



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

Well Name: KINCHELOE 6B #1
Location: 5' S. & 150' W.- NW - NE - NW
License Number: A.P.I. # 15-057-20,876-00-00
Spud Date: 02/11/2013
Surface Coordinates: SPOT: 335' FNL & 1500' FWL

Region: FORD CO., KS.
Drilling Completed: 02/23/2013

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 2436' **K.B. Elevation (ft):** 2446'
Logged Interval (ft): 352' **To:** 5172' **Total Depth (ft):** 5172'
Formation: MISSISSIPPIAN "SALEM (SPERGEN)"
Type of Drilling Fluid: CHEMICAL/ POLYMER/ GEL

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OPERATOR

Company: RITCHIE EXPLORATION, INC.
Address: P.O. BOX 783188
WICHITA, KANSAS 67278-3188

GEOLOGIST

Name: DAVID P. WILLIAMS, P.G.
Company: DW Energy, LLC (DWE)
Address: 312 North Broadview Street
Wichita, Kansas 67208

CASING & DEVIATION

2/11/2013 Spud at 4:00 P.M. Ran 8 jts new 23# 8-5/8" surface casing. Tally at 340', set at 352'. Cemented with 225 sacks Class A, 3% cc, 2% gel. Plug down at 12:00 A.M. Cement circulated.

Deviation Survey's Taken: @ 352'= 3/4 degree; @ 4845'= 1 degree; @ 5095'= 1 degree; @ 5170' = 1 degree.

DSTs

DST #1 4810'-4845'. Times: 30"-45"-30"-30". Blow: IF= Weak Blow Build / Died @ 23"; FF= No Blow Flushed Tool (No Help). Recovery: 15' M. Pressures: IH=2337#; FH=2264#; IF= 15-18#; FF=18-21#; ISIP = 1405#; FSIP= 1117#; Temp.= 111 degrees F.

DST #2 4900'-4975'. Times: 30"-30"-30"-30". Blow: IF= Weak Blow Build / Died @ 11"; FF= No Blow Flushed Tool @ 10" (No Help). Recovery: 10' M. Pressures: IH= 2536#; FH= 2394#; IF= 19-19#; FF= 18-23#; ISIP = 36#; FSIP= 38#; Temp.= 112 degrees F.

DST #3 4945'-5095'. Times: 30"-45"-45"-60". Blow: IF= Strong Blow Build/BOB @ 16"; FF= Strong Blow Build/BOB @ 38". Recovery: 585' TF. 75' WCM (5% W & 95% M); 255' WCM (20% W & 80% M); 255' WCM (40% M & 60% M). Pressures: IH= 2544#; FH=2426#; IF= 33-176#; FF= 184-290#; ISIP = 1521#; FSIP+ 1517#. Chl=65,000 Ppm.; RW= .21 @ 39 degrees F.; Temp.= 115 degrees F.


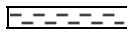

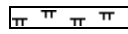
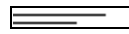
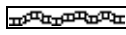




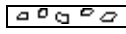







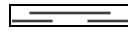

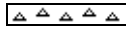


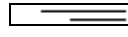
Comments

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 this well appears to be non-commercial and should be plugged and abandoned.
































































Respectfully submitted,

David P. Williams, P.G














ROCK TYPES

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

ACCESSORIES

MINERAL	 Hvmin	 Belm	 Pellet
 Anhy	 Kaol	 Bioclst	 Pisolite
 Arggrn	 Marl	 Brach	 Plant
 Arg	 Minxl	 Bryozoa	 Strom
 Bent	 Nodule	 Cephal	
 Bit	 Phos	 Coral	STRINGER
 Brecfrag	 Pyr	 Crin	 Anhy
 Calc	 Salt	 Echin	 Arg
 Carb	 Sandy	 Fish	 Bent
 Chtdk	 Silt	 Foram	 Carbsh
 Chtlt	 Sil	 Fossil	 Coal
 Dol	 Sulphur	 Fuss	 Dol
 Feldspar	 Tuff	 Gastro	 Grysh
 Ferrpel	FOSSIL	 Oolite	 Gryslt
 Ferr	 Algae	 Oomold	 Gyp
 Glau	 Amph	 Ostra	 Ls
 Gyp		 Pelec	 Mrst

TEXTURE

 Siltstrg	 Boundst
 Ssstrg	 Chalky
	 Cryxln
	 Earthy
	 Finexln
	 Grainst
	 Lithogr
	 Microxln
	 Mudst
	 Packst
	 Wackest

OTHER SYMBOLS

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

[V] Vuggy

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

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

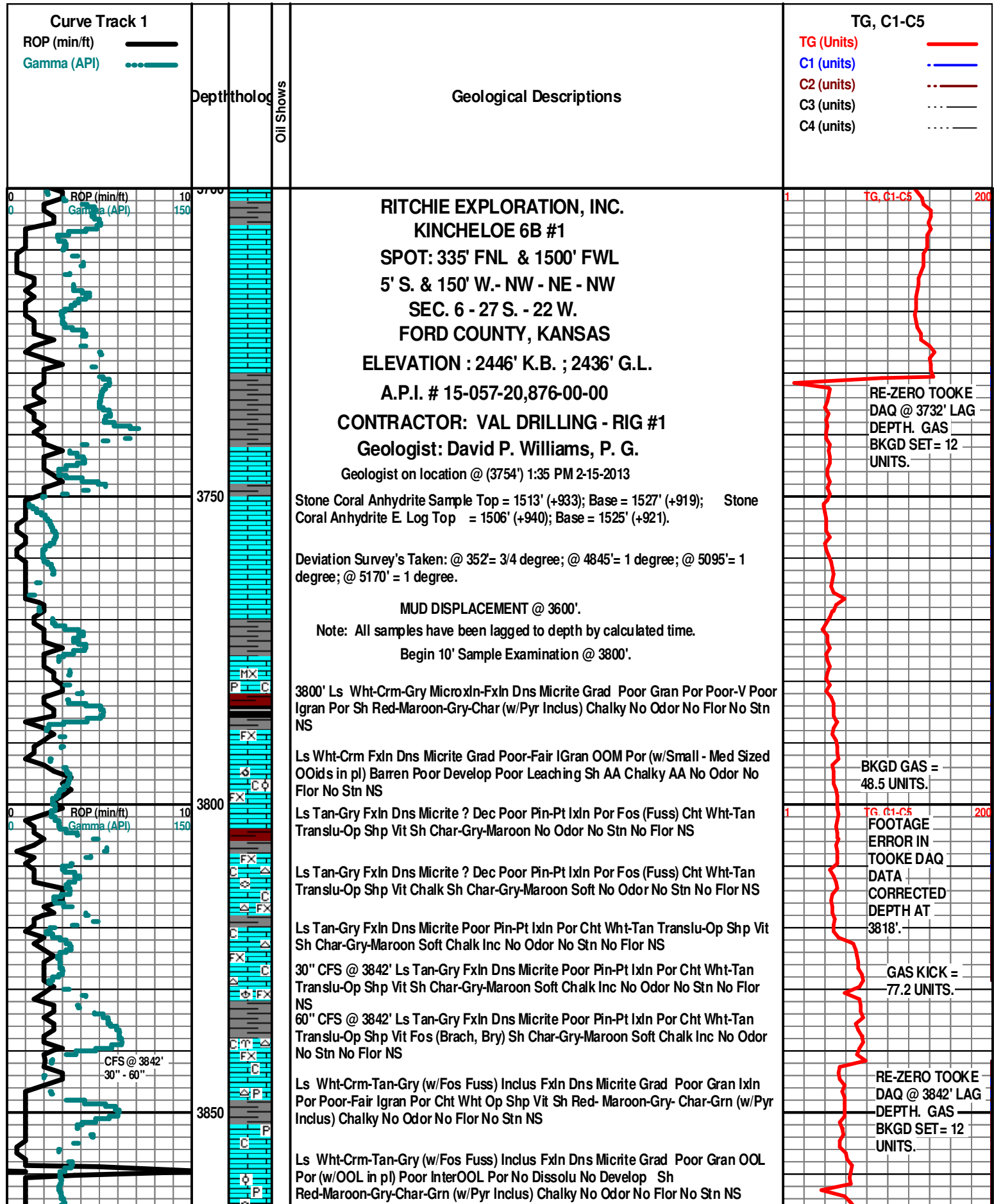
- OIL SHOW**
- [X] Gas show

- [●] Even
- [◐] Spotted
- [◑] Ques
- [◒] Dead

- INTERVAL**
- [■] Core
 - [■] Dst

[■] Dst_alt

- EVENT**
- [▽] Rft
 - [▲] Sidewall



RITCHIE EXPLORATION, INC.
KINCHELOE 6B #1
 SPOT: 335' FNL & 1500' FWL
 5' S. & 150' W.- NW - NE - NW
 SEC. 6 - 27 S. - 22 W.
 FORD COUNTY, KANSAS
 ELEVATION : 2446' K.B. ; 2436' G.L.

A.P.I. # 15-057-20,876-00-00
CONTRACTOR: VAL DRILLING - RIG #1
Geologist: David P. Williams, P. G.
 Geologist on location @ (3754) 1:35 PM 2-15-2013

Stone Coral Anhydrite Sample Top = 1513' (+933); Base = 1527' (+919); Stone Coral Anhydrite E. Log Top = 1506' (+940); Base = 1525' (+921).

Deviation Survey's Taken: @ 352' = 3/4 degree; @ 4845' = 1 degree; @ 5095' = 1 degree; @ 5170' = 1 degree.

MUD DISPLACEMENT @ 3600'.

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

Begin 10' Sample Examination @ 3800'.

3800' Ls Wht-Crm-Gry MicroIn-FxIn Dns Micrite Grad Poor Gran Por Poor-V Poor Igran Por Sh Red-Maroon-Gry-Char (w/Pyr Includ) Chalky No Odor No Flor No Stn NS

Ls Wht-Crm FxIn Dns Micrite Grad Poor-Fair Igran OOM Por (w/Small - Med Sized OOids in pl) Barren Poor Develop Poor Leaching Sh AA Chalky AA No Odor No Flor No Stn NS

Ls Tan-Gry FxIn Dns Micrite ? Dec Poor Pin-Pt IxIn Por Fos (Fuss) Cht Wht-Tan Translu-Op Shp Vit Sh Char-Gry-Maroon No Odor No Stn No Flor NS

Ls Tan-Gry FxIn Dns Micrite ? Dec Poor Pin-Pt IxIn Por Fos (Fuss) Cht Wht-Tan Translu-Op Shp Vit Chalk Sh Char-Gry-Maroon Soft No Odor No Stn No Flor NS

Ls Tan-Gry FxIn Dns Micrite Poor Pin-Pt IxIn Por Cht Wht-Tan Translu-Op Shp Vit Sh Char-Gry-Maroon Soft Chalk Inc No Odor No Stn No Flor NS

30" CFS @ 3842' Ls Tan-Gry FxIn Dns Micrite Poor Pin-Pt IxIn Por Cht Wht-Tan Translu-Op Shp Vit Sh Char-Gry-Maroon Soft Chalk Inc No Odor No Stn No Flor NS

60" CFS @ 3842' Ls Tan-Gry FxIn Dns Micrite Poor Pin-Pt IxIn Por Cht Wht-Tan Translu-Op Shp Vit Fos (Brach, Bry) Sh Char-Gry-Maroon Soft Chalk Inc No Odor No Stn No Flor NS

Ls Wht-Crm-Tan-Gry (w/Fos Fuss) Includ FxIn Dns Micrite Grad Poor Gran IxIn Por Poor-Fair Igran Por Cht Wht Op Shp Vit Sh Red- Maroon-Gry- Char-Grn (w/Pyr Includ) Chalky No Odor No Flor No Stn NS

Ls Wht-Crm-Tan-Gry (w/Fos Fuss) Includ FxIn Dns Micrite Grad Poor Gran OOL Por (w/OOL in pl) Poor InterOOL Por No Dissolu No Develop Sh Red-Maroon-Gry-Char-Grn (w/Pyr Includ) Chalky No Odor No Flor No Stn NS

TG, C1-C5

TG (Units) ————

C1 (units) ————

C2 (units) ————

C3 (units) ————

C4 (units) ————

RE-ZERO TOOKE DAQ @ 3732' LAG DEPTH. GAS BKGD SET= 12 UNITS.

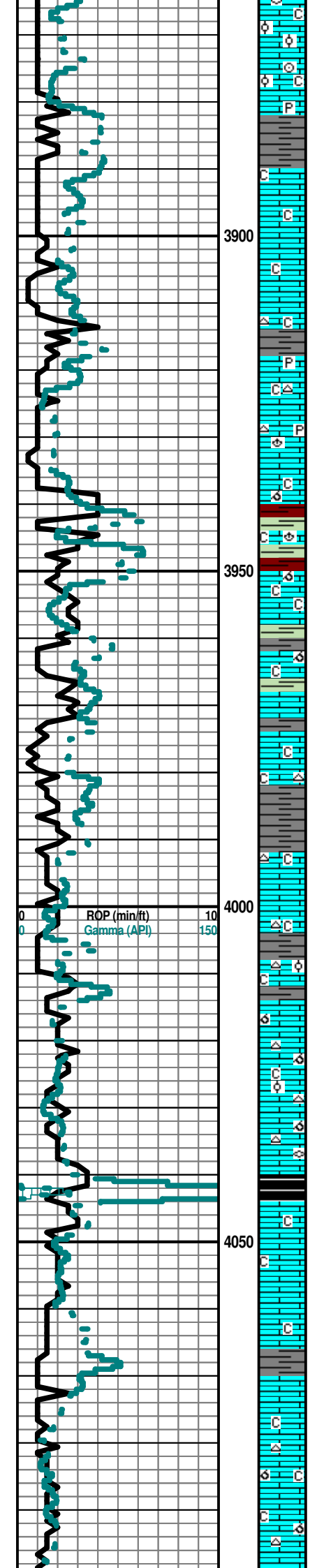
BKGD GAS = 48.5 UNITS.

FOOTAGE ERROR IN TOOKE DAQ DATA CORRECTED DEPTH AT 3818'.

GAS KICK = 77.2 UNITS.

RE-ZERO TOOKE DAQ @ 3842' LAG DEPTH. GAS BKGD SET= 12 UNITS.

CFS @ 3842' 30" - 60"



Ls Wht-Crm-Tan-Gry Inklus FxIn Dns Micrite Grad Poor Gran OOL Por (w/OOL in pl) Poor InterOOL Por No Dissolu No Develop Fos (Crin) Sh Red-Maroon-Gry-Char-Grn (w/Pyr Inklus) Chalky No Odor No Flor No Stn NS

Ls Wht-Crm-Tan-Gry Inklus FxIn Dns Micrite Grad Poor-Fair IxIn Por Sh Red-Maroon-Gry-Char-Grn (w/Pyr Inklus) Chalky No Odor No Flor No Stn NS

Ls Wht-Crm-Tan-Gry Inklus FxIn Dns Micrite Grad Poor-Fair IxIn Por Sh Red-Maroon-Gry-Char-Grn Chalky No Odor No Flor No Stn NS

Ls Wht-Crm-Tan-Gry Inklus FxIn Dns Micrite Grad Poor-Fair IxIn Por Sh Red-Maroon-Gry-Char-Grn Soft-Fissil Chalk Inc No Odor No Flor No Stn NS

Ls Wht-Crm-Tan-Gry FxIn Dns Micrite Grad Poor Gran OOL Por (w/Small OOL in pl) Poor InterOOL Por Poor Dissolu Poor Develop Cht Wht Op Shp Vit Sh Red-Maroon-Gry-Char-Grn-Aqua-Olive Soft-Fissil Chalky No Odor No Flor No Stn NS

Ls Wht-Crm-Tan-Gry FxIn Dns Micrite Grad Poor Gran OOM Por (w/Small OOL in pl) Poor InterOOM Por Poor Dissolu Poor Develop Cht Wht Op Shp Vit Sh Red-Maroon-Gry-Char-Grn (w/Pyr Inklus)-Aqua-Olive Soft-Fissil Chalky No Odor No Flor No Stn NS

Sh Red-Maroon-Gry-Char-Grn (w/Fos (Brach) Inklus)-Aqua-Olive Soft-Fissil Ls Wht-Crm-Tan-Gry FxIn Dns Micrite Chalky No Odor No Flor No Stn NS

Ls Wht-Crm-Tan-Gry FxIn Dns Micrite Grad Poor Gran OOM Por Poor InterOOM Por Poor Dissolu Poor Develop Chalk Abd Sh Maroon - Gry - Char - Grn Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Crm FxIn Dns Micrite Grad Poor OOM Por Poor InterOOM Por Poor-Fair Dissolu Poor-Fair Develop Chalk Abd Sh Maroon-Gry-Char-Grn Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan FxIn Dns Micrite Grad Poor OOM Por Poor InterOOM Por Poor-Fair Dissolu Poor-Fair Develop Chalk Abd Sh Blk Carb - Gry - Char - Grn - Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan FxIn Dns Micrite Grad Dec Poor OOM Por Poor InterOOM Por Poor Dissolu Poor Develop Chalk Abd Sh Blk Carb - Gry - Char - Grn - Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan FxIn Fair Pin-Pt IxIn Por Grad Dns Micrite Cht Wht-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Tan FxIn Fair Pin-Pt IxIn Por Grad Dns Micrite Chalk Wht Soft Sh Char-Gry Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Tan FxIn Fair Pin-Pt IxIn Por Grad Dns Micrite Cht Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Soft No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair Pin-Pt IxIn Por Grad OOL/OOM Por Poor Inter - OOL/OOM Por Poor Develop Poor Leaching Grad Dns Micrite Cht Wht Op Shp Vit Chalk Wht Soft Sh Char-Gry-Maroon Soft No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair Pin-Pt IxIn Por Grad OOL/OOM Por Poor Inter - OOL/OOM Por Poor Develop Poor Leaching Grad Dns Micrite Cht Wht Op Shp Vit Chalk Wht Soft Sh Char-Gry-Maroon Soft No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair Pin-Pt IxIn Por Grad OOL/OOM Por Poor Inter - OOL/OOM Por Poor Develop Poor Leaching Grad Dns Micrite Fos (Fuss) Cht Wht-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry-Maroon Soft No Odor No Stn No Flor NS

KING HILL SHALE 4040' (- 1594)

Ls Wht-Crm FxIn Fair AA Chalk V Abd Soft Sh Char-Gry-Maroon-Blk Carb Tr Soft No Odor No Stn No Flor NS

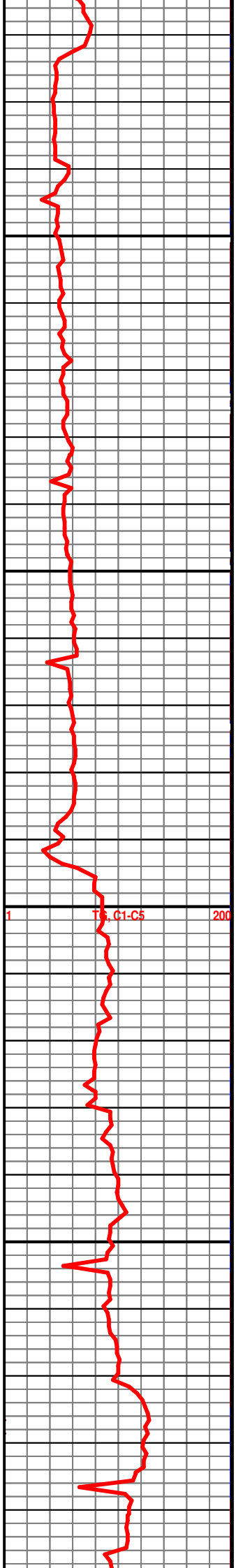
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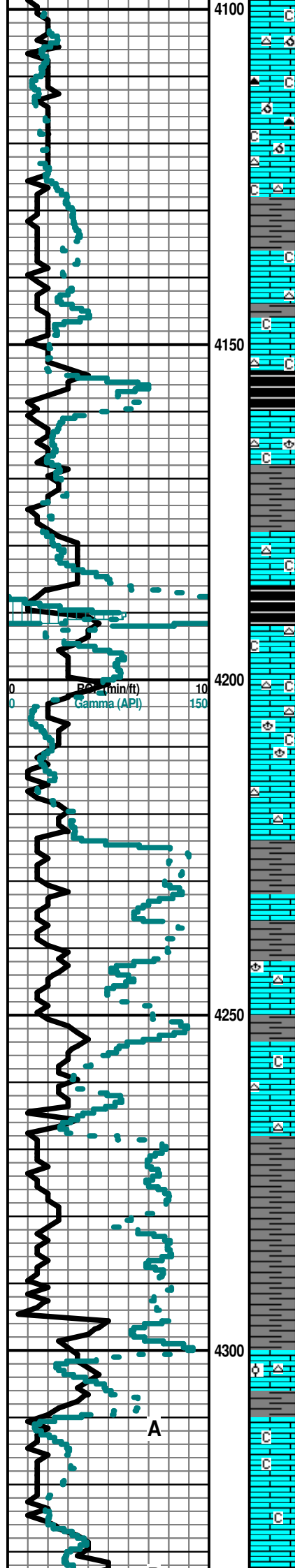
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Ls Wht-Crm-Tan FxIn Fair Pin-Pt IxIn Por Grad Dns Micrite Grad Poor OOM Por AA Cht Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Tan FxIn Fair Pin-Pt IxIn Por Grad Dns Micrite Grad Poor OOM Por AA Cht Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Soft No Odor No Stn No Flor NS





Ls Wht-Crm-Tan Fxln Fair Pin-Pt Ixln Por Grad Dns Micrite Grad Poor OOM Por AA
Cht Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln Fair Pin-Pt Ixln Por Grad Dns Micrite Grad Poor OOM Por AA
Cht Gry-Drk Gry-Blk Op Shp Vit Chalk Wht Soft Sh Char-Gry Soft No Odor No Stn
No Flor NS

Ls Wht-Crm Fxln Fair Pin-Pt Ixln Por Grad OOL/OOM Por Poor Inter - OOL/OOM Por AA Poor Develop
Poor Leaching Grad Dns Micrite Cht Wht Op Shp Vit Chalk V Abd Wht Soft Sh
Char-Gry-Grn-Maroon-Blk Carb Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Poor-Fair Pin-Pt Ixln Por Grad Dns Micrite Cht Wht Op Shp Vit
Chalk Wht Soft Sh Char-Gry-Grn-Maroon-Tr Blk Carb Soft-Fissil No Odor No Stn
No Flor NS

Ls Wht-Crm Fxln Poor-Fair Pin-Pt Ixln Por Grad Dns Micrite Cht Wht Op Shp Vit
Chalk Wht Soft Sh Char-Gry-Grn-Maroon-Tr Blk Carb Soft-Fissil No Odor No Stn
No Flor NS

Ls Wht-Crm Fxln Poor-Fair Pin-Pt Ixln Por Grad Dns Micrite Cht Wht Op Shp Vit Chalk Wht Soft Sh
Char-Grv-Grn-Maroon-Tr Blk Carb Soft-Fissil No Odor No Stn No Flor NS

QUEEN HILL SHALE 4154' (- 1708)

Sh Blk Carb-Char-Gry Soft-Fissil Ls Wht-Crm Fxln Poor Pin-Pt Ixln Por Grad Dns Micrite Cht Wht Op
Shp Vit Chalk Wht Soft No Odor No Stn No Flor NS

Sh Blk Carb-Char-Gry-Tr red Soft-Fissil Ls Wht-Crm Fxln Poor Pin-Pt Ixln Por Grad Dns Micrite Cht
Wht Op Shp Vit Chalk Wht Soft Fos (Brach) No Odor No Stn No Flor NS

Ls Crm-Tan Fxln Fair-Poor Pin-Pt Ixln Por Grad Dns Micrite Cht Wht Op Shp Vit Chalk Wht Soft Sh Blk
Carb-Char-Gry-Aqua-Maroon Soft-Fissil No Odor No Stn No Flor NS

HEEBNER 4186' (- 1740)

Ls Crm-Tan Fxln Poor-Fair Pin-Pt Ixln Por Grad Dns Micrite Cht Wht Op Shp Vit
Chalk Wht Soft Sh Blk Carb-Char-Gry-Aqua-Maroon Soft-Fissil No Odor No Stn No
Flor NS

TORONTO 4202' (- 1756)

Ls Wht-Crm Fxln Poor-Fair Pin-Pt Ixln Por Grad Dns Micrite Cht Wht Op Shp Vit
Fos (Brach) Chalk Wht Soft Sh Blk Carb-Char-Gry-Aqua-Maroon Soft-Fissil No
Odor No Stn No Flor NS

Sh Char-Gry-Aqua-Grn-Maroon-Tr Blk Carb Soft-Fissil Ls Crm-Tan Fxln Den Micrite
Grad Tr Poor Pin-Pt Ixln Por Cht Wht Op Shp Vit No Odor No Stn No Flor NS

DOUGLAS 4224' (- 1778)

Sh Char-Gry-Aqua-Grn-Maroon-Tr Blk Carb Soft-Fissil Ls Crm-Tan Fxln Den Micrite
Grad Tr Poor Pin-Pt Ixln Por Cht Wht Op Shp Vit No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Poor-Fair Pin-Pt Ixln Por Grad Dns Micrite Cht Wht Op Shp Vit
Fos (Brach) Chalk Wht Soft Sh Blk Carb-Char-Gry-Aqua-Maroon Soft-Fissil No
Odor No Stn No Flor

Ls Wht-Crm Fxln Poor-Fair Pin-Pt Ixln Por Grad Dns Micrite Cht Wht Op Shp Vit
Fos (Brach) Chalk Wht Soft Sh Blk Carb-Char-Gry-Aqua-Maroon Soft-Fissil No
Odor No Stn No Flor NS

Sh Char-Gry-Aqua-Grn-Maroon-Tr Blk Carb Soft-Fissil Ls Crm-Tan Fxln Den Micrite
Grad Tr Poor Pin-Pt Ixln Por Cht Wht Op Shp Vit No Odor No Stn No Flor NS

Sh Char-Gry-Aqua-Grn-Maroon-Tr Blk Carb Soft-Fissil Ls Crm-Tan Fxln Den Micrite
Grad Tr Poor Pin-Pt Ixln Por Cht Wht Op Shp Vit No Odor No Stn No Flor NS

Sh Char-Gry-Aqua-Grn-Maroon-Tr Blk Carb Soft-Fissil Ls Crm-Tan Fxln Den Micrite
Grad Tr Poor Pin-Pt Ixln Por Cht Wht Op Shp Vit No Odor No Stn No Flor NS

Sh Char-Gry-Aqua-Grn-Maroon-Tr Blk Carb Soft-Fissil Ls Crm-Tan Fxln Den Micrite
Cht Wht Op Shp Vit No Odor No Stn No Flor NS

IATAN (BROWN LIME) 4301' (- 1855)

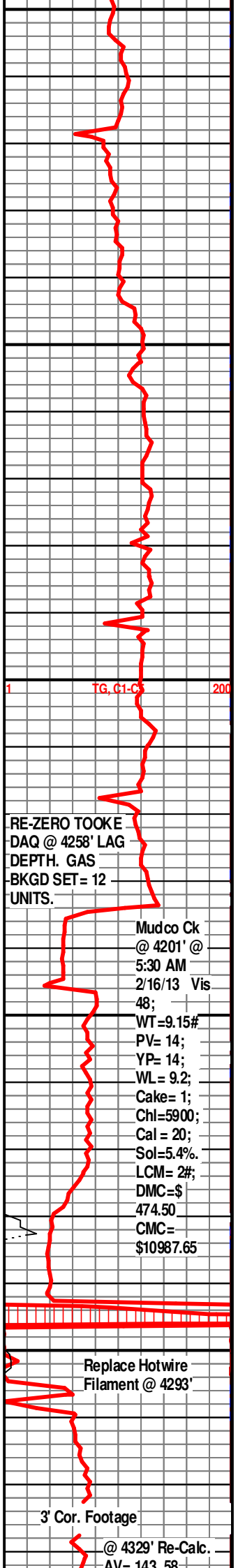
Ls Wht-Crm-Tan Fxln Fair-Poor Dns Micrite Chalk Wht Soft Sh Char-Gry-Maroon Soft-Fissil No Odor
No Stn No Flor NS

LANSING 4310' (- 1864)

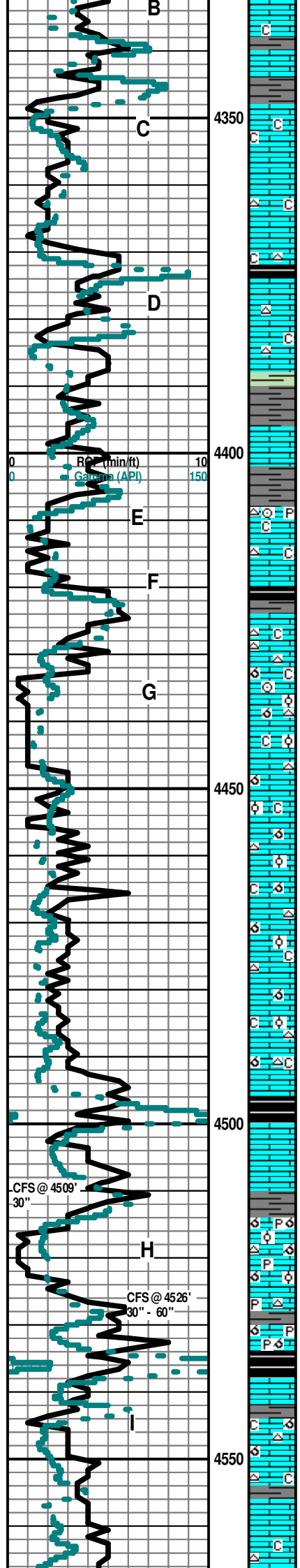
Ls Wht-Crm-Tan Fxln Fair-Poor Dns Micrite Chalk Abd Sh Char - Gry -Maroon
Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln Fair-Poor Pin-Pt Ixln Por Grad Dns Micrite Chalk Wht Soft Sh
Char-Gry-Maroon Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln Fair-Poor Pin-Pt Ixln Por Grad Dns Micrite Chalk Wht Soft Sh
Char-Gry-Maroon Soft-Fissil No Odor No Stn No Flor NS



A



Ls Wht-Crm-Tan FxIn Fair-Poor Pin-Pt IxIn Por Grad Dns Micrite Chalk Wht Soft Sh Char-Gry-Maroon Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Tan-Gry FxIn Fair-Poor Pin-Pt IxIn Por Grad Dns Micrite Chalk Wht Soft Sh Char-Gry-Maroon Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Fair-Poor Pin-Pt IxIn Por Grad Dns Micrite Chalk Soft Sh Char-Gry-Maroon Soft-Fissil No Odor No Stn No Flor NS

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

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

Ls Wht-Crm-Gry FxIn Fair-Poor Pin-Pt IxIn Por Grad Dns Micrite Cht Wht-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry (w/Pyr Includ) FxIn Fair-Poor Pin-Pt IxIn Por Grad Dns Micrite Cht Wht-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry-Tr Bk Carb Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry (w/Pyr Includ) FxIn Fair-Poor Pin-Pt IxIn Por Grad Dns Micrite Cht Wht-Gry Op Shp Vit Fos (Crim w/Pyr Includ) Chalk Wht Soft Sh Char-Gry-Tr Bk Carb Fissil No Odor No Stn No Flor NS

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

Ls Wht-Crm-Tan FxIn Fair-Poor Pin-Pt IxIn Por Grad Dns Micrite Cht Wht Op Shp Vit Abd Chalk Wht Soft Sh Char-Gry-Maroon Fissil No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair-Poor Pin-Pt IxIn Por Grad Poor-Fair OOL/OOM Por (w/Small OOids in Pl) Poor Develop Poor Leaching Cht Wht Op Shp Vit Fos (Crim) Chalk Wht Soft Sh Char-Gry-Maroon Soft - Fissil No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair-Poor Pin-Pt IxIn Por Grad Poor-Fair OOM Por (w/Small-Med O)Sized OOids in Pl) Poor InterOOM Por Fair Develop Fair Leaching Cht Wht Op Shp Vit Chalk Wht Soft Sh Char-Gry-Maroon Tr Blk Carb Soft - Fissil No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair-Poor Pin-Pt IxIn Por Grad Poor-Fair OOM Por (w/Small-Med Sized OOids in Pl) Poor InterOOM Por Fair Develop Fair Leaching Cht Wht Op Shp Vit Chalk Wht Soft Sh Char-Gry-Maroon Tr Blk Carb Soft - Fissil No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair-Poor Pin-Pt IxIn Por Grad Poor-Fair OOM Por (w/Small-Med Sized OOids in Pl) Poor InterOOM Por Grad Fair Vug Leached Por Fair Develop Cht Wht Op Shp Vit Chalk Wht Soft Sh Char-Gry-Maroon Tr Blk Carb Soft - Fissil No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair-Poor Pin-Pt IxIn Por Grad Poor-Fair OOM Por (w/Small-Med Sized OOids in Pl) Poor InterOOM Por Grad Fair Vug Leached Por Fair Develop Cht Wht Op Shp Vit Chalk Wht Soft Sh Char-Gry-Maroon Tr Blk Carb Soft - Fissil No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair-Poor Pin-Pt IxIn Por Grad Poor-Fair OOM Por (w/Small-Med Sized OOids in Pl) Poor InterOOM Por Grad Fair Vug Leached Por Fair Develop Cht Wht Op Shp Vit Chalk Wht Soft Sh Char-Gry-Maroon Tr Blk Carb Soft - Fissil No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Fair-Poor Pin-Pt IxIn Por Grad Poor-Fair OOM Por (w/Small-Med Sized OOids in Pl) Poor InterOOM Por Grad Fair Vug Leached Por Fair Develop Cht Wht Op Shp Vit Chalk Wht Soft Sh Char-Gry-Maroon Tr Blk Carb Soft - Fissil No Odor No Stn No Flor NS

Ls Wht-Crm FxIn AA Cht Wht Op Shp Vit Chalk Wht Soft Sh AA No Odor No Stn No Flor NS

MUNCIE CREEK 4498' (- 2052)

30' CFS @ 4509' Sh Blk Carb-Char-Gry Fissil w/SSG Ls AA Barren ? Min Flor No Odor No Stn NS

KANSAS CITY "DRUM" (H) 4514' (- 2068)

30' CFS @ 4526' Ls Crm-Tan-Wht FxIn Abd Good OOM Por (Tr OOL in pl) Good Develop Good Vug Leaching Grad Dns Micrite (w/Pyr Includ) Barren Cht Wht-Drk Gry Translu-Op Shp Vit ? Min Flor No Odor No Stn NS

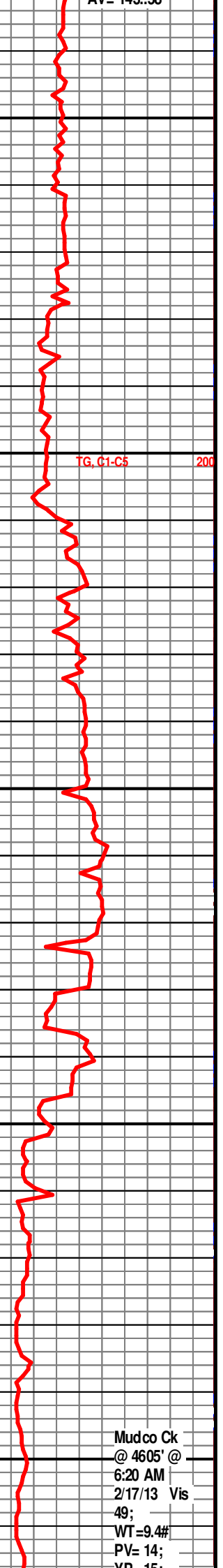
60' CFS @ 4526' Ls Crm-Tan-Wht FxIn Abd Good OOM Por (Tr OOL in pl) Good Develop Good Vug Leaching Grad Dns Micrite (w/Pyr Includ) Barren Cht Wht-Drk Gry Translu-Op Shp Vit ? Min Flor No Odor No Stn NS

Ls Crm-Tan-Wht FxIn Dns Micrite (w/Pyr Includ) Barren Grad Tr/Good OOM Por AA Good Develop Good Vug Leaching Cht Wht-Gry Translu-Op Shp Vit Sh Gry-Grn-Char Fissil ? Min Flor No Odor No Stn NS

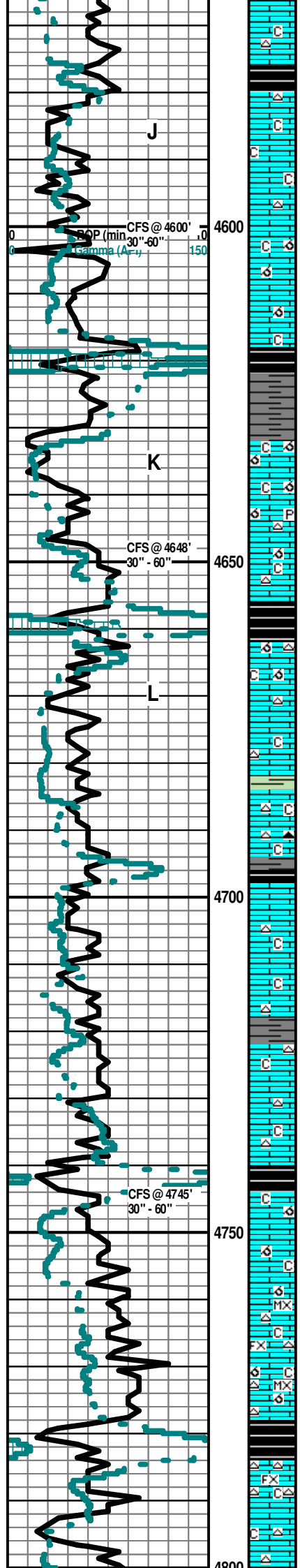
Ls Crm-Tan-Wht FxIn Dns Micrite Barren Grad Tr/Good OOM Por AA Good Develop Good Vug Leaching Cht Amber Translu Shp Vit Sh Gry-Grn-Char Fissil ? Min Flor No Odor No Stn NS

Ls Crm-Gry FxIn Dns Micrite Cht Wht-Gry-Drk Gry Op Shp Vit Chalk Sh Gry-Grn Soft-Fissil ? Min Flor No Odor No Stn NS

Ls Crm-Gry FxIn Dns Micrite Cht Wht-Gry-Drk Gry Op Shp Vit Chalk Sh Gry-Grn Soft-Fissil ? Min Flor No Odor No Stn NS



Mudco Ck @ 4605' @ 6:20 AM 2/17/13 Vis 49; WT=9.4# PV= 14; VP= 15;



Soft-Fissil ? Min Flor No Odor No Stn NS

Ls Crm-Gry FxIn Dns Micrite Cht Amber-Gry Op Shp Vit Chalk Sh Blk Gry-Grn Soft-Fissil ? Min Flor No Odor No Stn NS

30" CFS @ 4600' Ls Crm-Gry FxIn Dns Micrite Cht Amber-Gry Op Shp Vit Chalk Sh Blk Gry-Grn Soft-Fissil ? Min Flor No Odor No Stn NS

60" CFS @ 4600' Ls Crm-Gry FxIn Dns Micrite Chalk V Abd Cht Wht-Drk Gry Op Shp Vit (Tr Only) Sh Blk Gry-Grn Soft-Fissil ? Min Flor No Odor No Stn NS

Ls Wht-Crm-Gry FxIn Dns Micrite Tr OOM Por AA Barren Chalk V Abd Sh Gry-Maroon Soft-Fissil ? Min Flor No Odor No Stn NS

Ls Wht-Crm-Gry FxIn Dns Micrite Tr OOM Por AA Barren Chalk V Abd Sh Gry-Maroon Soft-Fissil ? Min Flor No Odor No Stn NS

STARK STARK 4620' (- 2174)

30" CFS @ 4650' Ls Wht-Crm-Gry FxIn Dns Micrite Grad Good Med-Lg OOM Por Good InterOOM Por Good Leaching Good Develop Poor InterOOM Por Barren Chalk V Abd Sh Blk Carb Abd- Gry (w/Pyr Includ) Soft-Fissil ? Min Flor No Odor No Stn NS

60" CFS @ 4650' Ls Wht-Crm-Gry FxIn Dns Micrite Inc Grad Good (Med-Lg) OOM Por Good InterOOM Por Good Leaching Good Develop Poor InterOOM Por Barren Dec Cht Wht-Gry (Banded) Op Shp Vit Chalk V Abd Sh Blk Carb Tr Dec - Gry (w/Pyr Includ) Soft-Fissil ? Min Flor No Odor No Stn NS

HUSHPUCKNEY 4658' (- 2212)

Ls Wht MicroxIn-FxIn Dns Micrite Grad Good Fair-Med OOM Por Poor InterOOM Por Fair Leaching Fair Develop Poor InterOOM Por Barren Dec Cht Wht Op Shp Vit Chalk V Abd Sh Blk Carb Tr Dec Gry Soft-Fissil ? Min Flor No Odor No Stn NS

Ls Wht-Gry MicroxIn-FxIn Dns Micrite Cht Wht Op Shp Vit Chalk Abd Sh Blk Carb-Gry Soft-Fissil ? Min Flor No Odor No Stn NS

Ls Wht-Crm-Tan MicroxIn-FxIn Dns Micrite Cht Amber-Wht Op Shp Vit Chalk Abd Sh Blk Carb-Char-Gry-Grn Soft-Fissil ? Min Flor No Odor No Stn NS

Ls Wht MicroxIn-FxIn Dns Micrite Cht Wht-Drk Brn Op Shp Vit Chalk Abd Sh Blk Carb-Gry Soft-Fissil ? Min Flor No Odor No Stn NS

BASE KANSAS CITY 4694' (- 2248)

MARMATON 4698' (- 2252)

Ls Wht-Crm MicroxIn-FxIn Dns Micrite Cht Wht-Gry Op Shp Vit Chalk Abd Sh Blk Carb-Gry Soft-Fissil ? Min Flor No Odor No Stn NS

Ls Wht-Crm MicroxIn-FxIn Dns Micrite Cht Wht-Gry (w/Fos Includ) Op Shp Vit Chalk Abd Sh Blk Carb-Gry Soft-Fissil ? Min Flor No Odor No Stn NS

Ls Crm-Brn MicroxIn-FxIn Dns Micrite Cht Wht-Gry (w/Fos Includ) Op Shp Vit Chalk Abd Sh Blk Carb-Gry Soft-Fissil ? Min Flor No Odor No Stn NS

30" CFS @ 4745' Ls Crm-Tan-Gry MicroxIn-FxIn Dns Micrite Cht Wht-Gry Op Shp Vit Chalk Sh Blk Carb-Gry Soft-Fissil ? Min Flor No Odor No Stn NS

60" CFS @ 4745' Sh Char-Grn-Gry-Maroon Soft-Fissil Ls Wht-Crm-Tan-Gry MicroxIn-FxIn Dns Micrite Cht Amber-Wht Op Shp Vit Chalk ? Min Flor No Odor No Stn NS

ALTAMONT "A" 4744' (- 2298)

Ls Tan-Gry MicroxIn Dns Micrite Barren Poor OOM Por Poor Develop Poor Leaching Barren Chalk Sh Char- Gry- Grn -Red Soft-Fissil ? Min Flor No Stn No Odor NS

Ls Tan-Gry-Crm MicroxIn Dns Micrite Barren Cht Wht Op Shp Vit Chalk Sh Char-Gry- Grn -Red Soft-Fissil ? Min Flor No Stn No Odor NS

Ls Wht-Crm MicroxIn-FxIn Dns Micritic Barren Grad Poot OOM Por Poor Leaching Por Develop Cht Gry Op Shp Vit Sh Char-Gry-Grn Soft-Fissil ? Min Flor No Stn No Odor NS

Sh Blk Carb-Gry (w/Pyr Includ)-Aqua-Maroon Soft-Fissil Ls Wht-Crm-Tan (w/Fos (Fuss) Includ) MicroxIn Dns Micrite Cht Wht Op Shp Vit Chalky No Odor No Stn No Flor NS

ALTAMONT "B" 4784' (- 2338)

30" CFS @ 4805' Ls Wht-Gry FxIn Fair Pin-Pt IxIn Por Mostly Micrite Cht Wht-Clear-Gry Translu-Op Shp-Vit Chalky Sh Blk Carb Tr-Cgar-Gry Fissil ? Min Flor No Stn No Odor NS

60" CFS @ 4805' Ls Wht-Gry FxIn Fair Pin-Pt IxIn Por Mostly Micrite Cht Wht-Clear-Gry Translu-Op Shp-Vit Chalky Sh Blk Carb Tr-Cgar-Gry Fissil ? Min

YP= 15;
WL= 9.6;
Cake= 1;
Chl=4100;
Cal = 20;
Sol=7.6%.
LCM= 2#;
DMC=\$
907.15
CMC=
\$118894.80

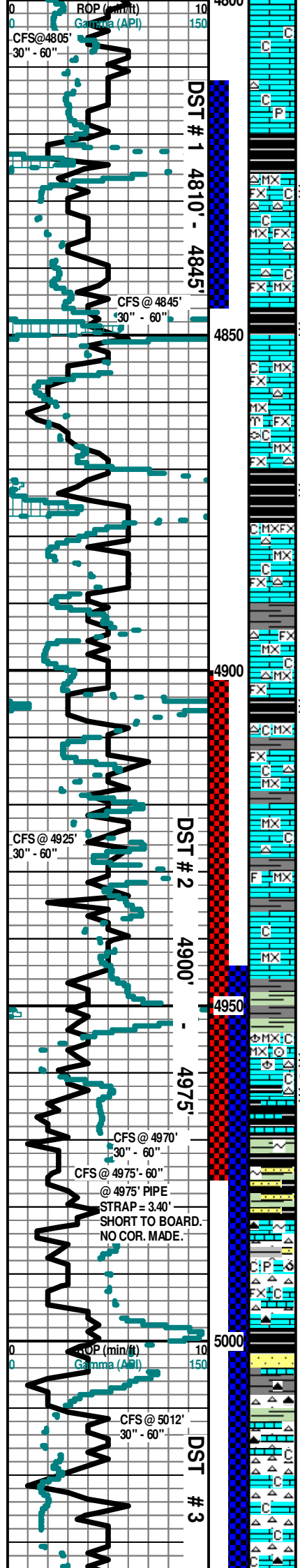
Mudco Ck @ 4625' @ 7:10 AM 2/18/13 Vis 48; WT=9.15# PV= 15; YP= 16; WL= 8.0; Cake= 1; Chl=2900; Cal = 20; Sol=5.6%. LCM= 2#; DMC=\$ 2843.95 CMC= \$14738.75

Mudco Ck @ 4975' @ 8:15 AM 2/19/13 Vis 49; WT=9.3# PV= 15; YP= 16; WL=10.4; Cake= 1; Chl=4700; Cal = 20; Sol=6.8%. LCM= 2#; DMC=\$ 37.70 CMC= \$14446.45

Note: GEOLOGRAPH CONNECTION WAS LOOSE. BOTH ROP & GAS NOT RECORDING ON TOOKE DAQ FROM 4745' - 4789'. DATA MANUALLY INPUT FROM TIME BASED LOG ON TOOKE DAQ.

@ 4806' AGITATOR FILTER PLUGGED OFF. FUSS BLOWN IN TOOKE DAQ GEOTRAILER. REPLACE FUSE & REPLACE AGITATOR IN SPL. BOX

DST #1 4810'-4845'. Times: 30"-45"-30"-30". Blow: IF= Weak Blow Build / Died @ 23"; FF= No Blow Flushed Tool (No Help). Recovery: 15' M. Pressures: IH=2337#; FH=2264#; IF= 15-18#; FF= 18-21#



Flr No Stn No Odor NS
Ls Wht-Crm MicroIn-FxIn Dns Micritic Barren Chalky Sh Char -Gry- Grn- Red Soft-Fissil No Flor No Stn No Odor NS

Ls Wht MicroIn-FxIn Dns Micrite Tr V Poor IxIn Por (w/Pyr Inklus) Barren Cht Tan Translu-Op Shp Vit Chalky Sh Blk Carb-Char-Gry- Grn-Aqua Soft-Fissil Sli ? Min Flor No Stn No Odor NS

PAWNEE 4826' (- 2380)

Ls Wht MicroIn-FxIn Dns Micrite Tr V Poor IxIn Por Barren Cht Tan Op Shp Vit Chalky Sh Blk Carb-Char-Gry- Grn-Aqua Soft-Fissil Sli ? Min Flor No Stn No Odor NS
30" CFS @ 4845' Ls Wht MicroIn-FxIn Dns Micrite Tr V Poor IxIn Por Barren Cht Tan Op Shp Vit Chalky Sh Blk Carb-Char-Gry- Grn-Aqua Soft-Fissil Sli ? Min Flor No Stn No Odor NS
60" CFS @ 4845' Ls Wht MicroIn-FxIn Dns Micrite Tr V Poor IxIn Por Barren Cht Tan Op Shp Vit Chalky Sh Blk Carb-Char-Gry- Grn-Aqua Soft-Fissil Sli ? Min Flor No Stn No Odor NS

FORT SCOTT 4850' (- 2404)

Sh Blk Carb-Char-Gry-Grn-Red Soft-Fissil Ls Wht-Crm MicroIn-FxIn Dns Micritic Barren Cht AA Chalky AA Scat ? Min Flor No Stn No Odor NS

Ls Wht-Crm MicroIn Dns Micrite Barren Fos (Lg Brach, Lg Fuss) Cht Wht Op Shp Vit Sh Blk Carb AA No Odor No Stn No Flor NS

CHEROKEE SHALE 4870' (- 2424)

Sh Blk Carb V Abd-Char (w/SG)-Gry-Grn Fissil Ls Wht-Crm MicroIn-FxIn Dns Micritic Barren Grad Poor PPM Por Poor Dissolu Poor Develop Cht Wht Op Shp Vit Chalky No Flor No Stn No Odor SG in Blk Sh
Ls Wht MicroIn-FxIn Dns Micrite Tr V Poor IxIn Por Barren Cht Gry Translu-Op Shp Vit Chalky Sh Blk Carb (w/Pyr Inklus)-Char-Gry-Grn No Flor No Stn No Odor NS

Ls Wht-Crm-Gry-Brn MicroIn-FxIn Dns Micrite Poor IxIn Por Barren Cht Gry Translu-Op Shp Vit Chalky Sh Blk Carb-Char -Gry-Grn No Flor No Stn No Odor NS

Ls Wht-Crm-Tan MicroIn Dns Micrite Barren Cht Wht-Amber-Gry Translu- Op Shp Vit Chalky Sh Blk Carb-Char-Gry-Grn No Flor No Stn No Odor NS

30" CFS @ 4925' Ls Wht-Crm-Tan MicroIn Dns Micrite Barren Cht Wht Op Shp Vit Chalky Sh Blk Carb-Char-Gry-Grn Fissil No Flor No Stn No Odor NS

60" CFS @ 4826' Ls Wht-Crm-Tan MicroIn-FxIn Dns Micrite Barren Cht Gry (w/Fos Inklus) Chalky Sh Char-Gry-Grn-Maroon-Red No Flor No Stn No Odor NS

Ls Wht-Crm MicroIn Micrite Cht Gry Op Shp Vit Fos (Spicule) Chalky Sh Blk Carb-Char-Gry Fissil No Odor ? Min Flor Sli Stn NS

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

Ls Wht-Crm-Tan MicroIn Micrite Cht Gry Op Shp Vit Chalky Sh Blk Carb-Char-Gry-Drk Grn Fissil No Odor ? Min Flor Sli Stn NS
Ls Wht-Crm-Tan MicroIn Micrite Chalky Fos (Brach, Crin) Sh Blk Carb-Char-Gry-Aqua Fissil No Odor ? Min Flor Sli Stn NS

HUCK 4954' (- 2508')

30" CFS @ 4970' Ls Wht-Crm MicroIn Micrite Tr Poor Pin-Pt Por (w/Gilsonitic Stn) VSSG (8 Pc) ? Frac Por Cht Yel-Wht Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil No Odor ? Min Flor Sli Lt Brn Stn SSG

ATOKA 4962' (- 2516)

60" CFS @ 4970' Ls Wht-Crm-Tan MicroIn Micrite Tr Poor Pin-Pt Por (w/Gilsonitic Stn) VSSG (12 Pc) VSSO "Salt & Pepper" Por Tr ? Frac Por Cht Yel-Peach Op Shp Vit (3 Pcs) Chalky Sh Char-Gry-Aqua Fissil No Odor ? Min Flor Sli Stn NS

60" CFS @ 4975' Ls Wht-Crm-Tan MicroIn Micrite Tr Poor Pin-Pt Por (w/Gilsonitic Stn) VSSG (6 Pc) VSSO "Salt & Pepper" Por Tr ? Frac Por Cht Yel-Peach Op Shp Vit Fos (Brach) Chalky Sh Char-Gry-Aqua Fissil No Odor ? Min Flor Sli Stn NS

Cht Crm-Tan-Lt Org Op Shp Vit Fresh Ls Wht (w/Pyr Inklus)-Crm FxIn Poor IxIn Por (w/Sli Tr Lt Brn Oil Stn (1 Pc ? Sluff)) Grad Fair OOM Por Good InterOOM Por (1 Pc) Qtz Ss Wht FGrn Well Sort Friable Small Cluster (1 Pc ? Sluff) Barren Chalky Sh Varicolored Blk Carb-Gry SltStn-Drab Grn-Aqua-Maroon-Olive Fissil No Odor ? 1 Pc Lt Brn Stn No Flor ? SO

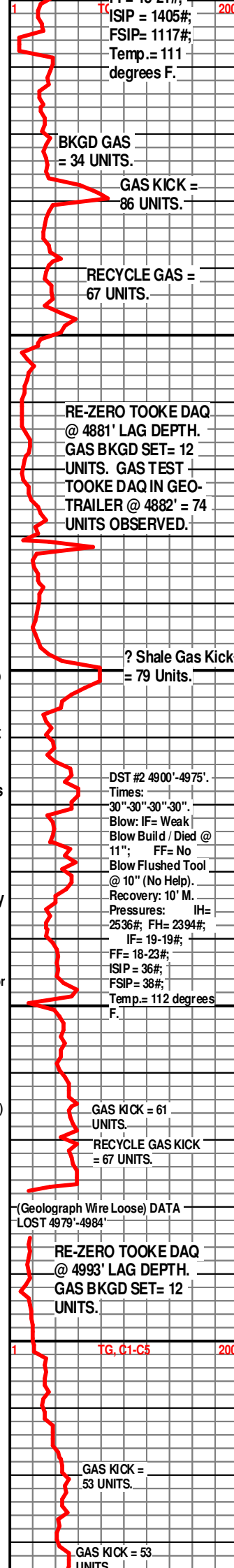
30" CFS @ 5012' Cht Wht-Crm-Lt Org Op Shp Vit Fresh Ls Wht-Crm MicroIn-FxIn Poor IxIn Por Qtz Ss Wht FGrn Well Sort Friable Small Sub Ang-Ang Cluster (5 Pc in Assoc Sh Aqua-Blue (w/Tr Glac Inklus) Barren (Sluff) Chalky Sh Varicolored Blk Carb-Gry SltStn-Drab Grn-Aqua-Blue-Maroon-Olive Fissil No Odor No Flor No Stn NS

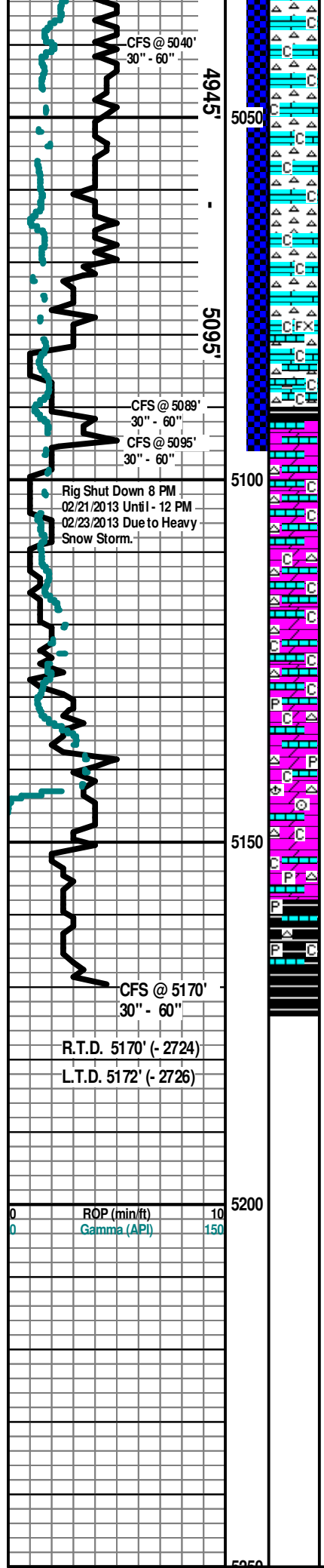
MISSISSIPPIAN 5006' (- 2560)

60" CFS @ 5012 Cht Varicolored Wht-Crm-Tan-Gry-Lt Org Translu-Op Shp Vit Fresh Ls Wht-Crm MicroIn-FxIn Poor IxIn Por AA Qtz Ss Wht F-M Grn Well Sort Friable Small - Med Sub Ang-Ang Clusters (No Glacu) Barren Chalky Sh Varicolored Blk Carb - Gry SltStn - Drab Grn - Aqua-Blue -Maroon Fissil No Odor No Flor No Stn NS

Cht Bone Wht- Wht (Banded Brn)- Lt Org Dec Translu- Op Shp Vit Fresh (60% of Spl) Ls Wht MiroxIn Dns Micrite Inc (30% of Spl) Chalk (5% of Spl) Sh Varicolored Blk Carb-Char-Drab Grn-Aqua-Maroon Fissil (5% of Spl) No Odor No Stn No Flor NS

30" CFS @ 5040' Cht Bone Wht- Wht -Lt Yel/Wht Dec Translu- Op Shp Vit Fresh (60% of Spl) Ls Wht MiroxIn Dns Micrite Inc (30% of Spl) Chalk (5% of Spl) Sh Varicolored Blk Carb-Char-Drab Grn-Aqua-Maroon Fissil (5% of Spl) No Odor No Stn No Flor NS





60" CFS @ 5040' Cht Bone Wht-Wht -Lt Yell/Wht-Lt Org Tr Dec Translu- Op Shp Vit Fresh (60% of Spl) Ls Wht MiroxIn Dns Micrite Inc (30% of Spl) Chalk (5% of Spl) Sh Varicolored Blk Carb- Char- Drab Grn- Aqua-Maroon Fissil (5% of Spl) No Odor No Stn No Flor NS

Cht Bone Wht-Crm Op Shp Vit Fresh (60% of Spl) Ls Wht MiroxIn Dns Micrite Inc (35% of Spl) Chalk (10% of Spl) Sh Varicolored Blk Carb-Char- Drk Grn (5% of Spl) No Odor No Stn No Flor NS

Cht Bone Wht-Wht -Lt Org Tr Translu- Op Shp Vit Fresh (50% of Spl) Ls Wht MiroxIn Dns Micrite Inc (35% of Spl) Chalk (10% of Spl) Sh Vari - colored Blk Carb-Char-Drk Grn (5% of Spl) No Odor No Stn No Flor NS

Cht Bone Wht-Wht -Lt Yell/Wht-Lt Org Translu- Op Shp Vit Fresh (50% of Spl) Ls Wht MiroxIn Dns Micrite Inc (35% of Spl) Chalk (10% of Spl) Sh Varicolored Blk Carb-Char-Drk Grn (5% of Spl) No Odor No Stn No Flor NS

30" CFS @ 5089' Ls Wht-Crm FxIn Dns Micrite Cht Wht-Yell Tr-Tan-Gry Op Shp Vit Chalk Wht Abd Sh Char-Gry-Aqua No Odor No Stn No Flor NS

60" CFS @ 5089' Ls Wht-Crm-Tan FxIn Dns Micrite Cht Wht-Yell Tr-Tan Translu-Op Shp Vit Chalk Wht Sh Blk Carb-Char-Gry-Aqua No Odor No Stn No Flor NS

30" CFS @ 5095' Ls Wht-Crm FxIn Dns Micrite Cht Wht-Tan Translu-Op Shp Vit Chalk Wht Sh Blk Carb-Char-Gry-Aqua No Odor No Stn No Flor NS

SALEM (SPERGEN) 5093' (- 2647)

60" CFS @ 5095' Ls Wht-Crm-Tan FxIn Dns Micrite Cht Wht-Yell Tr-Tan Translu-Op Shp Vit Chalk Wht Sh Blk Carb-Char-Gry-Aqua No Odor No Stn No Flor NS

Dolo/Ls Wht-Crm MicroxIn Dns Barren Grad FxIn Poor Pin-Pt IxIn Grad Fair-Med Vug IxIn Por Fair Leaching Por Baren Cht Wht-Peach-Op Shp Vit Chalk Sh Blk Carb- Aqua- Char- Grn- Maroon No Odor No Flor No Stn NS

Dolo/Ls Wht-Crm MicroxIn Dns Barren Grad FxIn Poor Pin-Pt IxIn Grad Fair-Med Vug IxIn Por Fair Leaching Por Baren Cht Wht-Peach-Op Shp Vit Chalk Sh Blk Carb- Aqua- Char- Grn- Maroon No Odor No Flor No Stn NS

Dolo/Ls Wht-Crm MicroxIn Dns Barren Grad FxIn Poor Pin-Pt IxIn Grad Fair-Med Vug IxIn Por Fair Leaching Por Baren Cht Wht-Peach-Op Shp Vit Chalk Sh Blk Carb- Aqua- Char- Grn- Maroon No Odor No Flor No Stn NS

Dolo/Ls Wht-Crm-Gry FxIn Dns Barren Grad Fair Pin-Pt IxIn (w/Pyr Inklus) Cht Wht- Yell Op Shp Vit Chalk Pyr Mass Sh Aqua- Char (w/Pyr Inklus)- Grn- Maroon No Odor No Flor No Stn NS

Dolo/Ls Wht-Crm-Gry FxIn Dns Barren Grad Fair Pin-Pt IxIn (w/Pyr Inklus) Cht Wht- Yell Op Shp Vit Chalk Pyr Mass Sh Aqua- Char (w/Pyr Inklus)- Grn- Maroon No Odor No Flor No Stn NS

Dolo/Ls Wht-Crm FxIn Dns Barren Grad Fair Pin-Pt IxIn Grad Cht Wht Op Shp Vit Fos (Brach, Crin) Chalk Sh Aqua- Char- Grn- Maroon No Odor No Flor No Stn NS

30" CFS @ 5170' Dolo/Ls Wht-Crm-Tan-Gry FxIn Dns Barren Grad Fair Pin-Pt IxIn (w/Pyr Inklus) Cht Wht-Gry Op Shp Vit Chalk Inc Abd Sh Aqua- Char (w/Pyr Inklus)- Grn- Maroon No Odor No Flor No Stn NS

60" CFS @ 5170' Dolo/Ls Wht-Crm-Tan-Gry FxIn Dns Barren Grad Fair Pin-Pt IxIn Cht Wht-Yell Op Shp Vit Chalk V Abd Sh Aqua- Char (w/Pyr Inklus)- Grn- Maroon No Odor No Flor No Stn NS

Electric Logs Run: By Nabors Logging:
Dual Induction and Compensated Density-Neutron Logs.
Geologist Left Location at 12:00 aM on 02/24/2013.

DST #3 4945'-5095'. Times: 30" -45" -45" -60". Blow: IF= Strong Blow Build/BOB @ 16"; FF= Strong Blow Build / BOB @ 38". Recovery: 585' TF. 75' WCM (5% W & 95% M); 255' WCM (20% W & 80% M); 255' WCM (40% M & 60% M). Pressures: IH= 2544#; FH= 2426#; IF= 33-176#; FF= 184 290#; ISIP= 1521#; FSIP= 1517#; Chl= 65,000 Ppm. RW= 0.21- @ 39 degrees F.; Temp= 115 degrees F.

GAS KICK = 42 UNITS.

RE-ZERO TOOKE DAQ @ 5096' LAG DEPTH. GAS BKGD SET= 12 UNITS.

Mudco Ck @ 5140' @ 2:00 PM 2/23/13
Vis 46;
WT=9.05#
PV= 12; YP= 15;
WL=11.2;
Cake= 1;
Chl=5600; Cal = 160;
Sol=4.7%.
LCM= 2#;
DMC=\$ 1260.25
CMC=\$ 17225.35

1 TG, C1-C5 200