



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

Well Name: # 1 BARTLETT 2B
API: # 15-109-21,337-00-00
Location: APPROX. 85' N & 56' E of SE - NW - NW of SEC. 2 - 13 S. - 34 W.
License Number: KCC #4767 **Region:** LOGAN CO., KS.
Spud Date: 09/15/2014 **Drilling Completed:** 09/24/2014
Surface Coordinates: SPOT: 905' FNL & 1105' FWL

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 3031' **K.B. Elevation (ft):** 3036'
Logged Interval (ft): 3500' **To:** 4725' **Total Depth (ft):** 4725'
Formation: MISSISSIPPIAN
Type of Drilling Fluid: CHEMICAL/POLYMER/GEL

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OPERATOR

Company: RITCHIE EXPLORATION, INC.. KCC #4767
Address: P.O. BOX 783188
WICHITA, KANSAS 67278-3188

GEOLOGIST

Name: David P Williams, P.G., KSBTP # 88
Company: DW Energy. LLC (DWE)
Address: 312 North Broadview Street
WICHITA, KANSAS 67208

Casing & Survey's

Surface Casing 8 5/8" (23#) set at 220'. Cemented w/ 165 sx Common 3% cc 2% Gel. Allied Cementing Did Service & Cement Did Circulate To Surface.

Deviation Surveys Taken: @ 220' = 1/2 degree; @ 4190' = 3/4 degree; @ 4465' = 1 degree; @ 4725' = 1 degree.

DSTs

~~DST # 1~~4101'- 4190'. TIMES: 30"-30"-30"-30".

Blow: IF=Strong Building BOB/5"; ISIP = No BB. FF=Strong Building BOB/6". FSIP= No BB.

Recovery: 1512' TF: 30' DM (100% M); 63' WM (60%M & 40%W);1419' MW (5% M & 95% W). TOOL SPL.(<1% O & 99+% W).

Pressures: IH=1971#; FH=1953#; IF=31-354#; FF=358-574#; ISIP=1237#; FSIP=1221#; Chl=33,000 Ppm; RW=.18 @ 84 degrees F.; Temp.=122 degrees F..

~~DST # 2~~ Interval: 4185'-4270'. Times: 30"-30"-30"-30". Blow: IF= Weak & Died/17". ISIP=No BB. FF=No Blow & Flushed Tool @ 10". Good Surge & No Help. FSIP= No BB.

Recovery: 90' DM (100% M).

Pressures: IH=2036#; FH=2021#; IF=8-32#; FF=35-58#; ISIP= 1190#; FSIP=1117#; Temp.=114 degrees F..

~~DST # 3~~ Interval: 4265'-4349'. Times=30"-30"-30"-30". Blow: IF= Weak & Died/8"; ISIP= No BB. FF = No Blow & Flushed Tool @ 10"/w Good Surge & No Help. FSIP = No BB.

Recovery: 63' DM (100% M).

Pressures: IH=2059#; FH=2044#; IF=8-25#; FF=27-43#;ISIP= 1190#; FSIP=1117#; Temp.=115 degrees F..

~~DST # 4~~ 4436'-4465'. Times: 30"-30"-30"-30".

Blow: IF= Weak & Died/10"; ISIP= No BB. FF = No Blow & Flushed Tool @ 10"/w Good Surge & No Help. FSIP = No BB.

Recovery: 5' DM (100% M).

Pressures: IH=2149#; FH=2128#; IF=6-7#; FF=6--9#; ISIP=14#; FSIP= 18#; Temp.=117 degrees F..

~~DST # 5~~ Interval: 4462'-4535'. Times: 30"-30"-30"-30". Blow: IF= Weak & Died/14"; ISIP= No BB. FF = No Blow & Flushed Tool @ 10"/w Good Surge & No Help. FSIP = No BB.

Recovery: 63' TF: 1' CO & 62' OCM (6% O & 94% M). Tool Sample: (8% Oil & 92% M).

Pressures: IH=2189#; FH =2170#; IF=7-26#; FF=31-49#; ISIP= 1073#; FSIP=1028#; Temp.=117 degrees F..


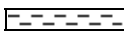

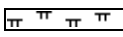
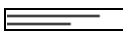
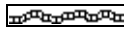




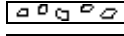




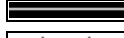


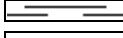
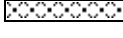



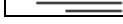
Comments

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

ACCESSORIES

- MINERAL**
- Anhy
 - Arggrn
 - Arg
 - Bent
 - Bit
 - Breclfrag
 - 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

- Anhy
- Arg
- Bent
- Coal
- Dol
- Grysh
- Gyp
- Ls
- Mrst
- 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

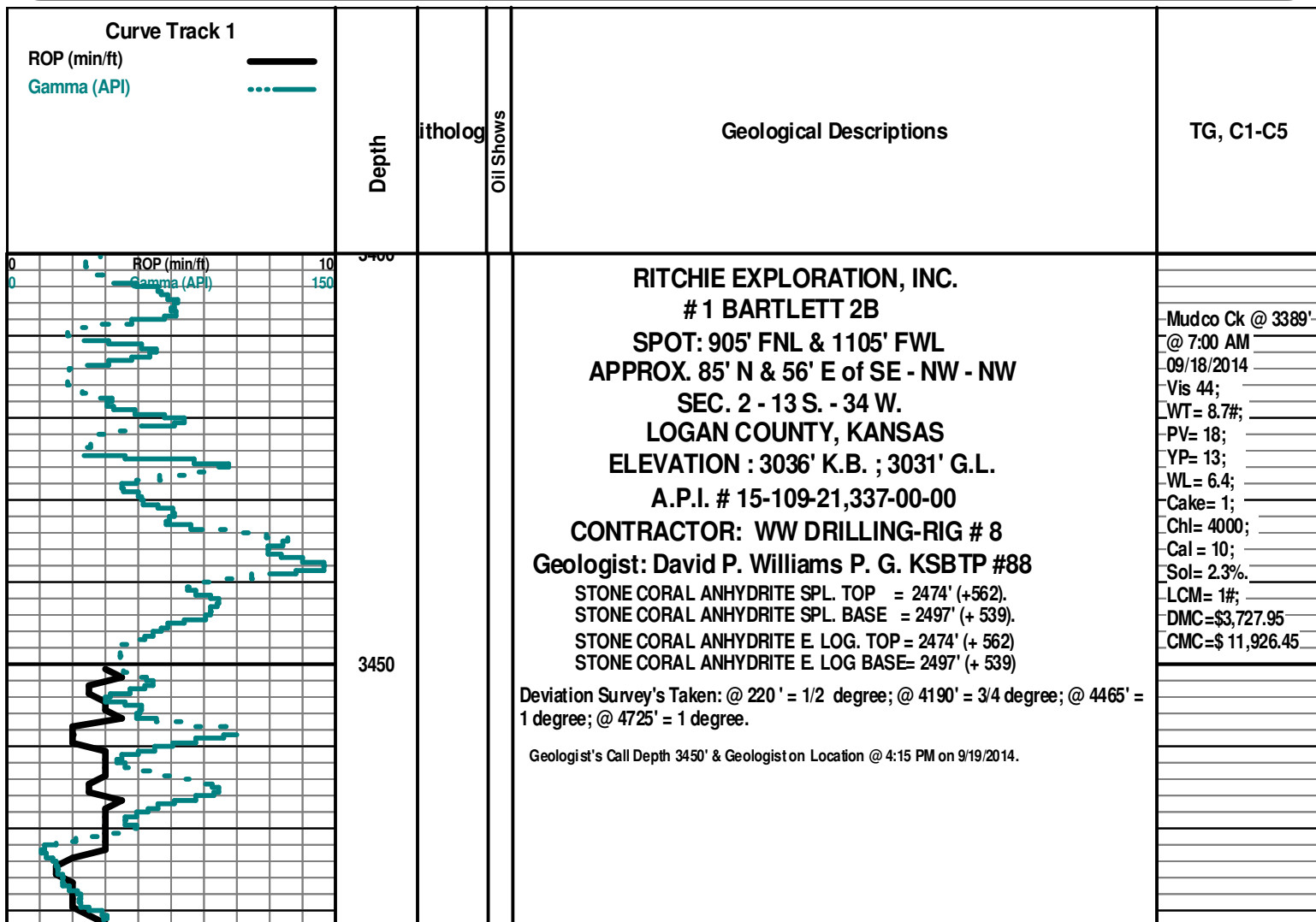
- ROUNDING**
- Rounded
 - Subrnd
 - Subang
 - Angular

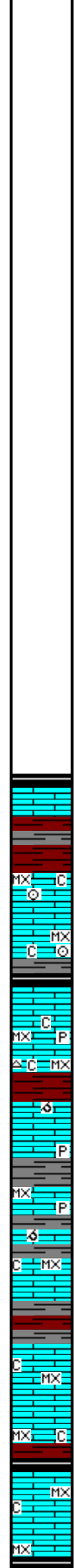
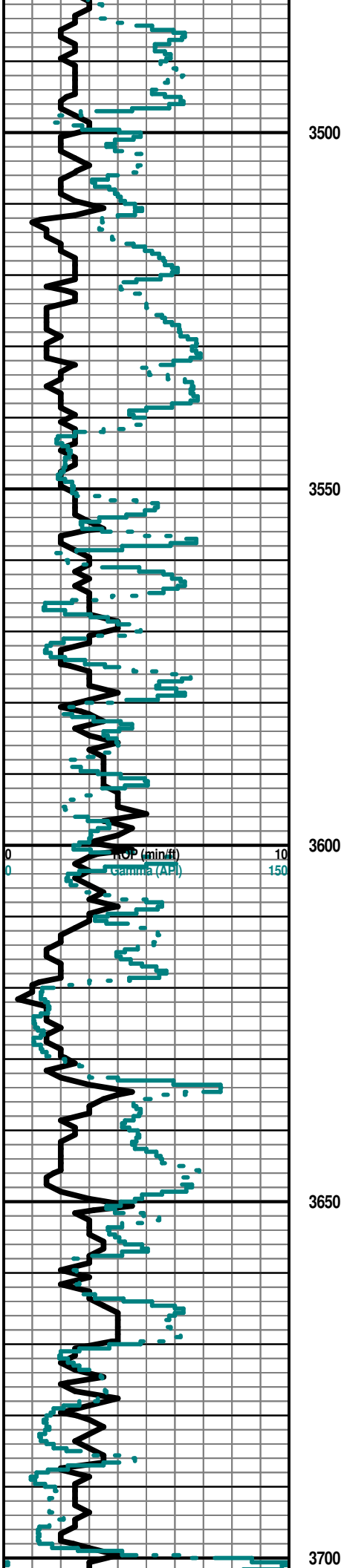
- Even
- Spotted
- Ques
- Dead

- EVENT**
- Rft
 - Sidewall

- OIL SHOW**
- Gas show

- INTERVAL**
- Dst
 - Dst_alt





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

Begin 10' Sample Examination @ 3600'.

Sh Blk Carb-Gry Fissil-Soft V Abd Ls Crm FxIn Poor IGran Por Barren No Flor No Stn No Odor NS

Ls Crm-Tan-Gry MicroxIn Dns Micrite Poor IxIn Por Barren Chalky Fos (Crin) Sh Blk Carb-Gry-Red (Dec) Fissil-Soft No Flor No Stn No Odor NS

Ls Crm-Tan-Gry MicroxIn Dns Micrite Poor IxIn Por Barren Chalky Fos (Crin) Sh Blk Carb-Gry-Red (Dec) Fissil-Soft No Flor No Stn No Odor NS

Ls Crm-Tan-Gry MicroxIn Dns Micrite Poor IxIn Por Barren Chalky Pyr Mass Sh Blk Carb-Gry-Red (Dec) Fissil-Soft No Flor No Stn No Odor NS

Ls Wht-Crm-Tan-Gry MicroxIn Dns Micrite Poor OOM Por Poor Dissolu Poor Develop Barren Cht Gry-Wht Translu-Op Shp Vit Chalky Sh Gry-Red (Dec) Soft No Flor No Stn No Odor NS

Ls Wht-Crm-Tan-Gry (w/Pyr Includ) MicroxIn Dns Micrite Poor OOM Por Poor Dissolu Poor Develop Barren Cht Gry-Wht Translu-Op Shp Vit Chalky Sh Gry-Red-Maroon Soft No Flor No Stn No Odor NS

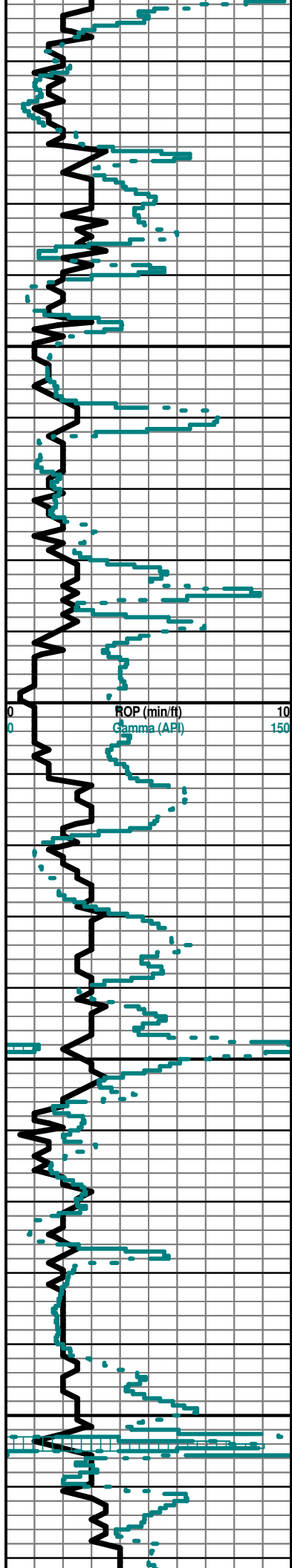
Sh Gry-Red-Maroon Soft Ls Wht-Crm-Tan-Gry (w/Pyr Includ) MicroxIn Dns Micrite Poor OOM Por Poor Dissolu Poor Develop Barren Chalky No Flor No Stn No Odor NS

Ls Wht-Crm-Tan-Grn/Gry (w/Pyr Includ) MicroxIn Dns Micrite Poor OOM Por Poor Dissolu Poor Develop Barren Cht Gry-Wht Translu-Op Shp Vit Chalky Sh Gry-Red-Maroon-Olive Soft No Flor No Stn No Odor NS

Ls Wht-Crm-Tan-Grn/Gry (w/Pyr Includ) MicroxIn Dns Micrite Chalky Sh Char-Gry-Red-Maroon-Olive-Aqua Soft No Flor No Stn No Odor NS

Sh Blk Carb-Gry-Red-Maroon Soft (Wash Red) Ls Wht-Crm MicroxIn Dns Micrite Barren Chalky No Flor No Stn No Odor NS

Ls Wht-Crm-Tan-Gry MicroxIn Dns Micrite Chalky Sh Gry-Maroon Soft No Flor No Stn No Odor NS

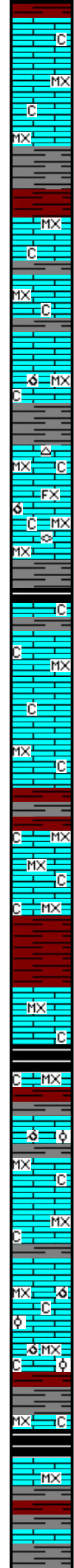


3750

3800

3850

3900



Ls Wht-Crm-Tan-Gry MicroIn Dns Micrite Chalky Sh Gry-Maroon Soft No Flor No Stn No Odor NS

Ls Wht-Crm-Tan-Gry (w/Pyr Inklus) MicroIn Dns Micrite Chalky Sh Gry-Maroon Soft No Flor No Stn No Odor NS

Ls Wht-Crm MicroIn Dns Micrite V Chalky Sh Char-Blk Carb-Gry- Maroon Soft No Flor No Stn No Odor NS

Sh Char-Gry-Red-Maroon Soft (Wash Red) Ls Wht-Crm MicroIn Dns Micrite Barren Chalky No Flor No Stn No Odor NS

Sh Red-Maroon (Abd)-Gry Soft (Wash V Red) Ls Wht-Crm MicroIn Dns Micrite Barren Chalky No Flor No Stn No Odor NS

Ls Wht-Crm FxIn Dns Micrite Grad Poor InterOOM PPT Por (w/Small OOids in pl) Poor Dissolu Poor Develop Barren Chalky Sh Gry-Red- Maroon Soft No Flor No Stn No Odor NS

Ls Wht-Crm MicroIn-FxIn Dns Micrite Barren Cht Crm Translu-Op Shp Vit Chalky Sh Gry-Red-Maroon Soft No Flor No Stn No Odor NS
 Ls Wht-Crm MicroIn-FxIn Dns Micrite Grad Poor InterOOM Por Poor Dissolu Poor Develop Barren Cht Org-Whit (1 Pc) (w/Fos (Fuss) Inklus) Op Shp Vit V Chalky Sh Gry-Red-Maroon Soft No Flor No Stn No Odor NS

KING HILL 3780' (-744)

Sh Blk Carb-Gry-Red-Maroon Fissil-Soft Ls Crm-Tan MicroIn Dns Micrite Barren Chalky No Flor No Stn No Odor NS

Sh Blk Carb-Gry-Red-Maroon Fissil-Soft Ls Crm-Tan MicroIn Dns Micrite Barren Chalky No Flor No Stn No Odor NS

Ls Wht-Crm-Tan-Gry MicroIn Dns Micrite Barren Chalky Sh Gry-Red- Maroon Fissil-Soft No Flor No Stn No Odor NS

LeCOMPTON 3818' (-782)

Ls Wht-Crm-Tan-Gry MicroIn Dns Micrite Barren Chalky Sh Char-Gry-Red-Maroon Fissil-Soft No Flor No Stn No Odor NS

Sh Red-Maroon V Abd-Gry Soft (Wash Red) Ls Crm-Tan MicroIn Dns Micrite Barren Chalky No Flor No Stn No Odor NS

Sh Red-Maroon V Abd-Gry Soft (Wash Red) Ls Crm-Tan MicroIn Dns Micrite Barren Chalky No Flor No Stn No Odor NS

QUEEN HILL 3848' (-812)

OREAD 3852' (- 816)

Ls Wht-Crm-Tan-Gry MicroIn Dns Micrite Barren Chalky Sh Blk Carb-Char-Gry-Red-Maroon (Tr Only) Fissil-Soft No Flor No Stn No Odor NS

Ls Wht-Crm-Gry MicroIn-FxIn Dns Micrite Grad Poor InterOOM Por (w/Small OOids in pl) Poor Dissolu Poor Develop Barren Chalky Sh Blk Carb-Gry-Red (Tr Only) Soft No Flor No Stn No Odor NS

Ls Wht-Crm-Gry MicroIn-FxIn Dns Micrite Grad Poor Gran (Red) Siltstn Poor IGran Por (? Sluff) Por Chalky Sh Grn/Gry-Red (Tr Only) Soft No Flor No Stn No Odor NS

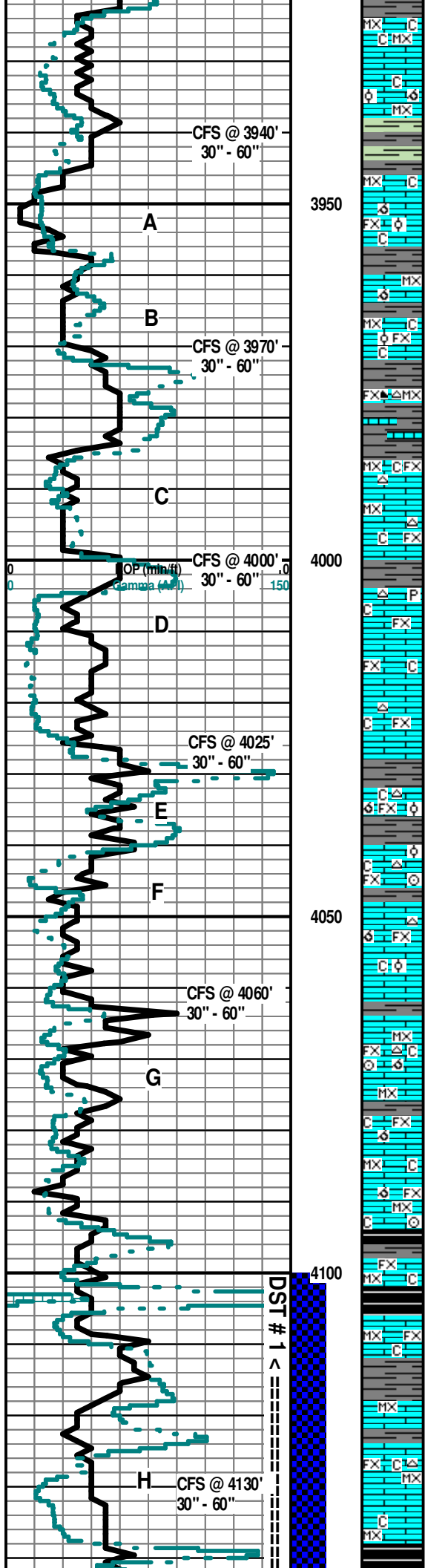
Ls Wht-Crm-Gry MicroIn-FxIn Dns Micrite Grad Fair-Med OOL/OOM Por (w/Small OOids in pl) Fair-Med Dissolu Med Develop Barren Chalky Sh Char-Gry-Red Fissil-Soft No Flor No Stn No Odor NS

Ls Wht-Crm-Gry MicroIn-FxIn Dns Micrite Grad Fair-Med OOL/OOM Por (w/Small OOids in pl) Fair-Med Dissolu Med Develop Barren Chalky Sh Char-Gry-Red Fissil-Soft No Flor No Stn No Odor NS

HEEBNER 3902' (- 866)

Sh Blk Carb (V Abd)-Gry Fissil-Soft Ls Wht-Crm-Tan-Gry MicroIn Dns Micrite Barren Chalky No Flor No Stn No Odor NS

Sh Gry-Red-Blk Carb Fissil-Soft Ls Wht-Crm-Tan-Gry MicroIn Dns Micrite Barren V Chalky No Flor No Stn No Odor NS



30" CFS @ 3940' Ls Wht-Crm MicroxIn Dns Micrite Barren Chalky Sh Char-Gry-Red-Maroon Soft No Flor No Stn No Odor NS

60" CFS @ 3940' Ls Wht-Crm MicroxIn Dns Micrite Barren Grad Poor OOL/OOM (w/Small OOids in pl) Poor Develop Poor Dissolu Chalky Sh Char-Grn/Gry-Aqua-Maroon Soft No Flor No Stn No Odor NS

LANSING 3946' (- 911)

Ls Crm-Tan MicroxIn Dns Micrite Barren V Chalky Sh Char-Grn/Gry- Aqua-Maroon Soft No Flor No Stn No Odor NS

30" CFS @ 3970' Ls Wht-Crm MicroxIn-FxIn Dns Micrite Barren Grad Fair OOL/OOM (w/Small OOids in pl) Med-Good Develop Med-Good Vug Dissolu V Chalky Sh Char-Grn/Gry-Aqua Fissil- Soft No Flor No Stn No Odor NS

60" CFS @ 3970' Ls Wht-Crm MicroxIn-FxIn Dns Micrite Barren Grad Fair OOL/OOM (w/Small OOids in pl) Med-Good Develop Med-Good Vug Dissolu V Chalky Sh Char-Grn/Gry-Aqua Fissil- Soft No Flor No Stn No Odor NS

Ls Wht-Crm MicroxIn-FxIn Dns Micrite Barren Cht Wht-Amber-Tan- Gry-Sli Org Translu-Op Shp Vit (V Abd) Chalky Sh Gry-Aqua Soft No Flor No Stn No Odor NS

30" CFS @ 4000' Ls Wht-Crm MicroxIn-FxIn Dns Micrite Barren Cht Wht-Gry Translu-Op Shp Vit Chalky Sh Char-Gry Soft No Flor No Stn No Odor NS

60" CFS @ 4000' Ls Wht-Crm MicroxIn-FxIn Dns Micrite Grad Poor Ppt IxIn Por Barren Cht Wht-Gry Translu-Op Shp Vit Chalky Sh Maroon-Red (Abd)-(Wash Red) Char-Gry-Aqua Soft-Fissil No Flor No Stn No Odor NS

Ls Wht-Crm FxIn Dns Micrite (w/Pyr Includ) Grad Poor Ppt IxIn Por Barren Cht Wht-Amber-Gry Translu-Op Shp Vit Chalky Sh Char-Gry- Maroon Soft No Flor No Stn No Odor NS

30" CFS @ 4025' Ls Wht-Crm FxIn Dns Micrite Grad Poor Ppt IxIn Por Barren Chalky Sh Char-Gry-Aqua Fissil-Soft Sli ? Min Flor No Stn No Odor NS

60" CFS @ 4025' Ls Wht-Crm FxIn Dns Micrite Grad Poor Ppt IxIn Por Barren Cht Wht-Gry Translu-Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil-Soft Sli ? Min Flor No Stn No Odor NS

Ls Crm-Tan FxIn Dns Micrite Grad Poor PPT IxIn Por Grad Poor-Fair OOM Por (w/Small OOids in pl) Poor Dissolu Poor Vug Leaching (w/? Drk Blk "Dead" Stn 3 Pcs) Cht Wht Op Shp Vit Sh Char-Gry-Aqua-Red Soft No Odor No Stn No Flor NS

30" CFS @ 4060' Ls Crm-Tan FxIn Dns Micrite Grad Poor PPT IxIn Por Grad Poor-Fair OOL Por (w/Med OOids in pl) Fair Dissolu Med Leaching Cht Wht-Amber Translu-Op Shp Vit Fos (Crin) Sh Char-Gry-Aqua-Red Soft No Odor No Stn No Flor NS

60" CFS @ 4060' Ls Crm-Tan FxIn Dns Micrite Grad Poor PPT IxIn Por Grad Poor OOL/OOM Por (w/Small OOids in pl) Poor Dissolu Poor Leaching Cht Wht Translu-Op Shp Vit Sh Char-Gry-Aqua-Red Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn-MicroxIn Dns Micrite Grad Poor-Fair PPT IxIn Por Grad Poor OOM Por Poor Vug Leaching Poor Develop Cht-Wht Op Shp Vit V Chalky Sh Char-Gry-Aqua Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Gry FxIn-MicroxIn Dns Micrite Grad Poor-Fair PPT IxIn Por Grad Poor OOM Por Poor Vug Leaching Poor Develop Fos (Crin) V Chalky Sh Char-Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn-MicroxIn Dns Micrite Grad Poor-Fair PPT IxIn Por Grad Poor OOM Por Poor Vug Leaching Poor Develop V Chalky Sh Char-Gry-Aqua-Red-Maroon Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn-MicroxIn Dns Micrite Grad Poor-Fair PPT IxIn Por Grad Poor OOM Por Poor Vug Leaching Poor Develop Fos (Crin) V Chalky Sh Char-Gry-Aqua-Red-Tr Blk Carb Fissil-Soft No Odor No Stn No Flor NS

MUNCIE CREEK 4102' (- 1066)

Sh Blk Carb-Gry-Aqua Fissil-Soft Ls MicroxIn-FxIn Dns Micrite Grad Poor-Fair PPT IxIn Por Grad Poor OOM Por Poor Vug Leaching Poor Develop Fos (Brach) V Chalky No Odor No Stn No Flor NS

30" CFS @ 4130' Ls MicroxIn-FxIn Dns Micrite Grad Poor-Fair PPT IxIn Por Grad Poor OOM Por Poor Vug Leaching Poor Develop Cht Amber-Wht Translu-Op Shp Vit Fos (Brach) V Chalky Sh Char-Gry Fissil-Soft No Odor No Stn No Flor NS

KANSAS CITY "DRUM" (H) 4125' (-1089)

60" CFS @ 4130' Ls MicroxIn-FxIn Dns Micrite Grad Poor-Fair PPT IxIn Por Grad Poor OOM Por Poor Vug Leaching Poor Develop Cht Wht-Gry Translu-Op Shp Vit V Chalky Sh Char-Gry Fissil-Soft No Odor No Stn No Flor NS

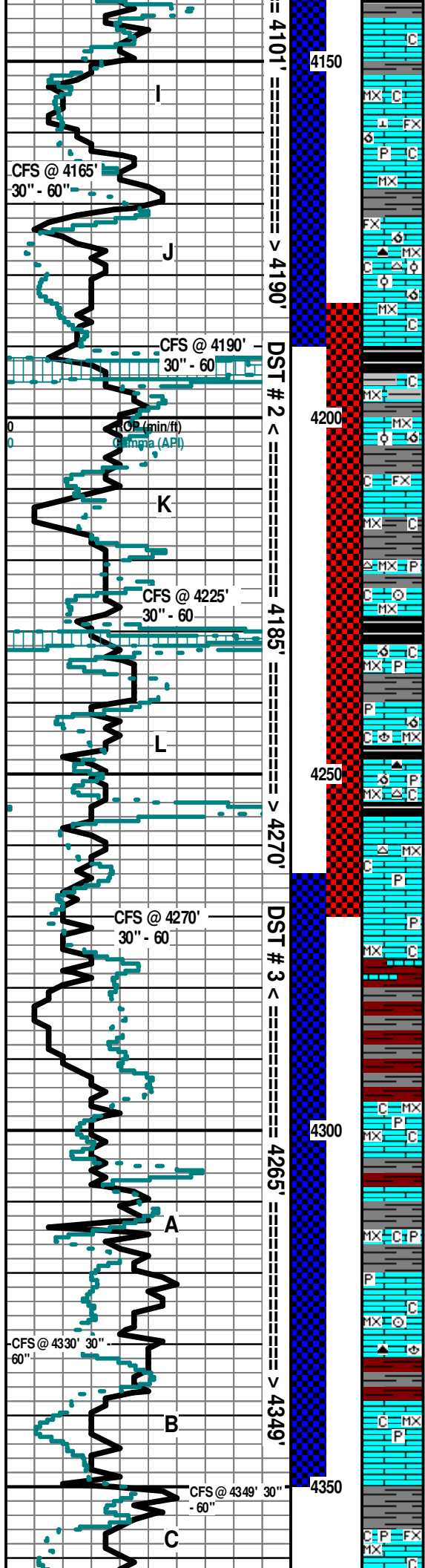
Ls Wht-Crm-Drk Tan-Gry-Brn MicroxIn Dns Micrite Barren V Poor PPT IxIn Por Cht Wht Op Shp Vit Chalk Sh Char-Grn/Gry-Red-Maroon Fissil-Soft No Flor No Stn No Odor NS

09/19/2014
 Vis 56;
 WT= 9.1#;
 PV = 20;
 YP = 15;
 WL= 7.6;
 Cake= 1;
 Chl= 5500;
 Cal = 60;
 Sol= 5.3%.
 LCM= 1#;
 DMC=\$ 745.45
 CMC=\$ 12,671.90

~DST # 1~
 4101'- 4190'.
 30"-30"-30"-30".
 Blow: IF= Strong Building BOB/5";
 ISIP = No BB. FF= Strong Building BOB/6". FSIP= No BB.
 Recovery: 1512'
 TF: 30' DM (100% M); 63' WM (60%M & 40%W);
 1419' MW (5% M & 95% W). TOOL SPL(<1% O & 99+% W).
 Pressures:
 IH = 1971#;
 FH = 1953#;
 IF = 31-354#;
 FF = 358-574#;
 ISIP = 1237#;
 FSIP = 1221#;
 Chl= 33000 Ppm;
 RW = .18 @ 84 degrees F.
 Temp = 122 degrees F.

Mudco Ck @ 4155' @ 3:30 AM 09/20/2014
 Vis 50;
 WT= 9.2#;
 PV= 18;
 YP= 17;
 WL= 9.6;
 Cake= 1;
 Chl= 6000;

KANSAS CITY "BLOCK" (H) 4141' (- 1100)



Ls Crm-Tan-Gry MicroIn Dns Micrite Barren V Poor PPT IxIn Por Chalk Sh
 Char-Gm/Gry-Red-Maroon Fissil-Soft Sli ? Scat Min Flor No Stn No Odor NS
30" CFS @ 4165' Sh Blk Carb-Char-Gm/Gry-Red-Maroon Fissil-Soft Ls
 Wht-Crm-Tan MicroIn-FxIn Dns Micrite Barren V Poor PPT IxIn Por Grad Clear
 Translu Calcite (w/Fair IxIn Rhombic IxIn Por) V Chalky Sli ? Scat Min Flor No
 Stn No Odor NS
60" CFS @ 4165' Ls Wht-Crm-Tan MicroIn-FxIn Dns Micrite Barren V Poor PPT
 IxIn Por Grad V Poor OOM Por Pyr Mass V Chalky Sh Char-Gry Fissil-Soft Sli ?
 Scat Min Flor No Stn No Odor NS
KANSAS CITY "DENNIS" (J) 4173' (- 1137)

30" CFS @ 4190' Ls Wht-Crm FxIn Med-Good OOM Por (w/Small-Med Ooids in pl) Poor InterOOM
 Por Poor Develop Fair-Med Vug Leaching Grad MicroIn Dns Micrite (w/No Vis Por) Cht
 Wht-Wht/Org Banded Op Shp Vit Chalky Sh Gry Soft ? Sli Min Flor No Odor No Stn NS
60" CFS @ 4190' Ls Wht-Crm MicroIn Dns Micrite (w/No Vis Por) Grad FxIn Med-Good OOM Por AA
 Chalky Sh Grv Soft ? Sli Min Flor No Odor No Stn NS
STARK SHALE 4192' (- 1158)

Sh Blk Carb-Char-Gm/Gry-Red-Maroon Fissil-Soft Ls Wht-Crm-Tan MicroIn Dns Micrite Barren
 Poor PPT IxIn Por Chalk No Flor No Stn No Odor NS
Ls Wht-Crm MicroIn Dns Micrite (w/No Vis Por) Chalky Sh Blk Carb-Gry Soft No Flor No Odor No
 Stn NS
KANSAS CITY "SWOPE" (K) 4207' (- 1171)

30" CFS @ 4225' s Wht-Crm FxIn Poor PPT IxIn Por Grad Poor OOM Por (w/Small Ooids in pl) Poor
 InterOOL/OOM Por Poor Develop Poor Leaching Grad MicroIn Dns Micrite (w/No Vis Por) Chalky
 Sh Blk Carb-Gry Soft No Flor No Odor No Stn NS
60" CFS @ 4225' Ls Wht-Crm-Tan MicroIn Dns Micrite Barren V Poor PPT IxIn Por Cht Wht-Gry Op
 Shp Vit Fos (Crin) Pyr Mass Chalky Sh Char-Gry-Blk Carb Fissil-Soft No Flor No Stn No Odor NS
HUSHPUCKNEY SHALE 4228' (- 1192)

Ls Wht-Crm MicroIn Dns Micrite (w/Pyr Includ) Barren Grad V Poor OOM Por Poor Dissolu Poor
 Develop Pyr Mass Chalky Sh Blk Carb-Char-Gry Fissil No Flor No Stn No Odor NS
KANSAS CITY "HERTHA" (L) 4241' (- 1205)
Ls Wht-Crm MicroIn Dns Micrite (w/Pyr Includ) Barren Grad V Poor OOM Por
 Poor Dissolu Poor Develop Fos (Brach) Pyr Mass Chalky Sh Char-Gry Fissil No
 Flor No Stn No Odor NS

30" CFS @ 4270' Ls Wht-Crm MicroIn Dns Micrite Barren Grad V Poor IxIn Por Grad Poor Vug OOM
 Por (w/Small Ooids in pl) VSSG (Frac Por) & VS Stn (Lt Brn) (2 Pcs) Poor Dissolu Cht Wht-Org
 Banded Pyr Mass Chalky Sh Blk Carb-Char-Gry-Aqua Fissil No Flor Sli Lt Brn Stn No Odor VSSG &
 ? VSSO
60" CFS @ 4270' Ls Wht-Crm MicroIn Dns Micrite Barren Grad V Poor IxIn Por
 Cht Wht Op Shp Vit Pyr Mass (Abd) Chalky Sh Blk Carb-Char-Gry-Aqua (w/Pyr
 Includ) Fissil No Flor Sli Lt Brn Stn No Odor
 Sh Char-Gry-Aqua-Red-Maroon Soft "Gummy" (V Abd) Ls Wht-Crm- Tan MicroIn
 AA Pyr Mass V Chalky No Odor No Stn No Flor NS
BASE KANSAS CITY 4276' (- 1240)

Sh Char-Gry-Aqua-Red-Maroon Soft "Gummy" (V Abd) Ls Wht-Crm- Tan MicroIn
 AA V Chalky No Odor No Stn No Flor NS
 Sh Char-Gry-Aqua-Red-Maroon Soft "Gummy" (V Abd) Ls Wht-Crm- Tan MicroIn
 AA V Chalky No Odor No Stn No Flor NS
MARMATON 4294' (- 1258)

Ls Wht-Crm-Tan MicroIn No Vis Por Pyr Mass Chalk (Dec) Sh Char-Gry-Aqua-
 Maroon (Wash Red) Fissil- V Soft No Odor No Stn No Flor NS
ALTAMONT "A" 4307' (- 1271)
Ls Wht-Crm-Tan MicroIn Dns Micrite Barren Pyr Mass Sh Vari- colored
 Char-Gry-Aqua-Maroon (Wash Red) No Odor No Flor No Stn

30" CFS @ 4330' Ls Wht-Crm-Tan-Lt Red (w/VSG (1 Pc) in Wtr Under Heat) MicroIn Dns Micrite
 Barren Pyr Mass Sh Varicolored Char-Gry-Aqua-Maroon (Wash Red) Faint Odor No Flor No Stn
60" CFS @ 4330' Ls Wht-Crm-Tan MicroIn Dns Micrite Barren Pyr Mass Fos (Crin) V Chalky Sh
 Vari-colored Char-Gry-Aqua-Maroon Faint Odor (Inc) No Flor No Stn ? SSG
30" CFS @ 4349' Sh Vari-colored Char-Gry-Aqua-Maroon Ls Wht-Crm-Tan MicroIn Dns Micrite
 Barren Grad PPT IxIn Por Cht Wht-Red Op Shp Vit Fos (Brach) Pyr Mass No Flor No Stn Faint Dec
 Odor ? Show
ALTAMONT "B" 4337' (- 1301)

60" CFS @ 4349' Ls Wht-Crm MicroIn Dns Micrite Barren Grad PPT IxIn Por Pyr Mass Chalk Dec Sh
 Char-Gry-Maroon-SoftNo Flor No Stn No Odor NS
ALTAMONT "C" 4356' (- 1320)
Ls Wht-Crm MicroIn Dns Micrite Barren Grad PPT IxIn Por Pyr Mass Chalk Dec
 Sh Char-Gry-Maroon-Soft No Flor No Stn No Odor NS

Cal = 20;
 Sol = 5.8%;
 LCM = 1#;
 DMC = \$0.005
 CMC = \$12,671.90

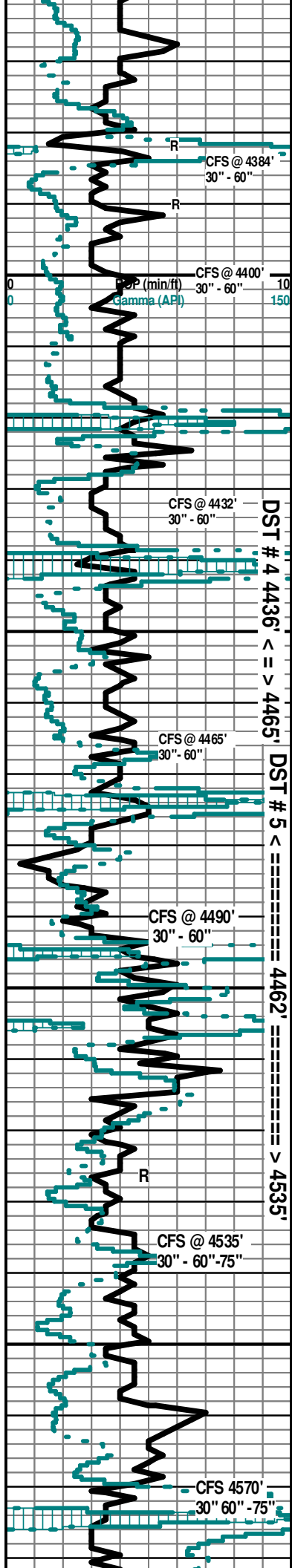
PIPE STRAP = <0.49">
 LONG TO BOARD.

Mudco Ck @ 4155' @
 11:00 AM 09/21/2014
 Vis 56;
 WT = 9.3#;
 PV = 15;
 YP = 19;
 WL = 10.4;
 Cake = 2;
 Chl = 6000;
 Cal = 60;
 Sol = 6.4%.
 LCM = 1#;
 DMC = \$1,092.35
 CMC = \$13,764.25

~~DST # 2~~
 4185'- 4270'.
 30"-30"-30"-30".
 Blow: IF = Weak &
 Died/17"; ISIP = No
 BB. FF = No Blow
 & Flushed Tool @
 10"/w Good Surge
 & No Help. FSIP =
 No BB.
 Recovery: 90' DM
 (100% M).
 Pressures:
 IH = 2036#;
 FH = 2021#;
 IF = 8-32#;
 FF = 35-58#;
 ISIP = 1190#;
 FSIP = 1117#;
 Temp. = 114
 degrees F..

Mudco Ck @ 4349' @
 11:00 AM 09/22/2014
 Vis 54;
 WT = 9.3#;
 PV = 15;
 YP = 22;
 WL = 10.2;
 Cake = 1;
 Chl = 7800;
 Cal = 80;
 Sol = 6.5%.
 LCM = 1#;
 DMC = \$1,030.85
 CMC = \$14,794.85

~~DST # 3~~
 4265'- 4349'.
 30"-30"-30"-30".
 Blow: IF = Weak
 & Died/8"; ISIP =
 No BB. FF = No
 Blow & Flushed
 Tool @ 10"/w
 Good Surge & No
 Help. FSIP = No
 BB.
 Recovery: 63' DM
 (100% M).
 Pressures:
 IH = 2059#;
 FH = 2044#;
 IF = 8-25#;
 FF = 27-43#;
 ISIP = 1190#;



4400

4450

4500

4550

30" CFS @ 4384' Ls Wht-Crm MicroIn-FxIn Dns Micrite Grad PPT lxn Por (w/? SSG) Chalky Fos (Crin) Pyr Mass Sh Char-Gry-Maroon-Soft Sli ? V Faint Odor No Flor No Stn NS

PAWNEE 4384' (-1348)

30" CFS @ 4400' Ls Wht-Crm MicroIn-FxIn Dns Micrite (w/Pyr Includ) Grad PPT lxn Por Chalky Cht Wht-Gry (w/Ooid Includ) Barren No Vis Por Op Shp Vit Pyr Mass Sh Char-Gry-Maroon-Soft Sli ? V Faint Odor No Flor No Stn NS

60" CFS @ 4400' Ls Crm-Tan MicroIn-FxIn Dns Micrite (w/Pyr Includ) Grad PPT lxn Por Chalky Cht Wht-Gry (w/Ooid Includ) Barren No Vis Por Op Shp Vit Pyr Mass Sh Char-Gry-Maroon-Soft Sli ? V Faint Odor No Flor No Stn NS

Ls wht-Crm-Tan-Gry MicroIn Dns Micrite (w/Pyr Includ) Cht Wht-Gry- Drk Gry Op Shp Vit Fos (Brach) Chalky Sh Char-Gry-Blk Carb (Tr Only) Fissil-Soft No Odor No Stn No Flor NS

30" CFS @ 4432' Sh Blk Carb-Gry Fissil Ls wht-Crm-Tan-Gry MicroIn Dns Micrite (w/Pyr Includ) Cht Wht-Gry-Drk Gry Op Shp Vit Fos (Bry) Chalky No Odor No Stn No Flor NS

MYRICK STATION 4422' (- 1386)

60" CFS @ 4432' Ls Wht-Crm-Tan-Drk Tan MicroIn-FxIn Dns Micrite Grad Poor PPT lxn Por Barren Cht Wht-Amber-Tan-Gry (w/Ooids in pl) Translu-Op Shp Vit Chalky Sh Char-Gry-Blk Carb AA No Odor No Stn No Flor NS

Ls Wht-Crm-Tan-Drk Tan MicroIn-FxIn Dns Micrite Grad Poor PPT lxn Por Barren Cht Wht-Amber-Tan-Gry (w/Ooids in pl) Translu-Op Shp Vit Chalky Sh Char-Gry-Blk Carb AA No Odor No Stn No Flor NS

FORT SCOTT 4444' (- 1408)

Ls Crm-Tan FxIn Dns Micrite Grad Fair PPT InterOOL (w/Small-Med Ooids (Rd & Oblong in pl) Fair-Med Vug Leached Por Fair-Med Dissolu Sli Friable Fair-Med Develop (w/Fair-Med SG & SFO) Gas & Oil Do Not Flor Cht Gry Op Shp Vit Fos (Fuss) Sli Chalky Fair Odor No Flor Drk Brn Stn In Vugs FSG & FSFO

30" CFS @ 4465' Crm-Tan FxIn Dns Micrite (w/Pyr Includ) Grad Fair PPT InterOOL (w/Small-Med Ooids (Rd & Oblong) Fair-Med Vug Leached Por Sli Friable Fair Dissolu Fair Develop (w/Poor-Fair (Few Pcs) SG & SFO) Cht Gry Op Shp Vit Sli Chalky Pyr Mass Sh Gry-Aqua-Blk Carb Fissil Sli Dec Odor No Flor Drk Brn Stn In Vugs SSG & SSO

60" CFS @ 4465' Crm-Tan FxIn Dns Micrite AA Grad Poor-Fair PPT InterOOL AA Poor Vug Leached Por Poor Dissolu Poor Develop AA (w/Tr SG & SO) AA Chalky Pyr AA Fos AA Sh AA Sli Dec Odor No Flor Drk Brn Stn AA SG & SFO

CHEROKEE SHALE 4472' (- 1436)

30" CFS @ 4490' Crm-Tan-Gry MicroIn-FxIn Dns Micrite Grad Poor lxn PPT Por Grad Poor InterOOL (w/Small Ooids (Rd & Oblong in pl) Poor Vug Leached Por Poor Dissolu Fair Develop (w/Poor SG & Tr SO) Gas & Oil Do Not Flor Cht Gry Op Shp Vit Chalky Fair Odor No Flor Sli (Lt Brn) Stn in Vugs SSG & SSO

60" CFS @ 4490' Crm-Tan-Gry MicroIn-FxIn Dns Micrite (w/Pyr Includ) Grad Poor-Fair lxn PPT Por Grad Poor-Fair InterOOL (w/Small Ooids (Rd & Oblong in pl) Poor-Fair Vug Leached Por Poor Dissolu Poor-Fair Develop (w/SG & SFO AA) Grad Poor OOL Por (w/Small Ooids in pl) No Vis Leaching Cht Wht-Tan Translu-Op Shp Vit Chalky Sh Blk Carb-Char-Gry-Aqua Fissil Fair (Dec) Odor Sli (Lt Brn) Stn (10 Pcs) Sh No Flor FSG & FSO

Ls Crm-Tan MicroIn Dns Micrite (w/Pyr Includ) Cht Tan-Brn Op Shp Vit Chalky Sh Blk Carb-Gry- Aqua Fissil No Odor No Stn No Flor NS

Ls Crm-Tan MicroIn Dns Micrite (w/Pyr Includ) Cht Tan-Brn Op Shp Vit Chalky Sh Blk Carb-Gry- Aqua Fissil No Odor No Stn No Flor NS

JOHNSON 4518'(- 1482)

Ls Crm-Tan-Gry MicroIn Dns Micrite (w/Pyr Includ) Grad FxIn PPT lxn "Salt & Pepper" lxn Por (w/SSG & SSO) Gas & Oil Do Not Flor Cht Tan-Brn Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil Faint Odor Sli (Lt Brn) Stn No Flor NS

30" CFS @ 4535' Ls Wht-Crm-Tan MicroIn Dns Micrite Grad FxIn (w/Calc Xls Includ) Fair-Med PPT lxn Sli Vug Por (w/FSG & SFO Under Heat in Wtr & On Break) Cht Wht-Tan AA Chalky Sh Blk Carb-Char-Gry-Aqua-Maroon Soft-Fissil Fair Odor Fair (Lt Brn) Stn (15 Pcs) No Flor FSG & FSO

60" & 75" CFS @ 4535' Ls Tan-Crm MicroIn Dns Micrite Grad FxIn AA Fair lxn Sli Vug Por (w/Tr Pyr Includ) (Dec) (w/SG & SFO AA) Grad Poor OOL Por (w/Small Ooids in pl) No Vis Leaching Cht Wht-Tan Translu-Op Shp Vit Chalky Sh Blk Carb-Char-Gry-Aqua Fissil Fair (Dec) Odor Sli (Lt Brn) Stn (10 Pcs) Sh No Flor FSG & FSO

Ls Wht-Crm-Tan MicroIn Dns Micrite No Vis Por Grad Poor lxn Por Chalky Sh Blk Carb-Char-Gry-Aqua Fissil No Flor No Stn No Odor NS

30" CFS @ 4570' Ls Wht-Crm-Tan MicroIn Dns Micrite No Vis Por Chalky Sh Char- Gry-Aqua Fissil No Flor No Stn No Odor NS

60" CFS @ 4570' Ls Wht-Crm-Tan MicroIn Dns Micrite No Vis Por Chalky Sh Char- Gry-Aqua Fissil No Flor No Stn No Odor NS

75" CFS @ 4570' Ls Wht-Crm-Tan MicroIn Dns Micrite No Vis Por Chalky Sh Char- Gry-Aqua Fissil No Flor No Stn No Odor NS

BASE PENN. LIMESTONE 4570' (- 1534)

Sh Vari-Colored Aqua-Grn/Gry-Char-Blk Carb-Olive Fissil V Abd Ls AA No Odor No Stn No Flor NS

MORROW SAND 4578' (-1542)

30" CFS @ 4592' Sh Vari-Colored Aqua-Grn/Gry-Char-Blk Carb-Olive Fissil V Abd Ls Wht-Crm-Tan MicroIn Dns Micrite (w/Pyr Includ) Grad Fair PPT InterOOL (w/Small-Med Ooids (Rd & Oblong in pl) Fair-Med Vug Leached Por Fair-Med Dissolu Sli Friable Fair-Med Develop (w/Fair-Med SG & SFO) Gas & Oil Do Not Flor Cht Gry Op Shp Vit Fos (Fuss) Sli Chalky Fair Odor No Flor Drk Brn Stn In Vugs FSG & FSFO

FSIP= 1117#;
Temp. = 115
degrees F..

Mudco Ck @ 4349' @
12:45 PM 09/23/2014
Vis 46;
WT= 9.5#;
PV= 11;
YP= 13;
WL= 11.6;
Cake= 2;
Chl= 6400;
Cal = 20;
Sol = 8.3%
LCM= 1#;
DMC=\$1,581.55
CMC=\$16,376.40

~DST # 4~
4436'- 4465'.
30"-30"-30"-30".
Blow: IF= Weak & Died/10"; ISIP= No BB. FF = No Blow & Flushed Tool @ 10"/w Good Surge & No Help. FSIP = No BB.
Recovery: 5' DM (100% M).
Pressures:
IH = 2149#;
FH = 2128#;
IF = 6-7#;
FF = 6-9#;
ISIP = 14#;
FSIP= 18#;
Temp. = 117
degrees F..

~DST # 5~
4462'- 4535'.
30"-30"-30"-30".
Blow: IF= Weak & Died/14"; ISIP= No BB. FF = No Blow & Flushed Tool @ 10"/w Good Surge & No Help. FSIP = No BB.
Recovery: 63' TF: 1' CO & 62' OCM (6% O & 94% M).
Pressures:
IH = 2189#;
FH = 2170#;
IF = 7-26#;
FF = 31-49#;
ISIP = 1073#;
FSIP= 1028#;
Temp. = 117
degrees F..

Mudco Ck @ 4564' @
1:00 PM 09/24/2014
Vis 53;
WT= 9.3#;
PV= 15;
YP= 16;
WL= 10.0;
Cake= 1;
Chl= 6900;
Cal = 20;
Sol = 6.7%
LCM= 1#;
DMC=\$1,866.70
CMC=\$18,243.10

Reserve Pit Est. Volume
725 Bbls @ 59,000 Ppm

Microxin Dns Micrite Cnt wnt Up Shp Vit Pyr Mass Qtz Ss Gry-Wnt FGm Ang-Sub Ang Well-Sort (w/Hvy CaCo3 Cmt Matrix & Glacu Includ) Poor IGran Por Barren Grad Wht VFGm Sub Ang Well Sort (w/Fair IGran Por & Tr Cmt Matrix) V Friable Barren (Chalky Matrix in pt) No Odor No Stn No Flor NS

MISSISSIPPIAN 4594' (- 1558)

60" CFS @ 4592' Ls Wht Microxin Dns Micrite Qtz Ss Wht Lg-Clusters FGm Sub Ang Well-Sort Hvy CaCo3 & Chalk Matrix) Barren No Odor No Stn No Flor NS

30" CFS @ 4609' Ls Wht Microxin Dns Micrite Qtz Ss Wht Lg-Clusters FGm Sub Ang Well-Sort Hvy CaCo3 & Chalk Matrix) Barren Ls Wht Microxin Dns Micrite No Odor No Stn No Flor NS

60" CFS @ 4609' Ls Wht Microxin Dns Micrite Qtz Ss Wht Lg-Clusters FGm Sub Ang Well-Sort Hvy CaCo3 & Chalk Matrix) Barren Ls Wht Microxin Dns Micrite No Odor No Stn No Flor NS

Ls Wnt-Crm-Tan-Gry Microxin-Fxin Dns Micrite (w/Pyr Includ) Grad "Sandy OOL Por" VFGm Med-Good Ixin Por Barren Pyr Mass Sh Vari- Colored Aqua-Grn/Gry-Olive Fissil Abd No Odor No Stn No Flor NS

Ls Wnt-Crm-Tan-Gry Microxin-Fxin Dns Micrite (w/Pyr Includ) Grad "Sandy OOL Por" VFGm Med-Good Ixin Por Barren Pyr Mass Sh Vari- Colored Aqua-Grn/Gry-Olive Fissil Abd No Odor No Stn No Flor NS

Ls/Dolo Wnt-Crm-Tan-Gry Microxin-Fxin Dns Micrite (w/Pyr Includ) Grad "Sandy OOL Por" VFGm Med-Good Ixin Por Barren Pyr Mass Sh Vari- Colored Aqua-Grn/Gry-Olive-Brn-Blk Carb Fissil Abd No Odor No Stn No Flor NS

Ls/Dolo Wnt-Crm-Tan-Gry Microxin-Fxin Dns Micrite Barren Pyr Mass Sh Vari-Colored Aqua-Grn/Gry-Olive-Brn-Blk Carb Fissil Abd No Odor No Stn No Flor NS

Sh Vari-Colored Aqua-Grn/Gry-Olive-Brn-Blk Carb-Maroon Fissil Abd Ls/Dolo Wnt-Crm-Tan-Gry Microxin-Fxin Dns Micrite Barren Pyr Mass No Odor No Stn No Flor NS

Sh Vari- Colored Aqua-Grn/Gry- Olive- Brn-Blk Carb Fissil Abd Ls/Dolo Wnt-Crm-Tan- Gry Microxin-Fxin Dns Micrite Barren Pyr Mass No Odor No Stn No Flor NS

Ls/Dolo Wnt-Crm-Tan-Gry Microxin-Fxin Dns Micrite Por Barren Pyr Mass Sh Vari- Colored Aqua-Grn/Gry- Olive- Brn- Blk Carb Fissil Abd No Odor No Stn No Flor NS

Sh Vari- Colored Aqua-Grn/Gry- Olive- Brn-Blk Carb Fissil Abd Ls/Dolo Wnt-Crm-Tan-Gry Microxin-Fxin Dns Micrite Barren Pyr Mass No Odor No Stn No Flor NS

Sh Vari-Colored Aqua-Grn/Gry-Olive-Brn-Blk Carb-Maroon Fissil Abd Dolo/Ls Gry- Tan Microxin-Fxin Dns Micrite Pyr Mass No Odor No Stn No Flor NS

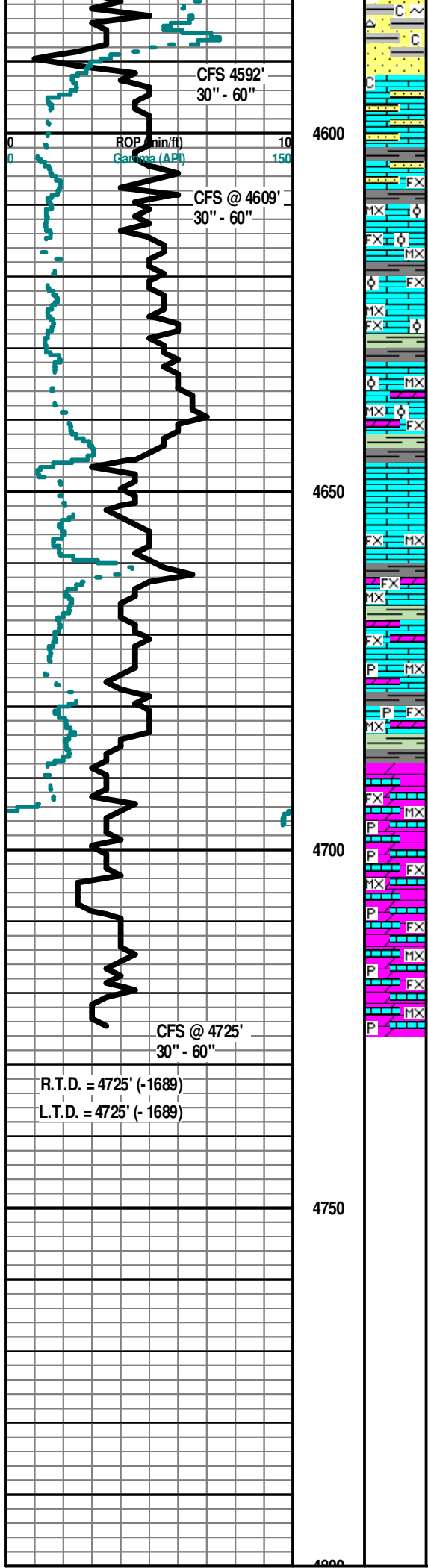
Sh Vari-Colored Aqua-Grn/Gry-Olive-Brn-Blk Carb-Maroon Fissil Abd Dolo/Ls Gry- Tan Microxin-Fxin Dns Micrite Barren Pyr Mass No Odor No Stn No Flor NS

30" CFS @ 4725' Sh Vari-Colored Aqua-Grn/Gry-Olive-Brn-Blk Carb-Maroon Abd Fissil Dolo/Ls Gry-Wnt-Crm-Tan Microxin-Fxin Dns Micrite Barren Pyr Mass No Odor No Stn No Flor NS

60" CFS @ 4725' Sh Vari-Colored Aqua-Grn/Gry-Olive-Brn-Blk Carb-Maroon Abd Fissil Dolo/Ls Gry-Wnt-Crm-Tan Microxin-Fxin Dns Micrite Barren Pyr Mass No Odor No Stn No Flor NS

Electric Logs Run: By Nabors Logging:
Dual Induction & Compensated Density-Neutron Logs.

Geologist Left Location at: 3:00 PM on 09/24/2014



R.T.D. = 4725' (-1689)
L.T.D. = 4725' (-1689)

Chl.
Mudco Ck @ 4725' @ 8:30 AM 09/25/2014
Vis 50;
WT= 9.2#;
PV= 14;
YP= 15;
WL= 10.4;
Cake= 1;
Chl= 6500;
Cal = 48;
Sol = 6.1%.
LCM= 1#;
DMC=\$0.00
CMC=\$18,243.10