flor No Stn NS

LS Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Fos (Fuss Sh Tr/ Char-Red Soft No Odor No Flor No Stn NS

LS Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Cht Amber-Gry Transl-Op Shp Vit w/Fos (Fuss) Includ Sh Tr/ Char-Grn-Aqua Soft No Odor No Flor No Stn NS

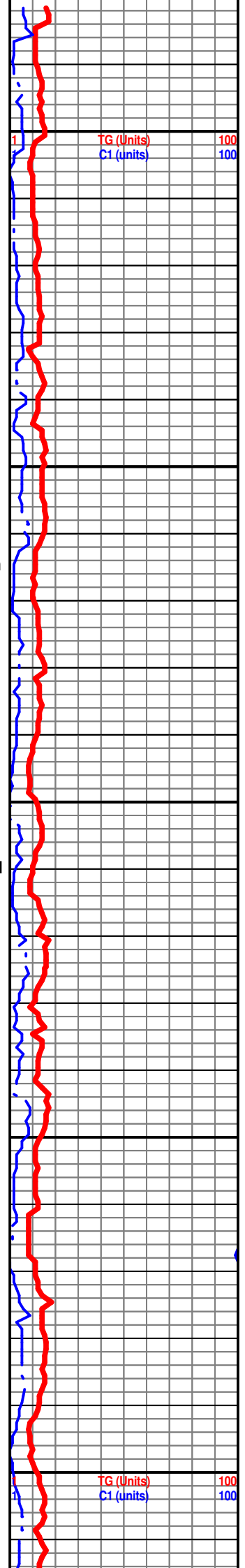
LS Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Char-Grn-Aqua Red Soft No Odor No Flor No Stn NS

LS Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Cht Amber-Gry Transl-Op Shp Vit Sh Tr/ Char-Red Soft No Odor No Flor No Stn NS

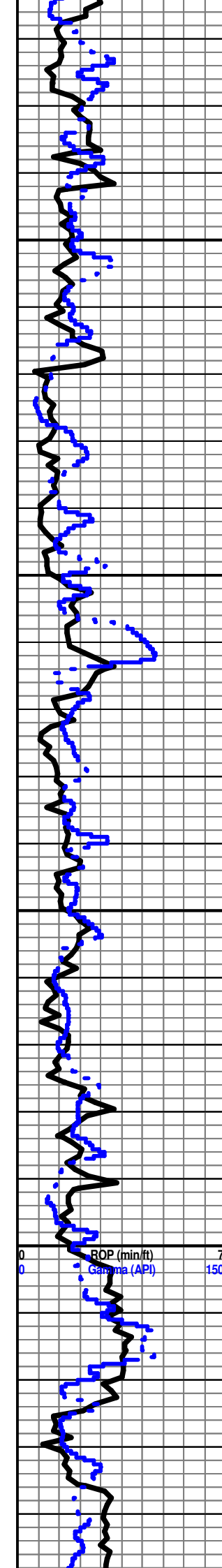
LS Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht Wht Op Shp Vit Sh Blk Carb-Char-Grn Fissil Soft No Odor No Flor No Stn NS

**TOPEKA 3811' (- 969)**

LS Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht







Wht Op Shp Vit Sh Char-Grn Fissil Soft No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht  
Wht Op Shp Vit Sh Blk Carb-Char-Grn Fissil Soft No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht  
Wht-Gry Op Shp Vit Fos (Fuss) Sh Blk Carb-Char Fissil Soft No Odor No Flor No  
Stn NS

Ls Wht w/Pyr Includ-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht  
Abd Cht Wht-Gry Op Shp Vit Sh Char-Red Fissil Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht  
Wht-Gry Transl- Op Shp Vit Sh Char-Red Fissil Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht  
Wht-Gry Transl- Op Shp Vit Sh Char-Gry-Red Fissil Soft No Odor No Flor No Stn

Ls Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh  
Char Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh  
Char Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Fos (Fuss) Chalk  
Wht Abd Sh Char-Grn Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Fos (Fuss) Chalk  
Wht Abd Sh Char-Grn Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht  
Drk-Gry Transl-Op Shp Vit Fos (Fuss) Sh Char-Grn Fissil Soft No Odor No Flor No  
Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht  
Tan- Drk Gry Transl-Op Shp Vit Fos (Fuss) Sh Char-Grn Fissil Soft No Odor No  
Flor No Stn NS

Ls Wht-Crm Microxln-Fxln Ixln Por Micritic Dsn Barren Grad Tr/Poor OOM Por  
Poor InterOOM Por Poor Leaching Poor-No Disolu Sh Char- Soft Chalk Wht Abd  
No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht  
Tan- Drk Gry Transl-Op Shp Vit Sh Char-Grn Fissil Soft No Odor No Flor No Stn  
NS

Ls Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht  
Tan- Drk Gry Transl-Op Shp Vit Sh Char-Grn Fissil Soft No Odor No Flor No Stn  
NS

Ls Wht-Crm Fxln-Mxln Poor Ixln Por Mostly Micritic Dsn Barren V Chalk Wht V Abd  
Sh Char-Grn Fissil Soft No Odor No Flor No Stn NS

Ls Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht  
Gry Transl-Op Shp Vit Sh Char-Grn Fissil Soft No Odor No Flor No Stn NS

Ls Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht  
Gry-Drk Gry Op Shp Vit Sh Char-Gry Fissil Soft No Odor No Flor No Stn NS

LS Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren (w/Pry Includ) Chalk  
Wht Abd Cht Wht-Gry-Drk Gry Op Shp Vit Sh Char Fissil No Odor No Flor No Stn  
NS

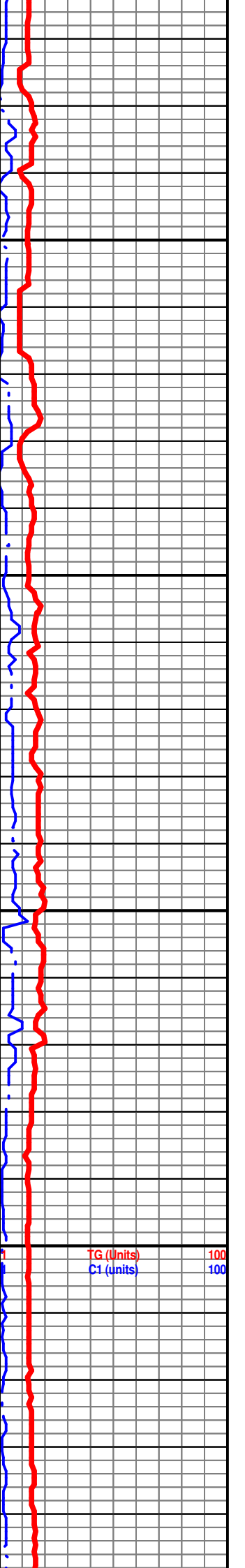
LS Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht  
Wht-Gry-Drk Gry Op Shp Vit Sh Char Fissil No Odor No Flor No Stn NS

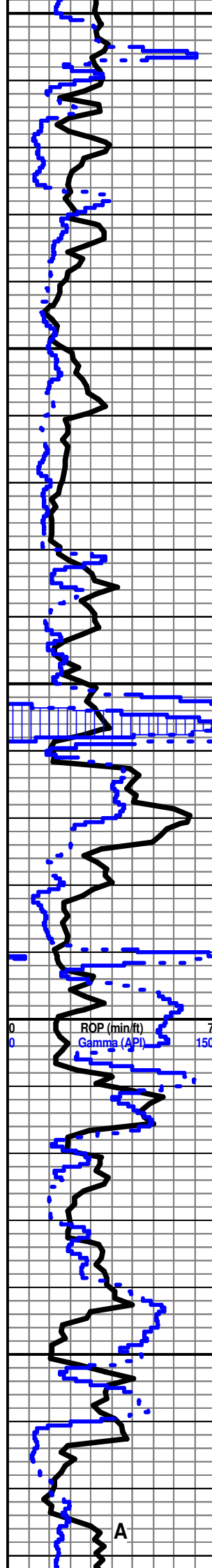
**LeCOMPTON 3988' (- 1146)**

LS Wht-Crm Fxln Poor-Fair Ixln Por Grad Chalk V Abd Wht Abd Sh Char Fissil No  
Odor No Flor No Stn NS

LS Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh Char  
Fissil No Odor No Flor No Stn NS

LS Wht-Gry Fxln Poor Ixln Por Grad Mxln GrnStone P-F Ixln Por Chalk Wht Abd  
Sh Char Fissil No Odor No Flor No Stn NS





LS Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh Char Fissil No Odor No Flor No Stn NS

LS Crm-Wht Fxln Poor-Fair Ixln Cht Wht-Gry Op Shp Vit Fos (Fuss) Sh Char Fissil No Odor No Flor No Stn NS

**QUEEN HILL 4072' (- 1230)**

Sh Blk Carb-Char Fissil Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht No Odor No Stn No Flor NSG (?)

**OREAD 4081' (- 1239)**

Ls Crm-Gry Fxln Poor-Fair Ixln Por Chalk Wht Soft Abd Sh Char-Grn Fissil No Odor No Stn No Flor NS

Ls Crm-Wht Fxln Grad Poor Ixln Por Chalk Wht Abd Fos (Crin) Sh Char Fissil No Odor No Flor No Stn N

Ls Crm-Wht Fxln Grad Poor Ixln Por Grad Tr/OOM Por w/ OOL (Small) in pl Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Blk-Tan Op Shp Vit Fos (Crin) Sh Char Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Fxln Grad Poor Ixln Por Grad Tr/OOM Por w/ OOL (Small) in pl Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Blk-Tan Op Shp Vit Fos (Crin) Sh Char Fissil No Odor No Flor No Stn NS

Ls Crm-Gry Fxln Poor-Fair Ixln Por Chalk Wht Soft Abd Tr/Cht Wht-Tan (Banded) Op Shp Vit Sh Char-Grn Fissil No Odor No Stn No Flor NS

Ls Gry-Crm Fxln Dns Micrite Poor-No Vis Ixln Por Chalk Wht Soft Sh Blk Carb-Char-Red Fissil No Odor No Stn No Flor NS

**PLATTSMOUTH 4140' (- 1298)**

Ls Gry-Crm Fxln Dns Micrite Poor-No Vis Ixln Por Chalk Wht Soft Sh Blk Carb-Char-Red Fissil No Odor No Stn No Flor NS

**HEEBNER 4151 (- 1309)**

Ls Gry-Crm Fxln Dns Micrite Poor-No Vis Ixln Por Chalk Wht Soft Sh Char Fissil No Odor No Stn No Flor NS

Sh Blk Carb-Char-Grn Fissil F-G SG Ls Crm Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Cht Wht Trans-Op Shp Vit Fos (Fuss) Fair-Med Odor (Rare) No Stn No Flor F-MSG (in Sh Blk Carb)

**TORONTO 4170' (- 1328)**

Ls Wht-Crm-Tan MicroIn-Fxln Poor-Fair Ixln Por Cht Wht Op Shp Vit Chalk Wht Soft Abd Sh Blk Carb-Char AA Fissil No Odor No Stn ? Min Flor NS

Ls Wht-Crm-Tan MicroIn-Fxln Poor-Fair Ixln Por Cht Wht Op Shp Vit Chalk Wht Soft Abd Sh Blk Carb-Char AA Fissil No Odor No Stn ? Min Flor NS

**DOUGLAS 4190' (- 1348)**

Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Abd Fos (Fuss) Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor No Odor No Stn NS

Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

**LANSING 4260' (- 1418)**

Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

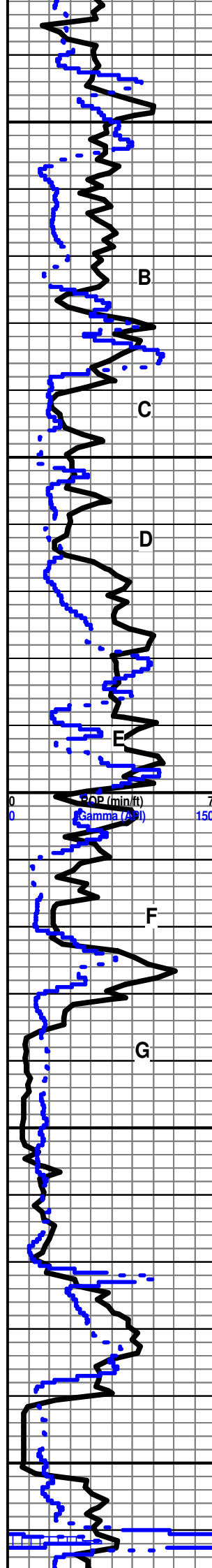
Ls Wht MicroIn-Fxln Micritic Grad OOL Fair InterOOL Por w/OOL in pl Tr/Scat Leaching Por Barren FairStn Flor (Lt Grn-Wht of Spl through Tray 80%) Cht Wht-Gry Op Shp Vit Abd Chalk Wht Soft Sh Char-Gry-Grn Fissil No Odor Fair Scat ? Min Flor ? Stn NS

Mudco Ck @  
4090' @ 1:20 PM 9/11/12  
Vis 62;  
WT= 9.15;  
PV= 20;  
YP= 22;  
WL= 8.0;  
Cake= 1;  
Chl= 4200;  
Cal = 20;  
Sol= 5.5%;  
LCM= 2#;  
DMC=\$ 2446.65;  
CMC=\$ 14383.75

SHALE GAS KICK = 35 UNITS.

TG (Units) 100  
C1 (units) 100

A



Ls Wht Microxln-Fxln micritic w/Calc. Als Includ Grad OOL Fair InterOOL Por w/OOL in pl Tr/Scat Leaching Por Barren FairStn Flor (Lt Grn-Wht of Spl through Tray 60%) Cht Wht-Gry Op Shp Vit V Abd Chalk Wht Soft Sh Char-Gry-Grn Fissil No Odor Fair Scat ? Min Flor ? Stn NS

Ls Wht Microxln-Fxln Micritic Fair Stn Flor (Lt Grn-Wht of Spl through Tray 20%) Cht Wht-Gry-Amber Translu-Op Shp Vit V Abd Chalk Wht Soft Sh Char-Gry-Grn Fissil No Odor Fair Scat ? Min Flor ? Stn NS

Ls Crm-Gry Microxln-Fxln Poor lxn Por Grad Micritic Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Ls Crm-Gry Microxln-Fxln Poor lxn Por Grad Micritic Chalk Wht Soft V ABD Cht Wht Op Shp Vit Dec Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Ls Crm-Gry Microxln-Fxln Poor lxn Por Grad Micritic Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Chalk Wht Soft V Abd (60% of Spl) Ls Crm-Tan Microxln-Fxln Poor lxn Por Grad Micritic Grad Tr/Poor OOL Por Poor InterOOL Por w/ Small Ooids in pl Cht Wht-Gry p Vis Shp Sh Char-Gry-Grn Fissil No Odor No Stn ? V Sli Min Flor NS

Chalk Wht Soft V Abd (60% of Spl) Ls Crm-Tan Microxln-Fxln Poor lxn Por Grad Micritic Cht Wht-Gry p Vis Shp Sh Char-Gry-Grn Fissil No Odor No Stn ? V Sli Min Flor NS

Ls Crm-Tan-Gry Microxln-Fxln Poor lxn Por Grad Micritic Chalk Wht Soft V Abd Fos (Crin, Brach) Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Ls Crm-Tan Microxln-Fxln Poor lxn Por Grad Micritic w/ Pry Includ Grad Tr/Poor OOL Por Poor InterOOL Por w/ Small Ooids in pl Chalk Wht Soft V Abd Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Ls Crm-Gry Microxln-Fxln Poor lxn Por Grad Micritic Cht Tan-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Sh Char-Gry Fissil No Odor No Stn ? Sli Min NS

Ls Wht-Crm-Gry Microxln-Fxln Poor lxn Por Micritic Cht Wht-Gry Banded Op Shp Vit Chalk Wht Soft Fos (Brach, Crin) Sh Blk Carb-Char-Gry Fissil No Odor No Stn ? Sli Min Flor NS

Ls Wht-Crm Microxln-Fxln Poor lxn Por Grad Micritic Grad Tr/Poor OOL Por Poor InterOOL Por w/ Small Ooids in pl Cht Wht w/Fos(Fuss) Includ Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor NS

Ls Gry-Crm Microxln-Fxln Poor lxn Por Grad Micritic Cht Wht-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn Tr ? Min Flor NS

TG (Units) 100  
C1 (Units) 100

Ls Wht-Crm-Gry Microxln Poor lxn Por Micritic w/Pyr Includ Grad OOL Por w/OOL (Small-Med Ooids w/Ctr's Fill w/? Drk-Gry Calcite? Includ) in pl Poor Inter-OOM/OOL Por Poor Develop Poor Leaching Cht Wht Op Shp Vit Fos (Crin) Sh Char-Gry-Maroon Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Microxln Poor lxn Por Micritic w/Pyr Includ Grad OOL Por w/OOL (Small-Med Ooids w/Ctr's Fill w/? Drk-Gry Calcite? Includ) in pl Poor Inter-OOM/OOL Por Poor Develop Poor Leaching Cht Wht Op Shp Vit Fos (Crin) Sh Char-Gry-Maroon Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan OOM Por w/OOL (Small-Med Ooids w/Ctr's Fill w/? Drk-Gry Calcite? Includ) in pl Poor Inter-OOM/OOL Por Poor Develop Poor Leaching Cht Wht Op Shp Vit Sh Char-Gry-Maroon Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan OOM Por w/OOL (Small-Med Ooids w/Ctr's Fill w/? Drk-Gry Calcite? Includ) in pl Poor Inter-OOM/OOL Por Poor Develop Poor Leaching Cht Wht Op Shp Vit Sh Char-Gry-Maroon Fissil No Odor No Flor No Stn NS

Ls Crm-Gry Fxln Good OOM Por AA Dec Grad Poor lxn Por Micritic Barren Dns Chalky Sh Gry - Grn- Aqua Fissil No Odor No Stn No Flor NS

Ls Crm-Gry Fxln Poor lxn Por Micritic Barren Dns Chalky Sh Gry - Grn- Aqua Fissil No Odor No Stn No Flor NS

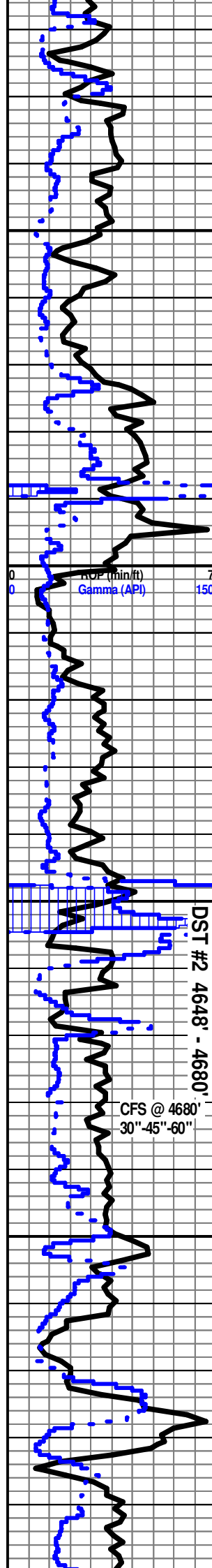
**MUNCIE CREEK 4484' (- 1642)**

Ls Crm-Tan Fxln Micritic Grad Med OOM (w/OOL in pl) Por Med Dissolu Med Develop Good Leaching Barren Chalk Abd Cht Wht-Amber Op Shp Vit Chalky Sh Char-Gry-Blk Carb-Red Soft- Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Good OOM Por Good Dissolu Good Develop Good Leaching Barren Chalk Abd Cht Wht-Amber Op Shp Vit Chalky Sh Char-Gry Soft-Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Chalky Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS





4550  
4600  
4650  
4700

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Micritic (w/Pyr Inclus Chalk Abd Cht Wht-Lt Gry Op Shp Vit Sh Gry-Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM Por Fair Dissolu Fair Develop Fair Leaching Chalk Abd Cht Wht-Drk Gry (w/Fos (Fuss) Inclus) Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Micritic (w/Pyr Inclus Chalk Abd Cht Wht-Drk Gry (w/ Fos Inclus) Op Shp Vit Sh Char-Gry-Grn-Blk Carb Tr Fissil No Odor No Flor No Stn NS  
30" CFS @ 4680'

Ls Wht-Crm Fxln Micritic (w/Fos Inclus (? Crin) Chalk Abd Cht Wht Op Shp Vit Sh Char-Gry-Grn-Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor OOM Por (w/OOL in pl) Poor-No Dissolu Poor Develop Poor Leaching Chalk Abd Cht Wht-Drk Gry (w/Fos (Fuss) Inclus) Op Shp Vit Sh Char-Gry-Blk Carb Tr Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor OOM Por (w/OOL in pl) Poor-No Dissolu Poor Develop Poor Leaching Chalk Abd Cht Wht Op Shp Vit Sh Gry-Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Dns Micritic Barren Chalk Abd Cht Wht Op Shp Vit Fos (Crin) Sh Gry-Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Dns Micritic Barren Chalk Abd Cht Wht Op Shp Vit Fos (Crin) Sh Gry-Grn Fissil No Odor No Flor No Stn NS  
**STARK SHALE 4648' (- 1806)**

Sh Blk Carb Fissil w SG Ls AA Chalky AA No Odor No Stn No Flor SG  
**KANSAS CITY "SWOPE" (K) 4655' (-1813)**

30" CFS @ 4680' Ls Wht-Crm Fxln Pin-Pt Por (w/Pyr Inclus) Poor-Fair lxn Por (w/SSG) Chalk Abd Faint Odor Scatt Flor Stn (10% of Spl) SSG

45" CFS @ 4680' Ls Wht-Crm Fxln Pin-Pt Por Poor-Fair lxn Por Grad Fair-Med OOM Por (w/OOL in pl) Med Dissolu Med Leaching Chalk AA Fair Odor Scatt Flor Stn (15% of Spl) ? SSG

60" CFS @ 4680' Ls Wht-Crm Med-Good OOM Por (w/OOL in pl) Med-Good Dissolu Med-Good Leaching (15% of Spl) Chalk AA Fair-Med Odor Scatt Flor Stn (15% of Spl) ? SSG

Ls Crm-Tan Fxln Dns Micritic Barren Sh Gry-Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Dns Micritic Barren Sh Gry-Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor-Fair OOM Por (w/OOL in pl) Poor-Fair Dissolu Poor-Fair Develop Poor-Fair Leaching Chalk Sh Gry-Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Poor-Fair OOM Por (w/OOL in pl) Poor-Fair Dissolu Poor-Fair Develop Poor-Fair Leaching Grad Micritic Chalk Sh Char-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor-Fair OOM Por (w/OOL in pl) Poor Dissolu Poor Develop Poor Leaching Chalk Sh Char-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor-Fair OOM Por (w/OOL in pl) Poor Dissolu Poor Develop Poor Leaching Chalk Sh Char-Gry Fissil No Odor No Flor No Stn NS

Ls Tan-Gry Fxln Dns Micritic Barren AA Grad Poor OOM Por AA Cht Gry-Brn Translu-Op (w/Fos Inclus) Pyr Mass Sh Gry Fissil No Odor No Flor No Stn NS

Ls Gry Fxln Poor lxn Por Micritic Dns Barren Grad OOM Por Poor Develop

Mudco Ck @  
4540 @ 12:00 PM  
9/12/12  
Vis 53;  
WT = 8.8;  
PV = 17;  
YP = 18;  
WL = 8.8;  
Cake = 1;  
Chl = 3500;  
Cal = 20;  
Sol = 4.1%  
LCM = 2#;  
DMC = \$ 3183.10;  
CMC = \$ 17568.85

TG (units) 100  
C1 (units) 100

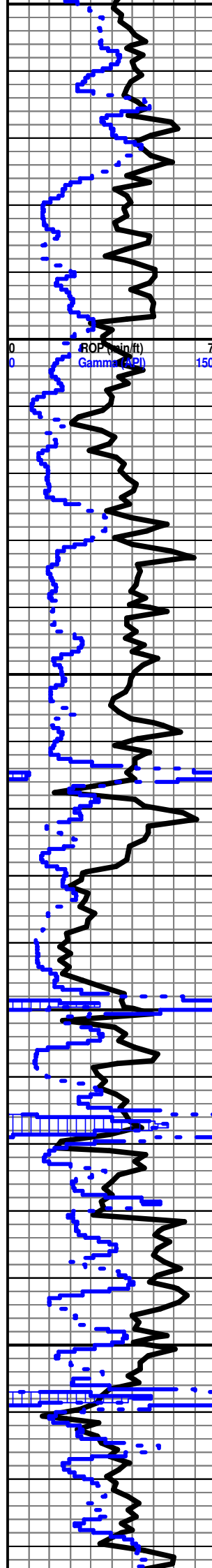
DST # 2 4948'-4680'  
Times: 5"- 90" 60"- 90";  
Blow: IF= Weak 1/4";  
FF= Weak 1/2";  
Recovery: 60' M;  
Pressures:  
IH = 2206#;  
FH = 2206#;  
IF = 8-12#; FF =  
14-40#;  
ISIP = 1417#; FSIP =  
1285#;  
Temp = 115 degrees F.  
BKGD GAS =  
16 UNITS.

SHALE GAS  
KICK = 45  
UNITS

GAS KICK =  
55 UNITS.  
Gas Kick is Low  
Due to A.V.  
Settings.

Mudco Ck @  
4680 @ 1:30 PM 9/13/12  
Vis 72;  
WT = 9.25;  
PV = 22;  
YP = 24;  
WL = 8.4;  
Cake = 1;  
Chl = 4400;  
Cal = 60;  
Sol = 6.2%  
LCM = 2#;  
DMC = \$ 1169.00;  
CMC = \$ 18735.85

@ 4726' ADJUST  
EXTRACTOR (SET TOO  
HIGH IN SPL TRAP)



Ls Gry Fxln Poor Ixln Por Micritic Dns Barren Grad OOL Por Poor Develop Poor-Fair Dissolu Fair-Med-Good Leaching Por (Few Pcs) Chalky Wht Soft Cht Wht-Gry w/OOL in pl Transl-Op Shp Vit Cht Wht-Tan Transl-Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Flor No Stn NS

Sh Char-Gry Fissil Ls Gry Fxln Poor Ixln Por Micritic Dns Barren Grad OOM Por AA Cht Wht-Tan Transl-Op Shp Vit Chalk Wht Soft Fos (Fuss) No Odor No Flor No Stn NS

**MARMATON 4776' (- 1934)**

Sh Blk Carb-Gry Fissli-"Gummy-Soft" Ls Gry-Crm Fxln Poor Ixln Por Micritic Dns Barren Chalky Wht Soft V Abd No Odor No Flor No Stn NS

Ls Wht-Crm Microxln-Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Char-Gry-Grn Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Char-Gry Fissil AA No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Char-Gry Fissil AA No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren w/ Pyr Inclus Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Gry-Crm Fxln Poor Ixln Por Micritic Dns Barren Grad Poor-Fair OOL Por w/OOL in PI Poor Dissolu Poor-Fair Leaching (Few Pcs) Chalky Wht Soft Abd Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Sh Char-Gry Fissil Tr Blk Carb Ls Gry-Crm Fxln Poor Ixln Por Micritic Dns Barren Chalky Wht Soft Abd No Odor No Flor No Stn NS

Ls Crm-Brn-Gry Fxln Poor Ixln Por Micritic Dns Barren Grad Poor-Fair OOL Por w/OOL in PI Poor Dissolu Poor-Fair Leaching Chalk Wht Soft Sh Gry-Grn-Char Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Poor-Fair OOL Por w/OOL in PI Poor Dissolu Poor-Fair Leaching Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Cht Tan Op Shp Vit Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

**PAWNEE 4866' (- 2024)**

Sh Blk Carb-Gry Fissil Ls Crm-Tan-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Sh Blk Carb-Gry Fissil Ls Crm-Tan-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Poor OOL Por w/OOL (Med-Lg Ooids) in pl Poor-No Dissolu Poor-No Leaching Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Tan-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Poor-Fair OOL Por w/OOL in pl Poor Dissolu Poor-Fair Leaching (Few Pcs) Fos (Brach) Chalk Wht Soft Sh Gry- Blk Carb AA Fissil No Odor No Flor No Stn NS

**LABETTE 4900' (- 2058)**

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Cht Amber (w/Fos Inclus) Op Shp Vit Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

**CHEROKEE 4916' (- 2074)**

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Gry-Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Drad Poor OOM Por (w/OOL in pl) Poor InterOOM Por Poor Develop Poor Leaching Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Gry-Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Drad Poor OOM Por (w/OOL in pl) Poor InterOOM Por Poor Develop Poor Leaching Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht Amber Op Shp Vit Sh Char-Gry Fissil No Odor No Flor No Stn NS

**SECOND CHEROKEE SHALE 4958' (- 2116)**

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht - Amber Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber

Mudco Ck @  
5024' @ 2:35 PM  
9/14/12  
Vis 55;  
WT= 9.05;  
PV= 19;  
YP= 19;  
WL= 9.2;  
Cake= 1;  
Chl= 3500;  
Cal = 20;  
Sol= 5.5%.  
LCM= 2.5#;  
DMC=\$ 2489.00;  
CMC=\$ 21224.85

TG (Units) 100  
C1 (units) 100

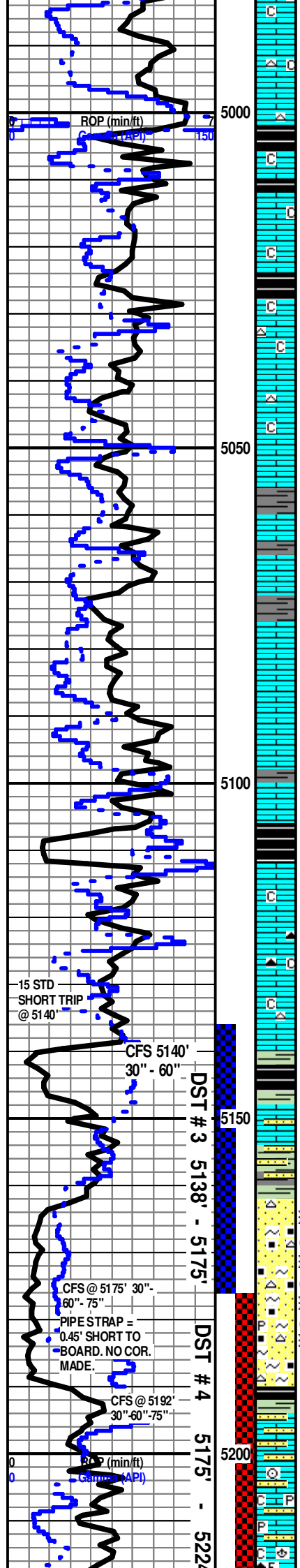
Mudco Ck @  
5175' @ 2:15 PM  
9/15/12  
Vis 55;  
WT= 9.1;  
PV= 18;  
YP= 20;  
WL= 8.8;  
Cake= 1;  
Chl= 2600;  
Cal = 20;  
Sol= 5.6%.  
LCM= 3#;  
DMC=\$ 2574.40;  
CMC=\$ 23799.25

Mudco Ck @  
5224' @ 12:15 PM  
9/16/12  
Vis 56;  
WT= 8.95;  
PV= 20;  
YP= 20;  
WL= 8.4;  
Cake= 1;  
Chl= 3200;  
Cal = 20;  
Sol= 4.2%.  
LCM= 3#;  
DMC=\$ 1903.50;  
CMC=\$ 25702.75

SH GAS  
KICK = 49  
UNITS

SH GAS  
KICK = 45  
UNITS

DST # 3 5138'-3175'.  
Times:  
5'- 90"- 75"-150";  
Blow: IF= Strong/  
BOB / 2". Sli. Surface  
Blow During ISIP.  
FF= Strong Blow BOB  
/ Instant With GTS @  
15" into FF TSTM.  
Strong Blowback  
During FSIP.  
Rec: 3650' GIP: 1455'  
TF: (1210' GSMCO (7%  
G; 89% O; 6% M));  
(245' GMCO (9% G;  
61% O; 30% M)). Tool  
Spl: NA (Gas Blew It  
Out).



Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber  
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

**THIRD CHEROKEE SHALE 5102' (- 2260)**

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber  
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Blk  
Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber  
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber  
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber  
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft  
Cht-Wht-Amber Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Wht  
Amber-Gry Op Shp Vit Sh Char-Gry-Tr Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht Amber-Gry  
Op Shp Vit Sh Char-Gry-Tr Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht  
Amber-Gry Op Shp Vit Sh Char-Gry Abd Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht  
Amber-Gry Op Shp Vit Sh Char-Gry Abd Fissil No Odor No Flor No Stn NS

Sh Blk Carb-Gry Fissil Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren  
Chalk Wht Soft Cht-Amber Op Shp Vit No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht Amber  
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

30" CFS @ 5140' Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk  
Wht Soft Cht Gry-Drk Blk Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No  
Stn NS

60" CFS @ 5140' Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk  
Wht Soft Cht Amber Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

**MORROW SHALE 5140' (- 2298)**

**MORROW LIME 5148' (-2306)**

30" CFS @ 5175' Ls Crm-Tan-Gry Fxln Micrite Barren Qtz Ss Crm Lg-Med-Small  
Grn Poor-Fair Sort Hvy CaCO3 Matrix (Tr Only) Cht Amber Op Shp Vit Pyr Mass Sh  
Blk Carb- Char-Gry Fissil No Odor No Flor ? Sli Tr Drk Blk ? Stn NS

**MORROW SAND 5162' (- 2320)**

60" CFS @ 5175' Qtz Ss Tan-Lt Brn Abd Med-Small Grn Ang-Sub Ang Clusters Good Igran Por V  
Friable Well Sort w/CaCO3 Matrix (Tr Only) w/ GSG & GSFO (Free Oil in Spl Under Wtr w/Heat) Tr Glacu  
& Carb Mat Cht Amber Op Vit Shp Good Odor Dull Flor (Both G & O Do Not Flor) GSG & GSO

75" CFS @ 5175' Qtz Ss Tan-Lt Brn Abd Med-Small Grn Ang-Sub Ang Clusters Good Igran Por V  
Friable Well Sort w/CaCO3 Matrix (Tr Only) w/ GSG & GSFO (Free Oil in Spl Under Wtr w/Heat) Cht AA  
Tr Glacu & Carb Mat Good Odor Dull Flor (Both G & O Do Not Flor) GSG & GSO

30" CFS @ 5192' Qtz Ss Tan-Lt Brn Abd Med-Small Grn Ang-Sub Ang Clusters Good-Exl Igran Por  
AA V Friable Well Sort w/CaCO3 Matrix (Tr Only) w/ VGSG & VGSGFO Abd FO Tr Glacu & Carb Mat AA  
Pyr Mass Cht AA Good Odor Inc Dull-No Flor AA GSG & GSO

60" CFS @ 5192' Qtz Ss Tan-Lt Brn AA GSG & VGSGFO Strong Odor Inc. Good Igran Por Sub Ang Grad  
to Sli Rd Clusters Cht AA Pyr AA Glac AA Sh Blk Carb-Gm-Gry Inc.

75" CFS @ 5192' Qtz Ss Tan-Lt Brn-Grad Crm AA GSG & GSFO Strong Odor Good Dec Med Igran Por  
Sub Ang Grad to Sli Inc Rd Clusters Cht AA Pyr AA Glac AA Sh Blk Carb-Gm-Gry Inc.

Qtz Ss Lt Brn-Grad Crm-Wht AA Med-Lg Grn Ang-Part Rd w/SG & SO AA Dec Ls Wht - Crm Fxln Dns  
Micrite Fos (Crin) Pyr Mass Chalk Sh Char-Gry-Gm-Blk Carb Fissil Faint Odor No Flor SG & SO AA in  
Ss (? Sluff)

30" CFS @ 5224' Ls Wht -Fxln Dns Micrite Grad Fos (Brach & Fos Inclusion) Pyr Mass Chalk Sh  
Char-Gry-Gm-Blk Carb Fissil Dec (Tr Only) No Odor No Flor NS in LS Qtz Ss AA w/ SG & SO (? Sluff)  
AA

60" CFS @ 5224' Ls Wht -Fxln Dns Micrite Grad Fos (Brach & Fos Inclusion) Pyr Mass Chalk Sh  
Char-Gry-Gm-Blk Carb Fissil Dec (Tr Only) No Odor No Flor NS in LS Qtz Ss AA w/ SG & SO (? Sluff)  
AA

Pressures:  
IH= 2393#;  
FH= 2393#;  
IF = 80-120#;  
FF = 143-41#;  
ISIP = 1440#;  
FSIP = 1427#;  
T. =128 deg. F.  
API Grv.= 24  
degrees.

DST # 4 5175'-5224'.  
Times:  
5"-90"-75"-150";  
Blow: IF= Strong/  
BOB / 45 Sec.. 1.5"  
Surface Blow Back  
During ISIP.  
FF= Strong Blow  
BOB / 15 Sec With  
GTS @ 9" into FF  
TSTM. BOB Blow  
Back During FSIP.  
See Gas Gauge  
Below.  
Rec: 3560' GIP: 1585'  
TF: (1465' GVSMCO  
(9% G; 88% O; 3%  
M)); (60' GSWMCO  
(5% G; 88% O; 5% M'  
2% Wtr); 60' GOWCM  
(20% G; 16% O; 43%  
M; 21% Wtr)) Tool  
Spl: (39% O; 8% M/  
3% Wtr).  
Chl.= 19,000 Ppm;  
PH=7.0; RW=.34 @ 68  
degrees F.

Pressures:  
IH= 2366#;  
FH= 2364#;  
IF = 76-92#; FF  
= 114-414#; ISIP  
= 1449#; FSIP  
= 1431#;  
T. =128 deg. F.  
API Grv.= 25  
degrees.

FF Gas Gauge:  
@ 20" = 43.9 Mcf;  
@ 30" = 14.3 Mcf;  
@ 40" = 11.02 Mcf;  
@ 50" = 2.76 Mcf;  
@ 60" = 3.92 Mcf;  
@ 70" = 4.42 Mcf;  
@ 75" 4.42 Mcf.

Scale Change  
TG (Units) 200  
C1 (units) 200  
GAS KICK =  
127 UNITS.  
GAS KICK =  
123 UNITS.

RECYCLE GAS  
KICK = 115  
UNITS

TG (Units) 200  
C1 (units) 200



# CHESTERIAN 5220' (- 2378)

Ls Wht -FxlN Dns Micrite Grad Fos (Brach & Fos Inclusion) Pyr Mass Chalk Sh Char-Gry-Grn-Blk Carb Fissil No Odor No Flor NS

30" CFS @ 5252' LS AA Fos (Brach, Crin) Qtz Ss Wht-Lt Brn Med-Lg Ang Grains Good IGrn Por (w/SSG & SSO Under Wtr w/Heat) V Friable Gillsonitic "Dead Oil" Residue No Odor Tr Lt Brn-Blk Stn No Flour SSG & SSO

60" CFS @ 5252' LS AA Fos (Brach, Crin) Qtz Ss Wht-Lt Brn Med-Lg Ang Grains Good IGrn Por (w/SSG & SSO Under Wtr w/Heat) V Friable Gillsonitic "Dead Oil" Residue No Odor Tr Lt Brn-Blk Stn No Flour SSG & SSO

75" CFS @ 5252' Ls Wht-FxlN Dns Micrite Grad Chalk Fos (Brach, Crin) Sh Char- Gry- Grn- Blk Carb Fissil No Odor No Flor NS

Ls Wht-FxlN Dns Micrite Grad Chalk Fos (Brach, Crin) Sh Char- Gry- Grn- Blk Carb Fissil No Odor No Flor NS

Ls Wht-FxlN Dns Micrite (w/Pyr Inclus) Chalk Fos (Crin) Sh Char- Gry- Grn- Blk Carb Fissil No Odor No Flor NS

Ls Wht-FxlN Dns Micrite Grad Chalk Fos (Brach, Crin) Sh Char- Gry- Grn- Blk Carb Fissil No Odor No Flor NS

Sh Char-Blk Carb-Gry-Grn-Aqua-Red-Maroon Fissil Ls Wht FxlN Crm-Tan Dns Micrite Barren Chalky Sh Char-Gry-Grn Fissil No Odor No Stn No Flor NS

# MISSISSIPPIAN "Ste. GEN" 5287' (- 2445)

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls CrmTan-Gry FxlN Dns Micrite Chalky Sh Char-Blk Carb-Gry-Grn-Aqua-Red-Maroon Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls CrmTan-Gry FxlN Dns Fos (Brach) Micrite Chalky Sh Char-Blk Carb-Gry-Grn-Aqua-Red-Maroon Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls CrmTan-Gry FxlN Dns Micrite Chalky Sh Char - Blk Carb-Gry-Grn-Aqua-Red-Yell Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls CrmTan-Gry FxlN Dns Micrite Chalky Sh Char - Blk Carb-Gry-Grn-Aqua-Red Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Chalky Sh Char -Gry-Grn-Aqua-Red Fissil No Odor No Stn No Flor NS

30" CFS @ 5356' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Org-Wht Translu-Op Shp Vit Chalky Sh Char -Gry-Grn-Aqua-Red-Purp Fissil No Odor No Stn No Flor NS

60" CFS @ 5356' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Org-Wht Translu-Op Shp Vit Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

75" CFS @ 5356' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Org-Wht Translu-Op Shp Vit Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

# ST. LOUIS 5357' (- 2515)

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

# ST. LOUIS UPPER "B" POROSITY 5374' (- 2532)

30" CFS @ 5395' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

60" CFS @ 5395' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

75" CFS @ 5395' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

# ST. LOUIS LWR "B" POROSITY 5407' (- 2565)

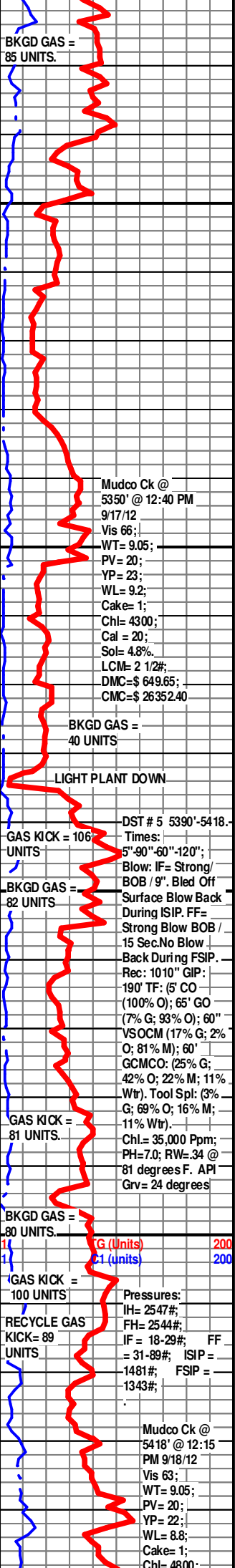
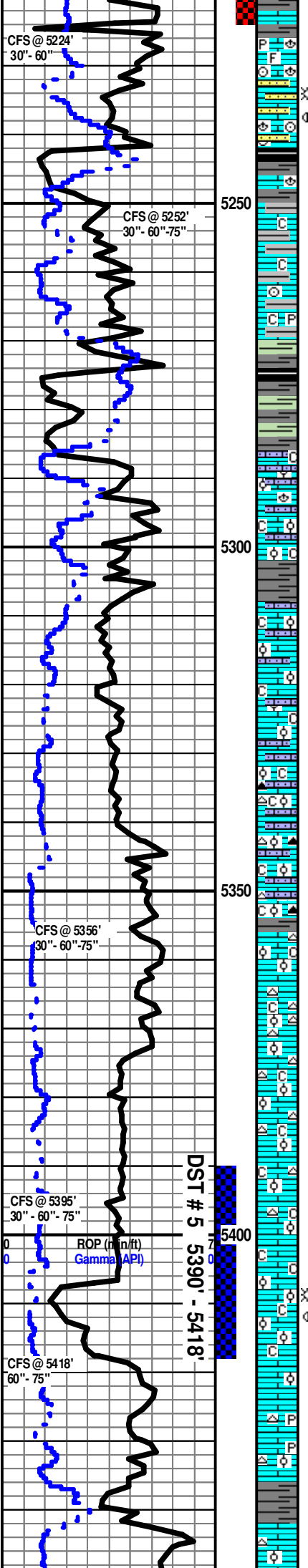
60" CFS @ 5418' Ls Wht Med OOL Por (w/OOL in Pl) Friable Med-Good InterOOL Por (w/Drk Brn-Blk Stn in Pin-Pt Inter OOL Por) M-GSG & M-GSO (w/SFO in Wtr Under Heat) Abd Free Ooids (Med Sized) When Broken Cht Wht-Org Op Shp Vit Chalky Fair Odor No Flor M-G SG & SO

75" CFS @ 5418' Ls Wht Med OOL Por (w/OOL in Pl) Friable Med-Good InterOOL Por (w/Drk Brn-Blk Stn in Pin-Pt Inter OOL Por) M-GSG & M-GSO (w/SFO in Wtr Under Heat) Abd Free (Med Sized) Ooids When Broken Cht Wht-Org Op Shp Vit Chalky Fair Odor No Flor M-G SG & SO

Ls Wht FxlN Poor lxn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Inclus) Blk-Carb Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor lxn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Inclus) Blk-Carb Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor lxn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Inclus) Blk-Carb Fissil No Odor No Stn No Flor NS



Ls Wht FxIn Poor IxIn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA  
 Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Includ) Blk-Carb Fissil No Odor No Stn No Flor NS

Ls Wht FxIn Poor IxIn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA  
 Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Includ) Blk-Carb Fissil No Odor No Stn No Flor NS

Ls AA Sh Char-Gry-Grn-Blk Carb Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

Ls AA Sh Char-Gry-Grn-Blk Carb Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

Ls AA Sh Char-Gry-Grn-Blk Carb Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

**SALEM (SPERGEN) 5498' (- 2656)**

Ls/Dolo Wht-Gry Tr OOL Por Poor Med OOL Por (w/OOL in pl) Barrren Sh Char-Gry-Grn-Blk Carb Fissil  
 (Cave ?) Poor Spl. No Odor No Stn No Flor NS

Ls/Dolo Wht Tr OOL Por Poor Med OOL Por (w/OOL in pl) Barrren Sh Char-Gry-Grn-Blk Carb Fissil  
 (Cave ?) Poor Spl. No Odor No Stn No Flor NS

Ls/Dolo Wht-Gry FxIn Dns Micrite Poor IxIn Por Dns Barrren Sh Char-Gry-Grn-Blk Carb Fissil (Cave ?)  
 Poor Spl. No Odor No Stn No Flor NS

30" CFA @ 5550' Ls/Dolo Wht-Gry FxIn Dns Micrite Poor IxIn Por Dns Barrren Sh Char-Gry-Grn-Blk  
 Carb Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

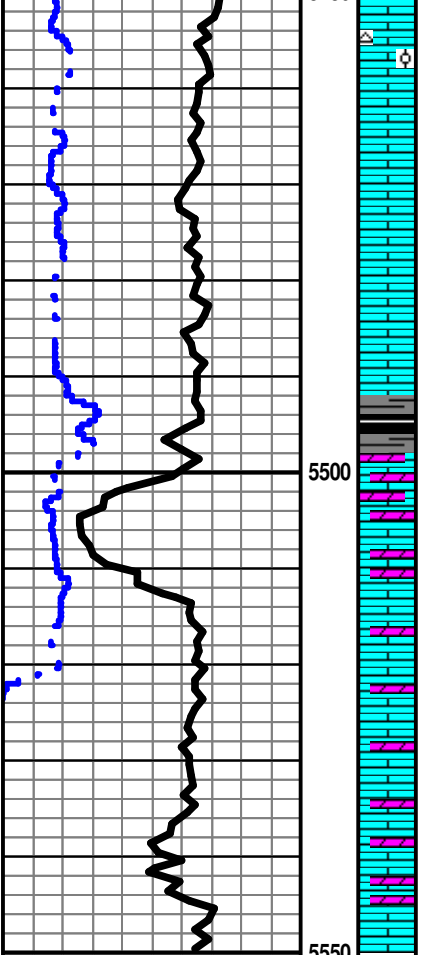
60" CFA @ 5550' Ls Wht-Gry FxIn Dns Micrite Poor IxIn Por Dns Barrren Sh Char-Gry-Grn-Blk Carb  
 Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

**Electric Logs Run: By Pioneer (LogTech) Logging:  
 Dual Induction; Compensated Density-Neutron; Sonic;  
 Microresistivity & Cased Hole Gamma Ray-Nutron Logs.**

**Geologist left Location @ 2:00 PM on 9-19-12**

Sol= 4.7%  
 LCM= 3#;  
 DMC=\$ 130.65;  
 CMC=\$ 26483.05

GAS KICK =  
 187 UNITS.



5550

5550

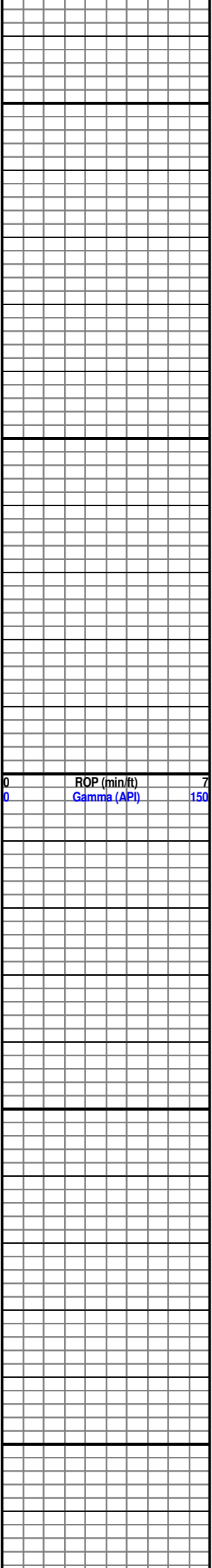
R.T.D.= 5550' (-2708)  
 L.T.D.= 5549' (-2707)

ROP (min/ft) 7  
 Gamma (API) 150

5600

5650

TG (Units) 200  
 C1 (units) 200



5700

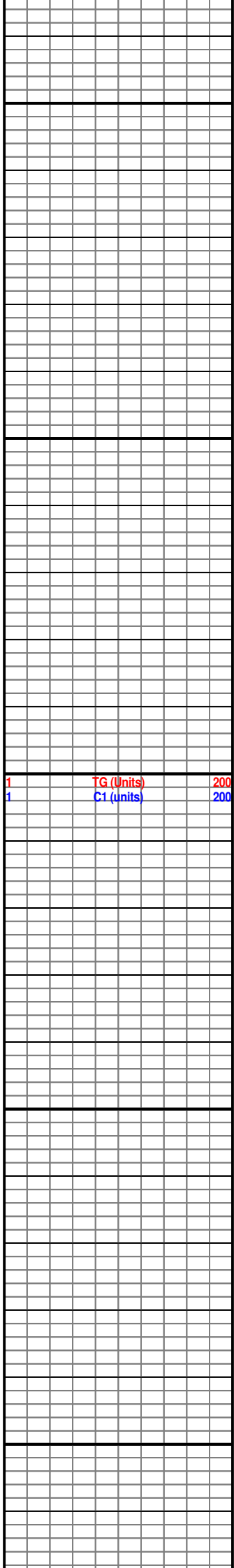
5750

5800

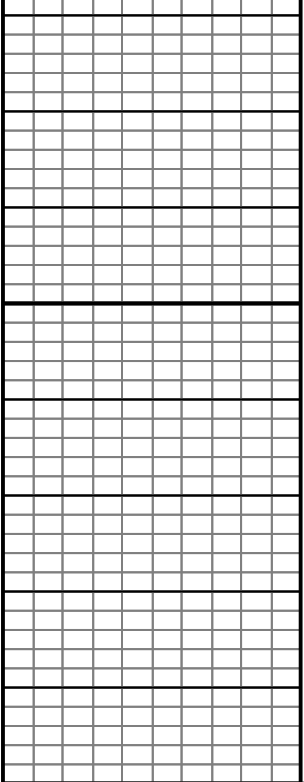
5850

5900

0	ROP (min/ft)	7
0	Gamma (API)	150



1	TG (Units)	200
1	C1 (units)	200



5950

6000

