



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

Well Name: FITZGERALD "A" # 4-30
Location: NE - NE - NE of Sec. 30 - T. 30 S. - R. 31 W.
License Number: A.P.I. #15-081-22,015-00-00
Spud Date: 05/04/2013
Surface Coordinates: SPOT: 330' FNL & 330' FEL

Region: HASKELL CO., KS.
Drilling Completed: 5/12/2013

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 2845' **K.B. Elevation (ft):** 2858'
Logged Interval (ft): 1831' **To:** 5703' **Total Depth (ft):** 5703'
Formation: MISSISSIPPIAN " ST. LOUIS'
Type of Drilling Fluid: CHEMICAL/POLYMER/GEL

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

OPERATOR

Company: McCOY PETROLEUM CORPORATION KCC LIC. NO. # 5003
Address: 8080 E. CENTRAL, STE. 300
WICHITA, KANSAS 67206-2366

GEOLOGIST

Name: DAVID P. WILLIAMS, P.G.
Company: DW ENERGY, LLC
Address: 312 N. BROADVIEW STREET
WICHITA, KANSAS 67208

CASINGS & DEVIATION

Spud at 9:45 pm on 05/04/13. Drilled 12-1/4" to 1836'. Ran 43 joints of new 24#, 8-5/8" casing. Tallied 1816.' Set at 1831' KB. Welded straps on bottom 3 joints, tacked collars on the remainder. Centralizers (6) on joints 4;6;8;10;12;41. Basket at 120'. Float insert in top of 1st joint. Cemented with 450 sks MDC; 3% CC, & 1/4# FS; Plus tailed with 175 sks Common with 2% Gel; 3% CC & 1/4# CF. Cement did circulate.. Plug down at 12:30 pm on 05/05/13. Quality Cementing ticket #5879. Cement fell 55'. Added pea gravel..

Deviation Survey's Taken: @ 1836' = 1 degree; @ 2627' = 1 degree; @ 3332' = 1 degree; @ 5242' = 1 degree; @ 5342' = 1 degree; @ 5700' = 1 1/2 degree.

DSTs

~~~ DST # 1 5270'-5350'. Times: 30"- 60"- 60"- 90";

Blow: IF=Strong/ BOB/30 Sec. & GTS @ 28" (No Gauge). Strong BOB Blow Back During ISIP. FF= Strong Blow BOB/ Instant. FSIP= BOB Blow Back.

Recovery: 3635' GIP: 192' TF: ( 10(% G; 90% M)).

Pressures: IH=2600#; FH=2545#; IF=103-169#; FF =103-105#; ISIP =1651#; FSIP =1658#; T.=125 degrees. F.

Gas Gauge Volume: FF: @ 0"= 198.3 Mcf; @ 5" =183.5 Mcf;

@ 10"=183.5 Mcf; @ 15"=183.5 Mcf; @ 20"=218.6 Mcf; @25"= 218.6 Mcf; @ 30"=232.1 Mcf; @ 35"=232.1 Mcf; @40"=232.1Mcf; @ 45"=232.1 Mcf; @ 50"=232.1 Mcf; @ 55"=232.1 Mcf;@ 60" =232.1 Mcf.

## 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

|                |               |  |                 |
|----------------|---------------|--|-----------------|
| <b>MINERAL</b> |               |  |                 |
|                | Hvymin        |  | Pellet          |
|                | Kaol          |  | Pisolite        |
|                | Marl          |  | Plant           |
|                | Minxl         |  | Strom           |
|                | Nodule        |  |                 |
|                | Phos          |  | <b>STRINGER</b> |
|                | Pyr           |  |                 |
|                | Salt          |  |                 |
|                | Sandy         |  |                 |
|                | Silt          |  |                 |
|                | Sil           |  |                 |
|                | Sulphur       |  |                 |
|                | Tuff          |  |                 |
|                | <b>FOSSIL</b> |  |                 |
|                |               |  |                 |
|                | Algae         |  |                 |
|                | Amph          |  |                 |
|                |               |  |                 |
|                |               |  |                 |
|                |               |  |                 |
|                |               |  | <b>TEXTURE</b>  |
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|                |               |  |                 |

**OTHER SYMBOLS**

- POROSITY**  
 [E] Earthy  
 [F] Fenest  
 [X] Fracture  
 [I] Inter  
 [M] Moldic  
 [O] Organic  
 [P] Pinpoint

- [V] Vuggy  
**SORTING**  
 [W] Well  
 [M] Moderate  
 [P] Poor

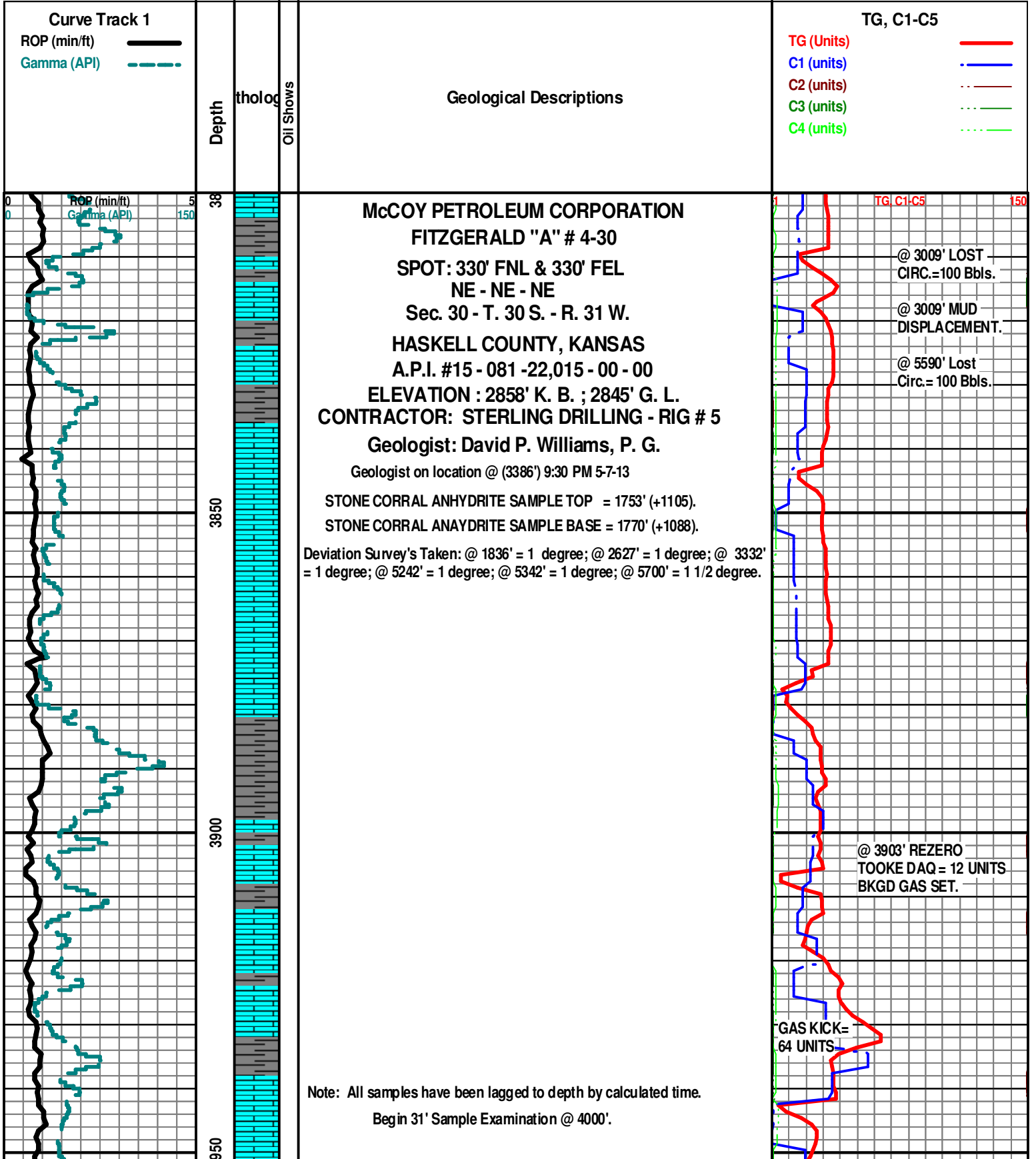
- ROUNDING**  
 [R] Rounded  
 [r] Subrnd  
 [a] Subang  
 [A] Angular

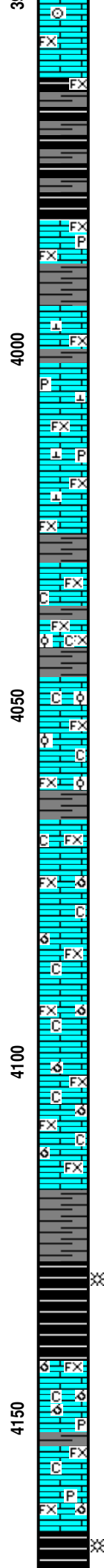
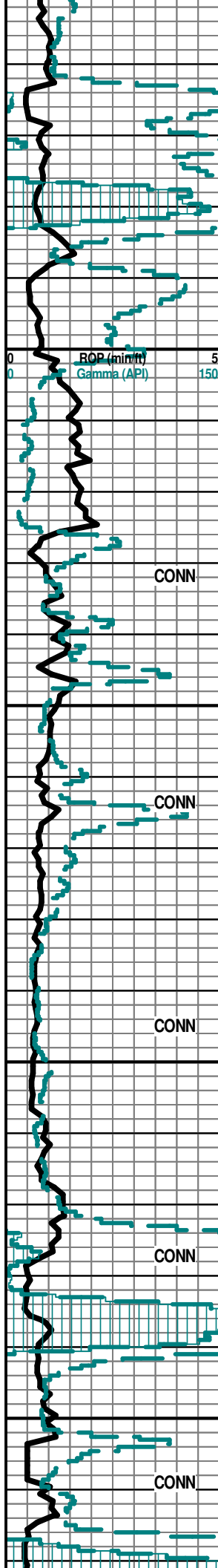
- [●] Even  
 [○] Spotted  
 [○] Ques  
 [□] Dead

- EVENT**  
 [▽] Rft  
 [▲] Sidewall

- OIL SHOW**  
 [✕] Gas show

- INTERVAL**  
 [■] Dst  
 [■] Dst\_alt





Ls Wht-Crm FxIn Dns Micrite (w/Tr Pyr Incls) Grad Poor IxIn Por Barren Fos (Crin) Sh Char-Gry-Blk Carb Fissil Abd ? Sluff No Flor No Stn No Odor NS

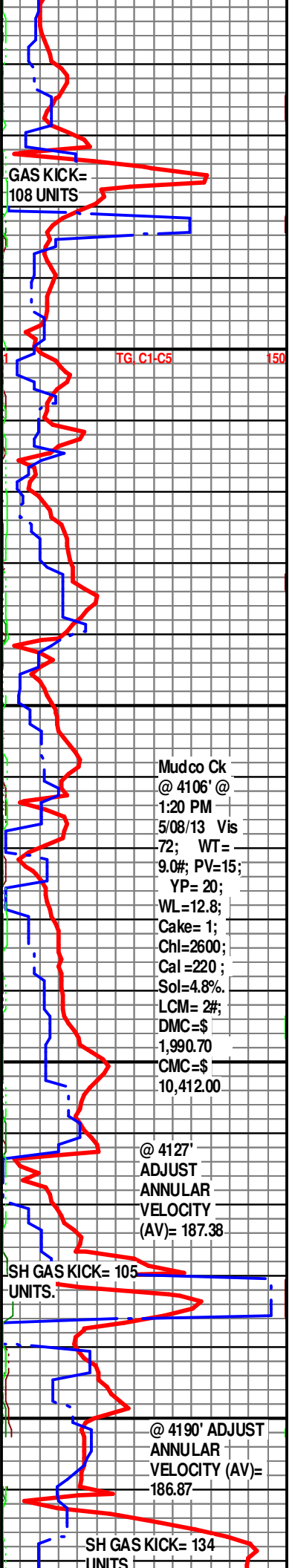
Ls Crm-Lt Gry-Drk Gry FxIn Dns Micrite (w/Tr Pyr Incls) Grad Poor IxIn Por Barren Sh Char-Gry-Blk Carb Fissil Abd ? Sluff No Flor No Stn No Odor NS

Ls Crm-Gry-Brn FxIn Dns Micrite Grad Poor OOL Por (w/Small OOL in pl) Barren Poor Dissolu Poor Leaching Tr Calcite XL (w/Tr 1 Pc w/Brn Stn w/No Cut or Flor) Sh Char-Gry-Blk Carb Fissil Abd ? Sluff No Flor Tr ? (1 Pc) Stn No Odor NS

Ls Crm-Gry FxIn Dns Micrite Grad Poor OOL Por (w/Small OOL in pl) Barren Poor Dissolu Poor Leaching Chalk Wht Soft Abd Sh Char-Gry-Blk Carb Fissil No Flor No Stn No Odor NS

Ls Crm-Gry FxIn Dns Micrite Grad Poor OOM Por Poor InterOOM Por Barren Poor Dissolu Poor Leaching Chalk Wht Soft Sh Char-Gry-Blk Carb Fissil No Flor No Stn No Odor NS

Sh Char-Gry-Blk Carb Fissil Abd Ls Crm-Gry FxIn Dns Micrite Grad Poor OOM Por Poor InterOOM Por Barren Poor Dissolu Poor Leaching Chalk Wht Soft No Flor No Stn No Odor NS



HEEBNER 4166' (- 1308)

LEVENWORTH 4176' (- 1318)

Sh -Blk Carb-Char-Grn-Gry Fissil Abd Ls Wht-Crm-Gry-Brn FxIn Dns Micrite (w/Pyr Includ) Chalk Wht Soft No Flor No Stn No Odor NS

Ls Wht-Crm-Gry-Brn FxIn Dns Micrite (w/Pyr Includ) Chalk Wht Sh Char-Grn-Gry-Blk Carb Fissil Abd No Flor No Stn No Odor NS

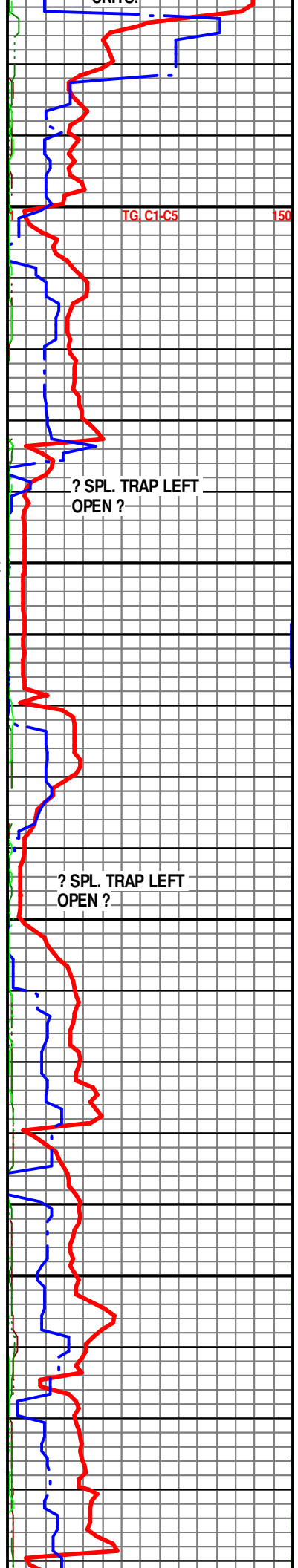
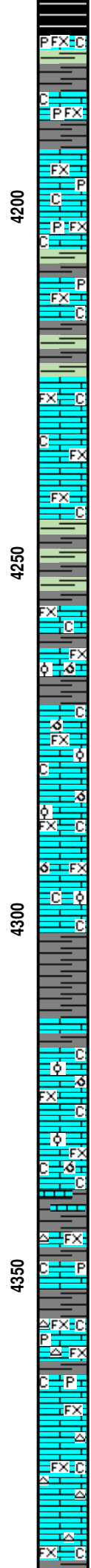
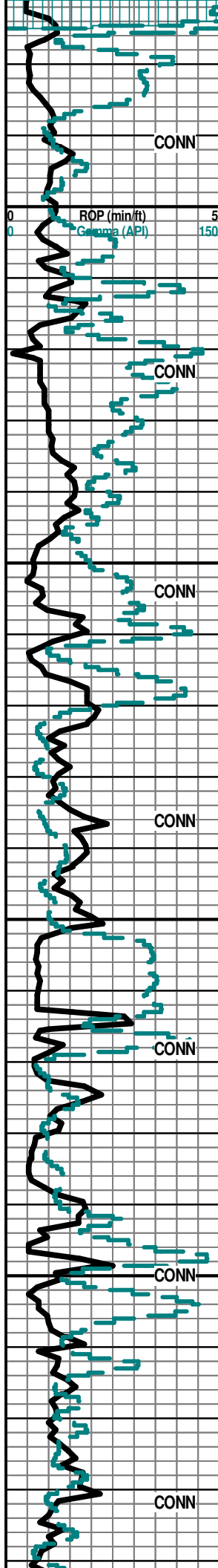
LANSING 4224' (- 1366)

Ls Wht-Crm-Gry FxIn Dns Micrite Grad Fair IxIn Pin-Pt Por Barren Chalk Wht Sh Char-Grn-Gry-Blk Carb Fissil Abd No Flor No Stn No Odor NS

Ls Wht-Crm FxIn Dns Micrite Grad Poor OOM Por (w/Small OOL In pl) Poor InterOOM Por Barren Poor Dissolu Poor Leaching Chalk Wht Soft Sh Char-Gry-Blk Carb Fissil No Flor No Stn No Odor NS

Ls Wht-Crm-Gry FxIn Dns Micrite Grad Poor-Fair IxIn Pin-Pt Por Grad Poor OOM Por (w/OOL in pl) Poor Dissolu Poor Leaching Barren Chalk Wht Sh Char-Gry-Maroon-Red Fissil ? Min Flor (5 Pcs) No Stn No Odor NS

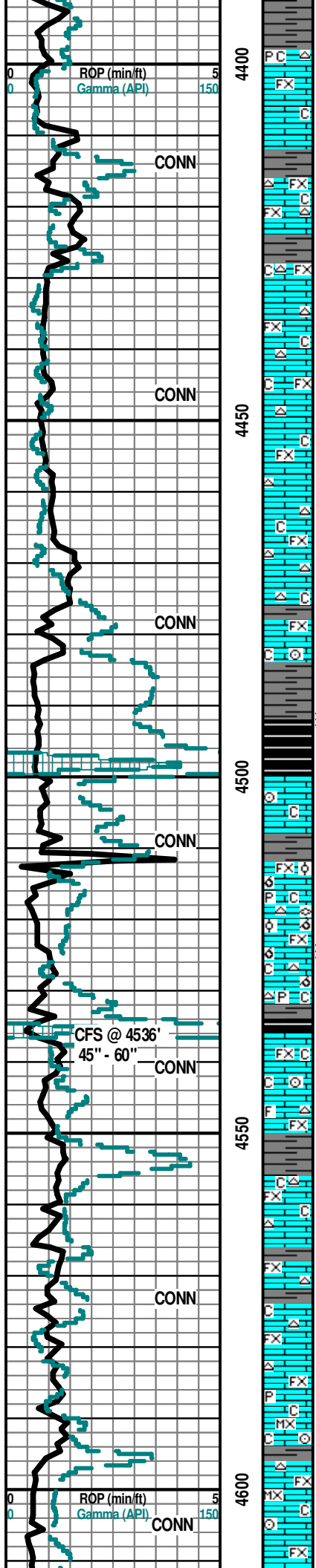
Ls Wht-Crm-Gry FxIn Dns Mostly Micrite Grad Poor-Fair IxIn Pin-Pt Por Barren Cht Wht Op Vit Shp Chalk Wht Sh Char- Grn- Gry-Maroon -Red Fissil ? Min Flor No Stn No Odor NS



TG C1-C5

? SPL. TRAP LEFT OPEN ?

? SPL. TRAP LEFT OPEN ?



Ls Wht-Crm-Gry FxIn Dns Micrite (w/Pyr Includ) Grad Poor-Fair IxIn  
 Pin-Pt Por Barren Cht Wht Op Vit Shp Chalk Wht Sh  
 Char-Grn/Gry-Maroon-Red Fissil ? Min Flor No Stn No Odor NS

TG C1-C5 150

Ls Wht-Crm-Gry FxIn Micritic Grad Poor IxIn Por Cht Wht-Tan-Gry Op Vit  
 Shp Chalk Wht Soft Sh Char-Gry-Grn Soft-Fissil No Odor ? Min Flor No Stn  
 NS

Begin 10' Wet & Dry Sample Examination @ 4500'.

Ls Wht-Crm-Gry FxIn Micritic Grad Poor IxIn Por Cht Wht-Tan-Gry Op Vit  
 Shp Chalk Wht Soft Sh Char-Gry-Grn Soft-Fissil No Odor ? Min Flor No Stn  
 NS

Ls Wht-Crm-Gry FxIn Micritic Grad Poor IxIn Por Cht Wht-Tan-Gry Op Vit  
 Shp Chalk Wht Soft Sh Char-Gry-Grn Soft-Fissil No Odor ? Min Flor No Stn  
 NS

Ls Wht-Crm-Lt Tan FxIn Micritic Grad Poor IxIn Por Cht Wht Op Vit Shp  
 Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor ? Min Flor No Stn  
 NS

Sh Blk Carb-Char-Gry-Grn Soft-Fissil Ls Wht-Crm-Lt Tan FxIn Micritic Grad  
 Poor IxIn Por Fos (Crin) Chalk Wht Soft Abd No Odor ? Min Flor No Stn NS

SH GAS KICK=  
48 UNITS

Sh Char-Gry-Blk Carb Soft-Fissil Ls Wht-Crm-Tan FxIn Micritic (w/Poor IxIn  
 Por) Fos (Crin) Chalk Wht Soft Abd No Odor ? Min Flor No Stn NS

**LANSING "G" 4512' (-1654')**

45" CFS @ 4536' Ls Crm-Lt Tan FxIn (w/Tr Pyr Includ) Med-Good OOM Por (w/Smal-Med Sized  
 OOL in pl) Med-Good Dissolu Med-Good Vug Leaching GSG & GSFO ( In Wtr Under Heat  
 (Both Gas & Oil Do Flor (Lt Grn)) Fos (Fuss) Cht Wht Op Shp Vit Sh Char-Gry Fissil AA  
 Med-Good Flor (50% of Tray) Fair Odor Med Sat Stn Lt Brn GSG & GSO

GAS KICK=  
108 UNITS

60" CFS @ 4536' Ls Crm-Lt Tan FxIn (w/Tr Pyr Includ) Fair-Med OOM Por (w/Med Sized  
 OOL in pl) Fair-Med Dissolu Fair-Med Vug Leaching GSG & GSFO ( In Wtr Under Heat-Both Gas & Oil  
 Do Flor (Lt Grn)) Pyr Mass Chalky Sh Char-Gry-Blk Carb Fissil Med-Good Flor (50% of Tray)  
 Fair Odor Med Sat Stn Lt Brn GSG & GSO

Ls Wht-Tan FxIn Micrite Grad Good OOM Por 3 Pcs (w/OOL in pl AA)  
 Med-Good Vug Leaching Med Dissolu Good Sat Stn GSG & GSO AA (? Sluff) Cht Wht-Gry  
 (w/Fos (Spiculitic Includ) Op Shp Vit Fos (Crin) Chalky Sh Char-Gry AA No Odor Tr Lt  
 Brn Stn AA ? Min Flor Dec NS

Ls Wht-Crm-Tan FxIn Micrite Cht Wht-Gry Op Shp Vit Chalky Sh Char-Gry  
 No Odor No Stn ? Min Flor Dec NS

Ls Wht-Crm-Tan-Gry FxIn Micrite Cht Wht-Gry Op Shp Vit Chalky Sh Char-  
 Gry- Blk Carb No Odor No Stn ? Min Flor NS

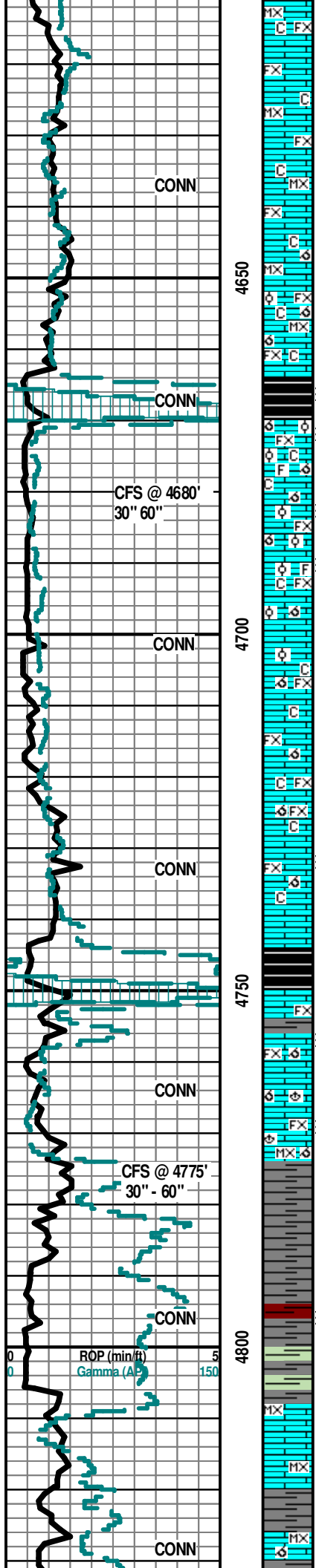
Ls Wht-Crm-Tan-Gry FxIn Micrite Grad Good OOM Por Pcs Med-Good Vug  
 Leaching Med Dissolu Good Sat Stn SG & SO AA (? Sluff) Cht Wht-Gry Op  
 Shp Vit Fos (Crin) Chalky Sh Char-Gry AA No Odor Tr Lt Brn Stn AA ? Min  
 Flo NS

Ls Wht-Crm-Tan-Gry FxIn Micrite Cht Wht-Amber (Banded) Op Shp Vit Pyr  
 Mass Chalky Sh Char-Gry Fissil No Odor No Stn ? Min Flor NS

Ls Wht-Crm-Gry FxIn-MicroxIn Micrite Cht Wht Op Shp Vit Fos (Crin) Chalky  
 Sh Char-Gry Fissil No Odor No Stn ? Min Flor NS

TG C1-C5 150

Ls Wht-Crm FxIn-MicroxIn Micrite Fos (Crin) Chalky Sh Char-Gry Fissil No  
 Odor No Stn ? Min Flor NS



Ls Wht-Crm Fxln-Microxln Micrite Chalky Sh Char-Gry Fissil No Odor No Stn ? Min Flor NS

Ls Wht-Crm Fxln-Microxln Micrite Cht Drk-Gry Op Shp Vit Chalk Abd Sh Char-Gry Fissil No Odor No Stn ? Min Flor NS

Ls Wht-Crm Fxln-Microxln Micrite Cht Drk-Gry Op Shp Vit Chalk Abd Sh Char-Gry Fissil No Odor No Stn ? Min Flor NS

30" CFS @ 4680' Ls Wht-Crm-Tan Fxln-Microxln Micrite Grad Poor OOM Por (Tr Lg OOL in pl) Barren Chalk Sh Char-Gry Fissil No Odor No Stn No Flor NS

**STARK SHALE 4664' (- 1806)**

**KANSAS CITY "SWOPE (K)" 4670' (- 1812)**

60" CFS @ 4680' Ls Wht-Crm Fxln Med-Good OOM Por (w/Med Sized OOL in pl) Med-Good Dissolu Med-Good Vug Leaching GSG & FSFO (In Wtr Under Heat Both Gas & Oil Do Flor (Lt Grn-Wht) Cht Wht-Gry (w/Fos (Spiculitic Includ) Op Shp Vit Chalk Sh Char-Gry-Blk Carb Fissil Med-Good Flor (30% of Tray) Med - Good Odor Med Sat Stn Lt Brn GSG & FSO

Ls Wht-Crm Fxln Med-Good OOM Por (w/Med Sized OOL in pl) Med-Good Dissolu Med-Good Vug Leached Por (w/Pyr Includ) GSG & FSFO (In Wtr Under Heat Both Gas & Oil Do Flor (Lt Grn -Wht) Cht Wht-Gry (w/Fos (Spiculitic Includ) Op Shp Vit Chalk Sh Char-Gry-Blk Carb Fissil Med-Good Flor (40% of Tray) Med - Good Odor Med Sat Stn Lt Brn GSG & FSO

Ls Crm-Tan Fxln Med-Good OOM Por Med-Good Dissolu Med -Good Vug Leached Por Chalk No Odor Med ? Flor No Stn

Ls Crm-Tan Fxln Med-Good OOM Por Med-Good Dissolu Med -Good Vug Leached Por Chalk No Odor Med ? Flor No Stn

Ls Crm-Tan Fxln Med-Good OOM Por Med-Good Dissolu Med-Good Vug Leached Por Chalk No Odor Med ? Flor No Stn NS

Ls Wht-Crm Fxln Med-Good OOM Por Med-Good Dissolu Good Vug Leached Por (w/FSG & FSO (Lt Brn In Wtr Under Heat & Both Gas & Oil Do Flor (Lt Grn)) Sli Odor Med-Flor Lt Brn Stn FSG & FSO

**HUSHPUCKNEY SHALE 4744' (- 1886)**

Sh Blk Carb-Char Fissil Ls AA Med-Good OOM Por Med-Good Dissolu Good Vug Leached Por SSG & SSO

**KANSAS CITY "HERTHA (L)" 4752' (- 1894)**

30" @ 4775' Ls Wht-Crm Fxln Med-Good OOM Por Med-Good Dissolu Med-Good Vug Leached Por (w/SG & SO Lt Brn In Wtr Under Heat Both Gas & Oil Do Flor (Lt Grn)) Sli Odor Med-Flor Lt Brn Stn FSG & FSO

60" @ 4775' Ls Wht-Crm Fxln Med-Good OOM Por Med-Good Dissolu Good Vug Leached Por (w/Sli ? Lt Brn Stn ? Sli Flor (Lt Grn)) Fos (Brach) No Odor NS

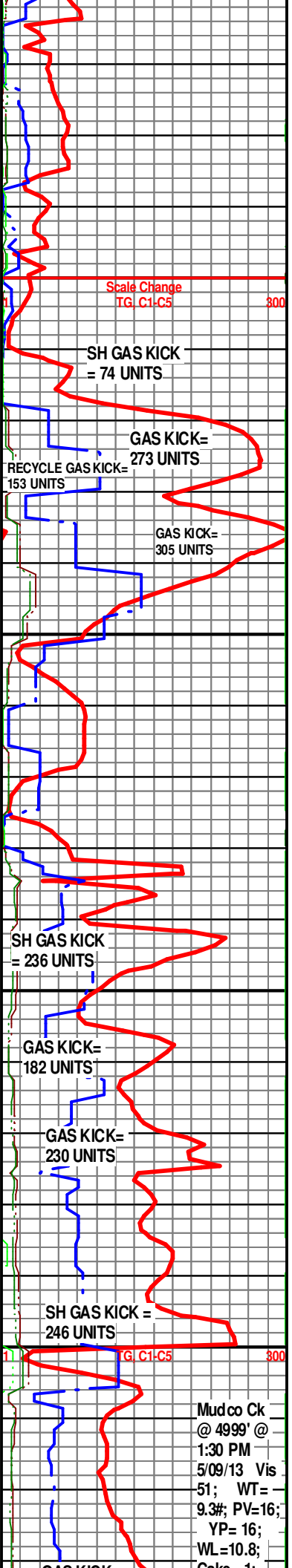
Sh Char-Gry-Blk Carb Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite AA No Odor no Flor No Stn NS

Sh Char-Gry-Blk Carb-Red Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite AA No Odor no Flor No Stn NS

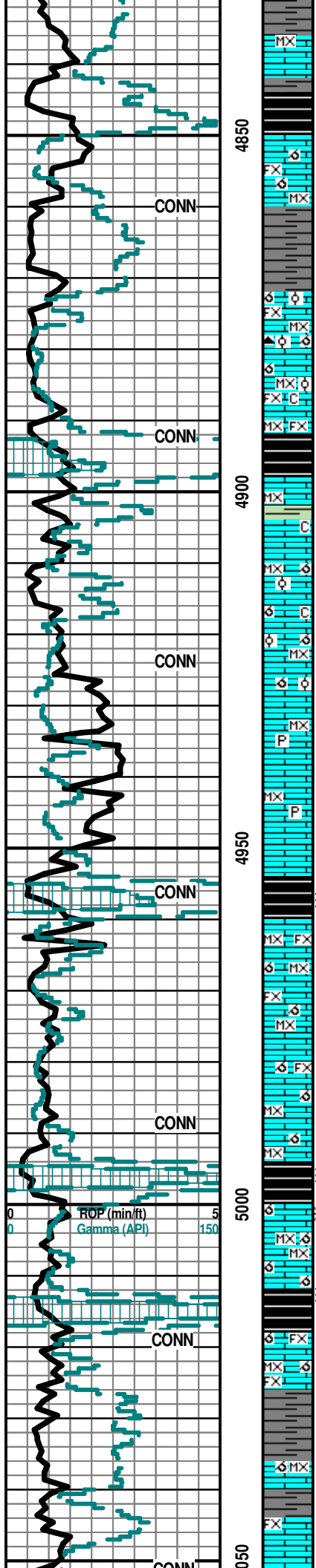
Sh Char-Grn-Gry-Blk Carb Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite AA No Odor no Flor No Stn NS

Sh Char-Grn-Gry-Blk Carb Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite AA No Odor no Flor No Stn NS

Sh Char-Grn-Gry-Blk Carb Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite Grad Med-Good OOM Por (1 Pcs w/Good InterOOM Vug Por) Barren No Odor no Flor No Stn NS



Mud co Ck @ 4999' @ 1:30 PM 5/09/13 Vis 51; WT= 9.3#; PV=16; YP= 16; WL=10.8; Calc 1;



Ls Wht-Crm-Tan-Gry MicroXn-FxIn Dns Micrite Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

**MARMATON 4850' (- 1992)**

Ls Wht-Crm-Tan-Gry MicroXn-FxIn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOM Leached Por (2 Pcs w/Scatt Lt Brn Stn w/SG & SO) ? Sluff Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry MicroXn-FxIn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOM Leached Por (w/ Med Sized OOL in pl w/3 Pcs w/Scatt Lt Brn Stn w/SG & SO) ? Sluff Cht Wht Op Shp Vit Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

**MARMATON "B" 4872' (- 2014)**

Ls Wht-Crm-Tan MicroXn-FxIn Dns Micrite Grad Fair-Med OOM Por Grad Good Vug InterOOL/OOM Leached Por (w/ Small/Med Sized OOL in pl & 10 Pcs w/Scatt V Lt Brn Stn w/FSG/NSO) ? Sluff Cht Drk Gry Op Shp Vit Sh Blk Carb-Char Fissil AA ? Faint Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan MicroXn-FxIn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOM Leached Por (w/ Med Sized OOL in pl & 3 Pcs w/Scatt ? Brn Stn w/ ? NSG & ? NSO Dec) ? Sluff Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan MicroXn-FxIn Dns Micrite Chalk Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry MicroXn Dns Micrite Chalk Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry MicroXn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOL/OOM Leached Por (w/ 2 Pcs Small-Med Sized OOL in pl) BaRREN Chalky ? Sluff AA Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry-Brn MicroXn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOL/OOM Leached Por (w/ 4 Pcs Small-Med Sized OOL in pl) Barren Chalky ? Sluff AA Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry-Brn MicroXn Dns Micrite (w/Pyr Includ) Barren Chalky Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry-Brn MicroXn Dns Micrite (w/Pyr Includ) Barren Chalky Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm FxIn-MicroXn Grad Med-Good OOM Por Good Dissolu Good Vug Leaching Sh Char-Gry-Blk Carb Fissil ? Faint-No Odor Dec NS

**PAWNEE 4960' (- 2102')**

Ls Wht-Crm FxIn-MicroXn Grad Med-Good OOM Por (w/Small Ooids in pl) Med-Good Dissolu Med-Good Vug Leaching GSG & ? SO (In Wtr Under Heat Gas Does Flor (Lt Grn)) Sh Char-Gry-Blk Carb Fissil Sli ? Flor Med-Good Odor ? Stn Lt Brn GSG & ? SSO

Ls Wht-Crm FxIn-MicroXn Grad Med-Good OOM Por Good Dissolu Good Vug Leaching Sh Char-Gry-Blk Carb Fissil ? Faint-No Odor Dec NS

Ls Wht-Crm FxIn-MicroXn Micritic Grad Med-Good OOM Por Good Dissolu Good Vug Leaching w/SSG (In Wtr Under Heat Gas Does Flor (Lt Grn)) Sh Blk Carb-Char-Gry Fissil Faint-No Odor Dec NS

**LABETTE SHALE 4994' (- 2136)**

**FORT SCOTT 5000' (- 2142)**

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroXn Micritic Grad Med-Good OOM Por Good Dissolu Good Vug Leaching ? Faint-No Odor Dec NS

**CHEROKEE SHALE 5012' (- 2154)**

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroXn Micritic Grad Med-Good OOM Por Good Dissolu Good Vug Leaching w/SSG (In Wtr Under Heat Gas Does Flor (Lt Grn)) Faint-No Odor Dec NS

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroXn Micritic Grad Med-Good OOM Por Good Dissolu Good Vug Leaching Cht Amber Op Vit Shp Faint-No Odor Dec NS

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroXn Micritic Grad Med-Good OOL Por (w/Ooids in pl) Poor Dissolu Poor Vug Leaching Faint-No Odor Dec NS

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroXn Micritic Faint-No Odor Dec NS

**SECOND CHEROKEE SHALE 5051' (- 2192)**

GAS KICK = 198 UNITS  
 Cake= 1,  
 Chl=2500;  
 Cal = 40;  
 Sol= 7.0%  
 LCM= 2#;  
 DMC=\$  
 3,865.45  
 CMC=\$  
 14,277.45

GAS KICK = 371 UNITS

GAS KICK = 262 UNITS

? SPL TRAP LEFT OPEN ?

GAS KICK = 414 UNITS

GAS KICK = 298 UNITS

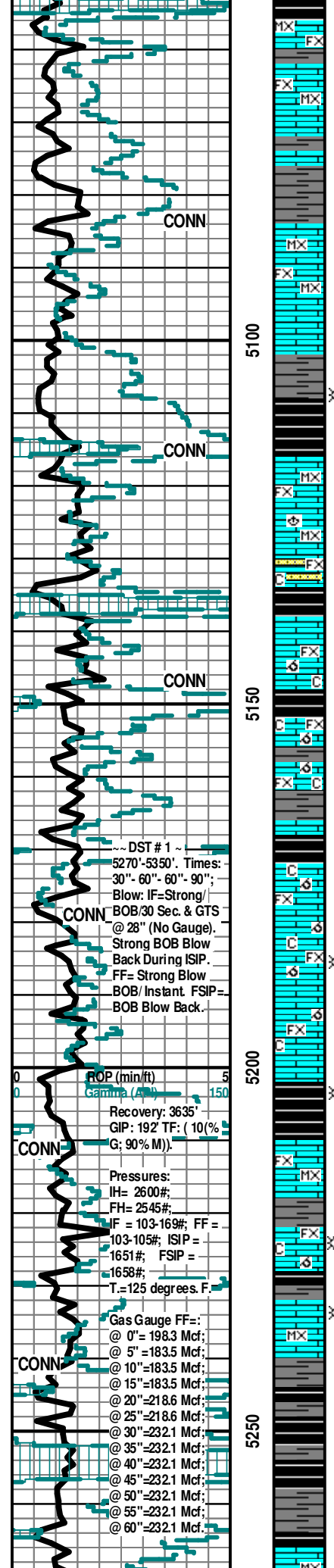
SH GAS KICK = 264 UNITS

SH GAS KICK = 333 UNITS

TG C1-C5 800



# SECOND CHEROKEE SHALE 5051' (- 2193)



Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm Fxln-Microxln Micritic Faint-No Odor Dec NS

No Sample Caught

Sh Char-Gry-Blk Carb Fissil Ls Wht-Crm-Tan Fxln-Microxln Micritic Faint-No Odor Dec NS

Ls Wht-Crm-Tan Fxln-Microxln Micritic Sh Char-Gry-Blk Carb Fissil Faint-No Odor Dec NS

Ls Wht-Crm-Tan Fxln-Microxln Micritic Sh Char-Gry-Blk Carb Fissil Faint-No Odor Dec NS

Ls Wht-Crm-Tan Fxln-Microxln Micritic Grad Poor Pin-Pt Ixln Por Sh Char-Gry-Blk Carb Fissil ? Faint-No Odor Dec NS

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm Fxln-Microxln Micritic Faint-No Odor No Srtn No Flor NS

Ls Wht-Crm-Tan Fxln-Microxln Micritic Grad Poor Pin-Pt Ixln Por Fos (Brach) Sh Char-Gry-Blk Carb Fissil ? Faint-No Odor NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Qtz Ss Wht-Gry VFG Poor-Sort (w/ Hvy CaCO3 Matrix) Dns Poor Intergrn Por Chalk Wht Soft Cht Gry Op Shp Vit Sh Blk Carb AA-Gry Fissi No Odor No Flor No Stn NS

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

Ls Brm-Crm-Tan Fxln Poor Ixln Por Micritic Dns Barren Grad Poor OOM Por Fair-Med InterOOM Por (w/SG) (Gas Does Flor (Lt Grn)) Chalk Wht Soft Sh Char-Gry-Blk Carb Fissil ? Faint- No Odor Sli Flor No Stn NS

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm Fxln-Microxln Micritic Faint-No Odor No Stn No Flor NS

Ls Wht-Crm Fxln-Microxln Micritic Sh Blk Carb-Char-Gry Fissil Faint-No Odor No Srtn No Flor NS

Ls Brn-Crm-Tan Fxln Poor Ixln Por Micritic Dns Barren Grad Poor OOM Por Fair-Med InterOOM Por (w/SG) (Gas Does Flor (Lt Grn)) Chalk Wht Soft Sh Char-Gry-Blk Carb Fissil ? Faint- No Odor Sli Flor No Stn NS

Ls Brm-Crm-Tan Fxln Poor Ixln Por Micritic Dns Barren Grad Poor OOM Por Fair-Med InterOOM Por (w/SG) (Gas Does Flor (Lt Grn)) ? Sluff Chalk Wht Soft Sh Char-Gry-Blk Carb Fissil ? Faint- No Odor Sli Flor No Stn NS

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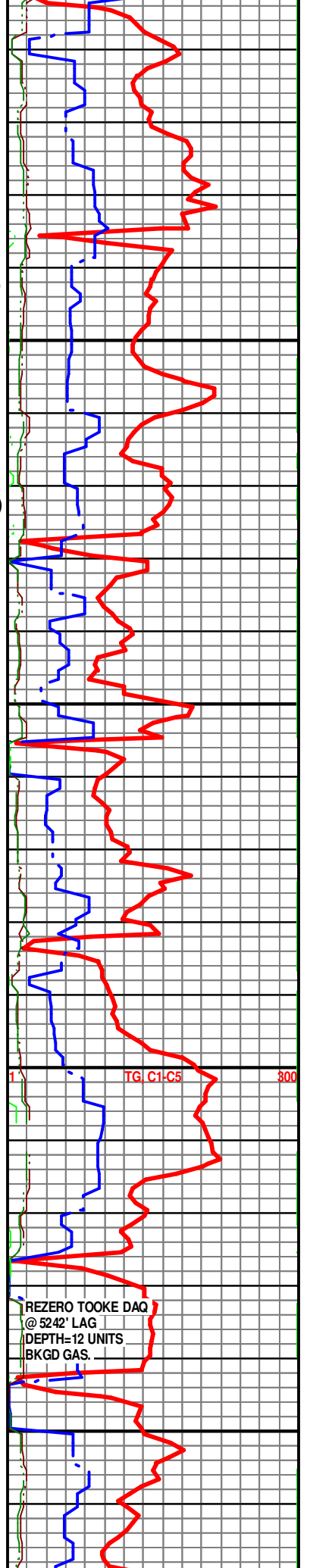
## ATOKA SHALE 5240' (- 2382)

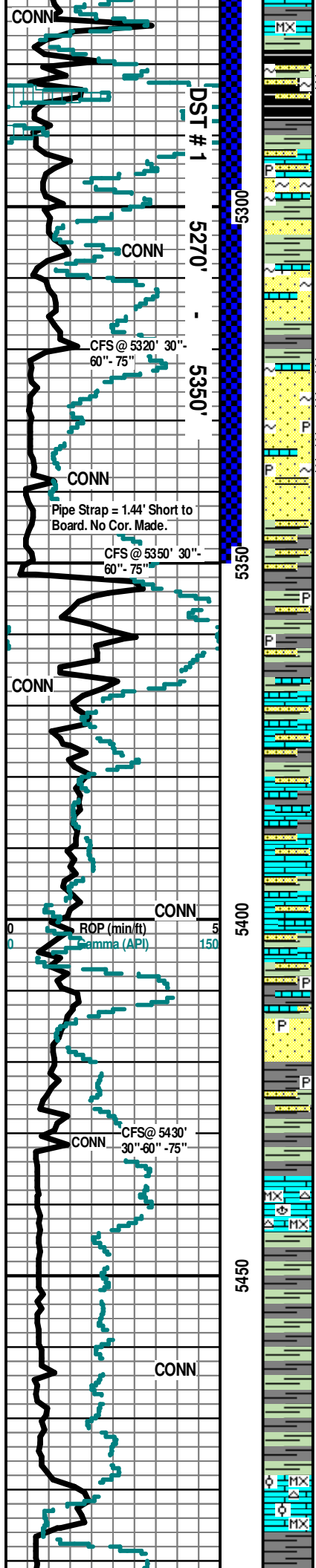
Sh Blk Carb-Char-Gry Fissil Ls Crm-Tan Fxln-Microxln Micritic Faint-No Odor No Srtn No Flor NS

Sh Blk Carb-Char-Gry-Aqua Fissil Ls Crm-Tan Fxln-Microxln Micritic Faint-No Odor No Srtn No Flor NS

Sh Blk Carb-Char-Gry-Aqua Fissil Ls Crm-Tan Fxln-Microxln Micritic Faint-No Odor No Srtn No Flor NS

Sh Blk Carb-Char-Gry-Aqua Fissil Ls Crm-Tan Fxln-Microxln Micritic Faint-No Odor No Srtn





No Flor NS

### MORROW SHALE 5276' (- 2418)

Sh Char-Gry-Aqua-Blk Carb Fissil Ls Crm-Tan Fxln-Microxln Micritic Grad Poor Pin-Pt lxn Por (w/SSG & SSO) Qtz Ss Wht Frosted (w/Glacu Includ Abd) Small-FGrn Poor Sort Friable No Odor No Flor NS

30" CFS @ 5320' Sh Char-Gry-Aqua-Blk Carb Fissil Ls Crm-Tan Fxln-Microxln Micritic Grad Poor Pin-Pt lxn Por (w/SSG & SSO) Qtz Ss Wht Frosted (w/Glacu & Pyr Includ Abd) Small-FGrn Fair-Sort Friable (w/Gilsonitic Includ & SSG & SFO Under Heat In Wtr Drk Brn SFO & Both Gas & Oil Do Not Flor) ? Faint Odor > Gilsonitic Stn SSG & SSO

60" CFS @ 5320' Qtz Ss Wht Frosted-w/Aqua (CaCO3) Matrix (w/Glacu & Pyr Includ Abd) Small-FGrn Clusters Fair-Sort Friable (w/Gilsonitic Includ & SSG & SFO Under Heat In Wtr w/Drk Brn SFO & Both Gas & Oil Do Not Flor) Ls Crm-Tan Fxln-Microxln Micritic Grad Poor Pin-Pt lxn Por (w/SSG & SSO) Fos (Bry) ? Faint-No Odor (w/Gilsonitic Stn) SSG & SSO

75" CFS @ 5320' Qtz Ss AA Ls AA Sh AA No Odor Stn AA No Flor SSG & SSO AA

### MORROW SAND 5320' (- 2464)

30" CFS @ 5350' Qtz Ss Drk Brn (w/CaCO3) Matrix (w/Glacu Includ) VFGm Clusters Fair-Sort Friable (w/Med-GSG Under Heat In Wtr w/Drk Brn Stn & Gas Does Not Flor) Fair Inc Odor No Flor Med-GSG

60" CFS @ 5350' Qtz Ss Drk Brn (w/CaCO3) Matrix (w/Glacu & Pyr Includ) VFGm Clusters Fair-Sort Fair Intergran Por Friable (w/Med-GSG Under Heat In Wtr w/Drk Brn Stn & Gas Does Not Flor) Med Inc Odor No Flor Med-GSG

75" CFS @ 5350' Sh Char-Gry-Grn Fissil Qtz Ss AA Brn VFG Well - Sort Fair-Med Intergran Por (w/Glacu & Pyr Includ) AA M-GSG No Flor Drk-Brn Stn Fair Odor M-GSG

Sh Char-Gry-Blk Carb-Aqua Fissil (with/Pyr Includ) Ls Wht-Crm Microxln Micrite Dns Barren Qtz Ss Wht FGrn Well-Sort Poor-Fair Intergran Por Clusters (with/CaCO3 Cmt Matrix) (No Glacu) Barren No Odor No Flor No Stn NS

### CHESTER 5366' (- 2508)

Sh Char-Gry-Blk Carb Fissil Qtz Ss Wht FGrn Well-Sort Poor-Fair Intergran Por Clusters (with/CaCO3 Cmt Matrix) (No Glacu) Barren Ls Wht-Crm Microxln Micrite Dns Barren No Odor No Flor No Stn NS

Sh Char-Gry-Blk Carb Fissil Qtz Ss Wht FGrn Well-Sort Poor-Fair Intergran Por Clusters (with/CaCO3 Cmt Matrix) (No Glacu) Barren Ls Wht-Crm Microxln Micrite Dns Barren No Odor No Flor No Stn NS

30" CFS @ 5430' Sh Char-Gry-Blk Carb Fissil Qtz Ss Wht Ang - SubAng FGrn Well-Sort Poor-Fair Intergran Por Clusters (with / CaCO3 Cmt Matrix) (No Glacu) Barren Ls Wht-Crm Microxln Micrite Dns Barren No Odor No Flor No Stn NS

### CHESTER MARKER 5410' (- 2552)

60" CFS @ 5430' Sh Char-Lt Gry-Drk Gry- Blk Carb-Aqua-Yell Fissil (w/Pyr Includ) Ls Wht-Crm Microxln Micrite Dns Barren Qtz Ss Wht Ang-SubAng FGrn Well-Sort Poor-Fair Intergran Por Clusters (with / CaCO3 Cmt Matrix) Barren Dec No Odor No Flor No Stn NS

### CHESTER SAND 5412' (- 2554)

75" CFS @ 5430' Sh Char-Lt Gry-Drk Gry- Blk Carb-Aqua-Yell Fissil (w/Pyr Includ) Qtz Ss Wht Ang-SubAng FGrn Well-Sort Poor-Fair Intergran Por Clusters (with / CaCO3 Cmt Matrix) Barren Ls Wht-Crm Microxln Micrite Dns Barren No Odor No Flor No Stn NS

Sh Varicolored Char-Lt Gry-Drk Gry- Blk Carb- Aqua-Yell- Maroon- Red Fissil Cht Tan-Yell Op Shp Vit Ls Wht-Crm Microxln Micrite Dns Barren Qtz Ss AA Barren No Odor No Flor No Stn NS

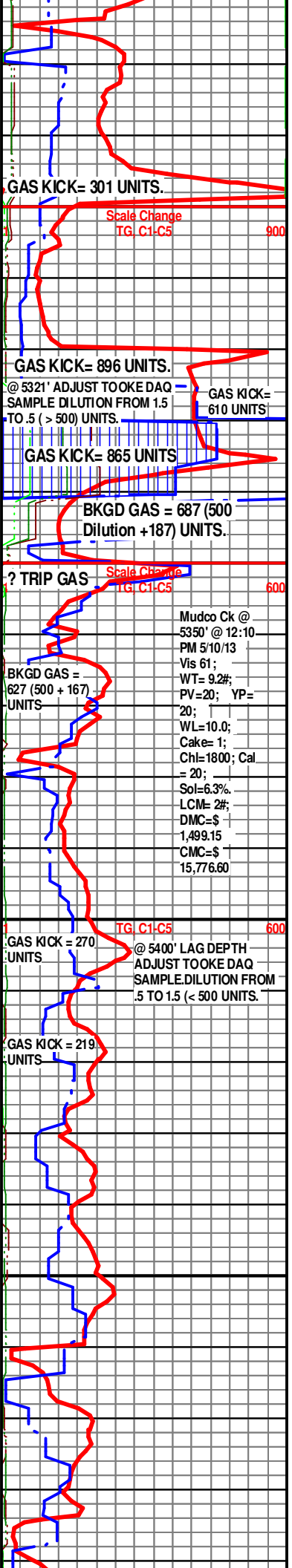
Ls Wht-Crm Microxln Micrite Dns Cht Tan-Yell Op Shp Vit Sh Varicolored Char-Lt Gry-Drk Gry- Blk Carb-Aqua-Yell-Maroon-Red Fissil AA Qtz Ss AA Barren Fos (Brach) No Odor No Flor No Stn NS

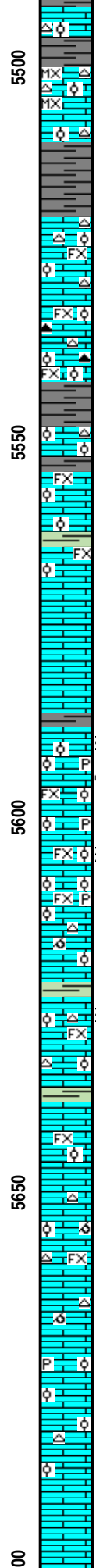
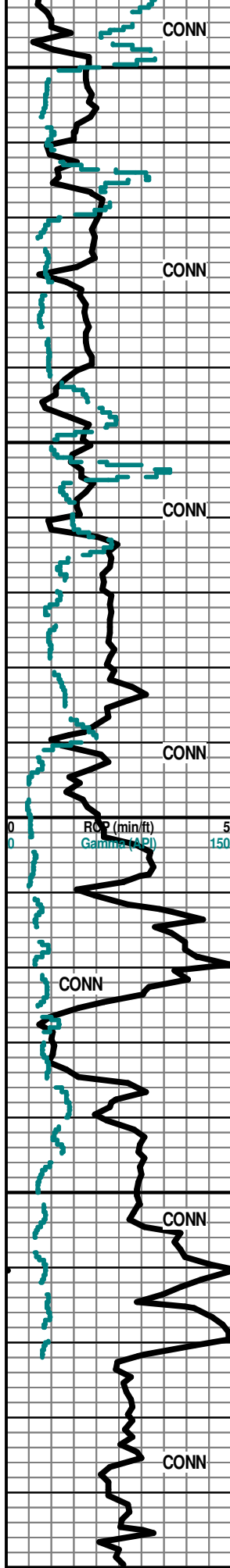
Ls Wht-Crm Microxln Micrite Dns Cht Tan-Yell Op Shp Vit Sh Varicolored Char-Lt Gry-Drk Gry- Blk Carb -Aqua- Yell- Purple -Maroon-Red Fissil AA Qtz Ss AA Barren No Odor No Flor No Stn NS

Ls Wht-Crm Microxln Micrite Dns Grad OOL Por (with/VFn (Small Ooids "Sandy Ls" in pl)) Poor lxn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char-Aqua- Purple -Lt Gry- Maroon-Red- Blk Carb Fissil No Odor No Flor No Stn NS

### MISSISSIPPIAN STE. GEN 5478' (- 2620)

Ls Wht-Crm Microxln Micrite Dns Grad OOL Por (with/VFn Ooids "Sandy Ls" in pl) Poor lxn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char --Aqua- Purple -Lt Gry- Maroon-Red- Blk Carb Fissil No Odor No Flor No Stn NS





Ls Wht-Crm Microxn Micrite Dns Grad OOL Por (with/VFn Ooids "Sandy Ls" in pl) Poor lxn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char --Aqua - Purple-Lt Gry-Yell-Olive- Maroon-Red- Blk Carb Fissil No Odor No Flor No Stn NS

Ls Wht-Lt Grn Microxn Micrite Dns Grad OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor lxn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char --Aqua - Purple-Lt Gry-Yell-Olive- Maroon-Red- Blk Carb Fissil Dec No Odor No Flor No Stn NS

Ls Wht-Lt Grn Fxn Micrite Dns Grad OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor lxn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char --Aqua - Purple-Lt Gry-Yell-Olive- Maroon-Red- Blk Carb Fissil Dec No Odor No Flor No Stn NS

Ls Wht-Lt Grn Fxn Micrite Dns Grad OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor lxn-InterOOL Por Cht Wht-Peach-Org Op Shp Vit Sh Varicolored AA Fissil No Odor No Flor No Stn NS

Ls Wht-Lt Grn Fxn Micrite Dns Grad OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor lxn-InterOOL Por Cht Wht Trip (with/Gillisonitic Brn-Blk Stn) Translu Op Shp Vit Sh Vari- colored AA Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Lt Grn Microxn OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor InterOOL Por Sh Varicolored AA Fissil No Odor No Flor No Stn NS

Ls Wht-Lt Crm- Grn Fxn OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor InterOOL Por Sh Varicolored AA Fissil No Odor No Flor No Stn NS

Lost Returns - No Sample

Lost Returns - No Sample

**MISS. ST. LOUIS "A" 5588' (- 2730)**

Ls Wht Fxn Med-Good OOL Por (with Small/Med OOids in pl) Med-Good InterOOL Por With F-M SG & ? SO (Drk Blk Gillsonitic Stn on OOL Edges) (Gas & Oil Do Not Flor) Fair OOid Leaching Fair-Med Develop Pyr Mass Sh Vari- colored Aqua-Char-Gry-Maroon-Yell AA No Flor Fair Inc Odor FSG & ? SO

Ls Wht Fxn Fair-Med-Good OOL Por (with Small/Med OOids in pl) Med-Good InterOOL Por With F-M SG & ? SO (Drk Blk Gillsonitic Stn on OOL Edges) (Gas & Oil Do Not Flor) Poor-Fair OOid Leaching Fair-Med Develop Friable ? Frac Por Cht Tan Op Shp Vit Pyr Mass Chalk Sh Varicolored Aqua -Char - Gry -Maroon-Yell AA No Flor Good Inc Odor FSG & ? SO

Ls Wht Fxn Micritic Dns Grad Poor-Fair OOL Por (with Small/Med OOids in pl) Poor InterOOL Por With Poor SG & ? SO (Drk Blk Gillsonitic Stn on OOL Edges) (Gas & Oil Do Not Flor) Poor OOid Leaching Poor-Fair Develop Friable Grad Ls Brn OOM Por Poor Inter OOM Por Barren Cht Wht Op Shp VitPyr Mass Chalk Sh Varicolored Aqua-Char-Gry-Maroon-Yell AA No Flor Poor Odor ? SSG & ? SSO

**MISS. ST. LOUIS "B" 5622' (- 2764)**

Ls Wht Fxn Med-Good OOL Por (with/Med OOids in pl) Good InterOOL Por With M-GSG & M-GSFO (Lt Brn) (Tr Drk Blk Gillsonitic Stn on OOid Edges) (Gas & Oil Do Not Flor) M-Good OOid Vug Leaching Good Develop V Friable Cht Wht- Lt Grn Op Shp Vit Pyr Mass Abd Chalk Sh Varicolored Aqua-Char-Gry-Maroon No Flor Good Inc Odor GSG & GSFO

Ls Wht Fxn Micrite Grad VFn OOL (with V Small OOids in pl) Poor InterOOL Por Poor Leaching Poor Develop Dec Sh Varicolored Aqua-Char-Gry-Maroon AA No Flor V Faint Odor No Stn NS

Ls Wht-Crm Fxn Micrite Grad VFn OOL (with V Small OOids in pl) Poor InterOOL Por Poor Leaching Poor Develop Dec Grad Tr Poor OOM Por Poor Inter OOM Por Poor Leaching Poor Vug Develop Cht Wht Translu-Op Shp Vit Sh Varicolored Aqua-Char-Gry-Maroon AA No Flor V Faint Odor No Stn NS

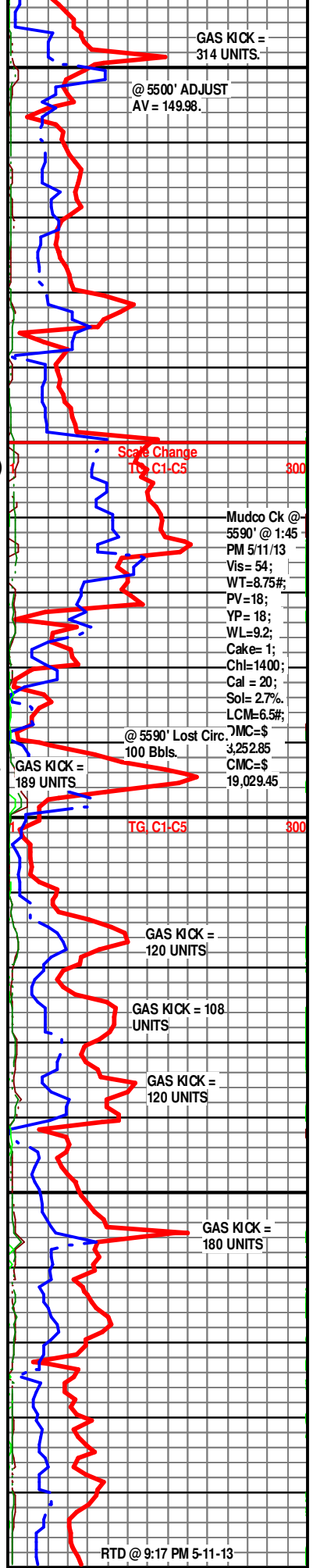
Ls Wht-Crm-Gry Fxn Micrite Grad VFn OOL (with V Small OOids in pl) Poor InterOOL Por Grad Tr Poor OOM Por Poor InterOOM Por Poor Leaching Poor Develop Cht Wht Translu-Op Shp Vit Sh Varicolored Aqua-Char-Gry-Maroon No Flor V Faint Odor No Stn NS

Ls Wht-Crm-Gry Fxn Micrite Grad VFn OOL (with V Small OOids & Pyr Includ in pl) Poor InterOOL Por Sh Varicolored Aqua-Char-Gry-Yell-Maroon No Flor No Odor No Stn NS

30" CFS @ 5700' Ls Wht-Crm Fxn Micrite Grad VFn OOL POR (with V Small OOids in pl) Poor InterOOL Por Cht Wht Op Shp Vit Sh Varicolored Aqua- Char- Gry No Flor No Odor No Stn NS

60" CFS @ 5700' Ls Wht-Crm Fxn Micrite Grad VFn OOL POR (with V Small OOids in pl) Poor InterOOL Por Sh Varicolored Aqua- Char- Gry No Flor No Odor No Stn NS

75" CFS @ 5700' Ls Wht-Crm Fxn Micrite Grad VFn OOL POR (with V Small OOids in pl) Poor InterOOL Por Sh Varicolored Aqua- Char- Gry No Flor No Odor No Stn NS



R.T.D. = 5700' (- 2842)  
L.T.D. = 5703' (- 2845)

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

RTD @ 9:17 PM 5-11-13

Geologist Left Location @ 8:00 AM on 5-12-13

5750

00