



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

Well Name: # 1 McCALLOP
Location: APPROX. 5' S & 115'E of E/2-NW-NW of SEC.18-13 S.-31 W.
License Number: A.P.I. # 15-063-22079-00-00
Spud Date: 01/22/2013
Surface Coordinates: SPOT: 665' FNL & 1105' FWL

Region: Gove Co., KS.
Drilling Completed: 01/31/2013

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 2971' **K.B. Elevation (ft):** 2976'
Logged Interval (ft): SURF. CSGTo: 4760' **Total Depth (ft):** 4760'
Formation: MISSISSIPPIAN
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: Mike Engelbrecht & David P Williams
Company: Ritchie Exploration & DW Energy. LLC
Address: P.O. BOX 783188 & 312 North Broadview Street
WICHITA, KS 67278-3188 WICHITA, KANSAS 67208

Casing & Survey's

Surface Casing 8 5/8" set at 208'. Cemented w/ 175 sx Common 3% cc 2% Gel. Allied Cementing Did Service & Cement Did Circulate To Surface.

Deviation Surveys Taken: @ 208' = 3/4 degree; @ 4016' = 1 degree; @ 4254' = 1 degree; @ 4760' = 1 1/4 degrees.

DSTs

DST # 1 3959' - 4016'. 30"-45"-30"-45". Tool Slid 5' to Btm.

Blow: IF= Fair Building BOB/5"; FF= Fair Building BOB/6". Recovery: 1102' TF: 882' SGCMW (1% G;5% M; 94% W); 220' MW (50%M & 50%W).

Pressures: IH = 1974#; FH =1957#; IF= 105-391#; FF= 430-590#; ISIP = 1143#; FSIP = 1135#; Chlorides= 38,000 Ppm. RW= .18 @ 58 degrees F.Temp= 122 degrees F.

DST # 2 4027' - 4050'. 30"-45"-30"-45". Blow: IF= Weak Building to 7"; FF= Weak Building to 7". Flushed Tool. Recovery: 5' 219' TF: 126' MW+SO: (10% M; 90% W) & 93' MW+SO (50% M & 50% W).

Pressures: IH = 1958#; FH= 1947#; IF= 43 - 102#; FF= 103-135#; ISIP= 1143#; FSIP= 1100#; Chlorides= 54,000 Ppm; RW= .22 @ 40 degrees; F. Temp= 114 degrees F.

DST # 3 4210' - 4238'. 30"-30"-30"-30". Blow: IF= Weak Building to 4"; FF= Weak Building to 2". Recovery: 150' MW.

Pressures: IH = 2062#; FH= 2047#; IF= 44 - 96#; FF= 100-116#;

ISIP= 1198#; FSIP= 1146#; Chlorides= 48,000 Ppm; RW= .20 @ 50 degrees F. Temp= 112 degrees F.

DST # 4 4230' - 4254'. 30"-30"-30"-30". Blow: IF= Weak Building to 1"; FF= No Blow/9" Sli Weak Build/.5". Recovery: 65' Watery M + SO (<1%O).

Pressures: IH = 2086#; FH= 2046#; IF= 41-58 #; FF= 61-75#; ISIP= 1232#; FSIP= 1191#; Chlorides=17000 Ppm; RW=.32 @ 64 degrees F.; Temp= 109 degrees F.

DST # 5 4553' - 4588'. 30"-45"-30"-45". Blow: IF= Weak Building to 1.5"; FF= No Blow & Flushed Tool @ 10" No Help. Recovery: 5' M.

Pressures: IH = 2354#; FH= 2337#; IF= 48-50#; FF= 50-54#; ISIP= 117#; FSIP= 119#; Temp= 116 degrees F.


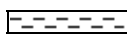

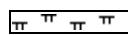
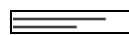
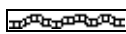




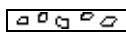







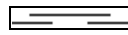

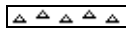


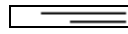
Comments

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	 Sltst
 Brec	 Congl	 Igne	 Salt	 Ss
 Carb sh	 Dol	 Lmst	 Shale	 Till
 Cht	 Grn sh	 Meta	 Shcol	

ACCESSORIES

MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brefracg
- 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
- Gryslt
- Gyp
- Ls
- Mrst
- Sltstn

- Sltstrg
- Ssstrg

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackst

OTHER SYMBOLS

POROSITY

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

- Vuggy

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang
- Angular

- Even
- Spotted
- Ques
- Dead

- Dst_alt
- Dst

EVENT

- Rft
- Sidewall

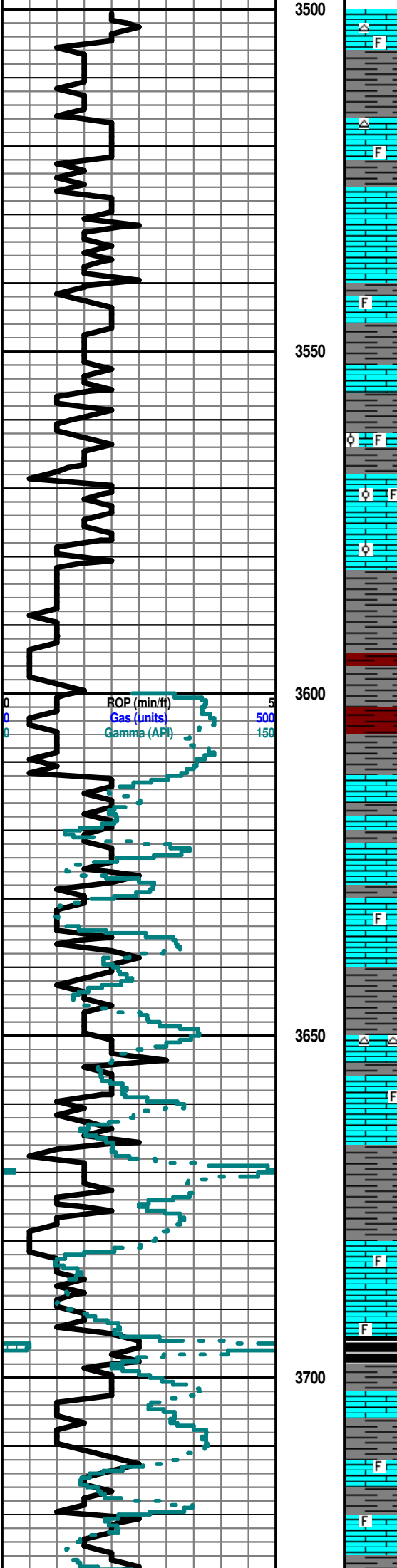
OIL SHOW

- Gas show

INTERVAL

- Core
- Straddle test tail pipe

Curve Track 1	Depth	Lithology	Oil Shows	Geological Descriptions	TG, C1-C5
ROP (min/ft) _____ Gas (units) _____ Gamma (API) _____					
ROP (min/ft) 5 Gas (units) 500 Gamma (API) 150	3400			RITCHIE EXPLORATION, INC. # 1 McCALLOP SPOT: 665' FNL & 1105' FWL APPROX. 5'S & 115' E/2 - NW - NW SEC. 18 - 13 S. - 31 W. GOVE COUNTY, KANSAS ELEVATION : 2976' K.B. ; 2971' G.L. A.P.I. # 15-063-22079-00-00 CONTRACTOR: WW DRILLING-RIG # 6 Geologists: Mike Engelbrecht & David P. Williams STONE CORAL ANHYDRITE SPL. TOP = 2471' (+507). STONE CORAL ANHYDRITE SPL. BASE = 2492' (+ 484). STONE CORAL ANHYDRITE E. LOG. TOP = 2471' (+507) STONE CORAL ANHYDRITE E. LOG BASE = 2492' (+484)	
	3450			Deviation Survey's Taken: @ 208' = 3/4 degree; @ 4016' = 1 degree; @ 4254' = 1 degree; @ 4760' = 1 1/4 degrees. Note: All samples have been lagged to depth by calculated time. Begin 10' Sample Examination @ 3500'. Vari-Color Ls Semi-Fos NS Few rd Beds	



20 Wh-Gry Semi-Fos Ls P-F Por Ns

30 Wh-Lt Crm-Gry Ls Few Chty NS

40 Lt Gry-Molt Sli Fos Ls Poor Por NS No Odor

50 Lots Med Gry LS & Shs

60 Gry-Lt Brn Sli Fos Dns Ls V Poor Por NS

70 Lt Md Gry Sli Fos Molt-Dns Ls Poor Por NS No Odor

80 Lt Tan-Buff Sli Fos Ls Poor Por NS No Odor

90 Inc Buff-Crm Sli OOL Fos Ls NS No Odor

00 Buff-Crm Sli OOL Fos Ls NS

10 Lt Crm Semi-OOL Ls P-F Por NS

ROOT SHALE 3582' (- 606)

20 Lt Crm-Buff Sli Fos Ls NS Inc Gry Sh

30 Lt-MD Grv Silty & Rust

STOTLER 3612' (- 636)

40 Crm-Buff-Gry Sli fos Dns Ls Poor Por NS No Odor

50 Lots Crm-Buff Semi-Fos Ls P-F por NS

60 Lots MD-Dk Gry Shs Gry Sli Chty LS Poor Por NS No Odor

70 Gry-Tan-Buff Mealy-Dns Ls Poor Por NS No Odor

80 Buff-Lt Tan Sli Fos Ls NS

90 Lots Dk Gry-Blk Shs Gry Dns LS

00 Lots Lt Crm-Buff Ls Semi-Fos Fair Por NS No Odor

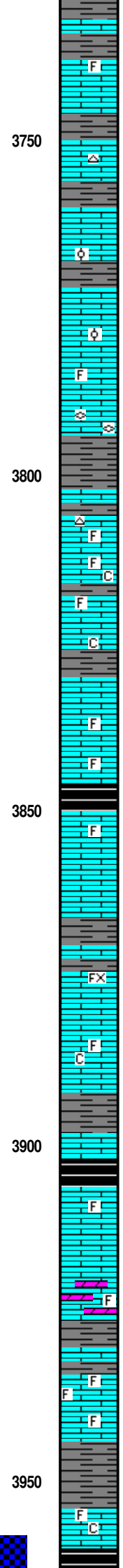
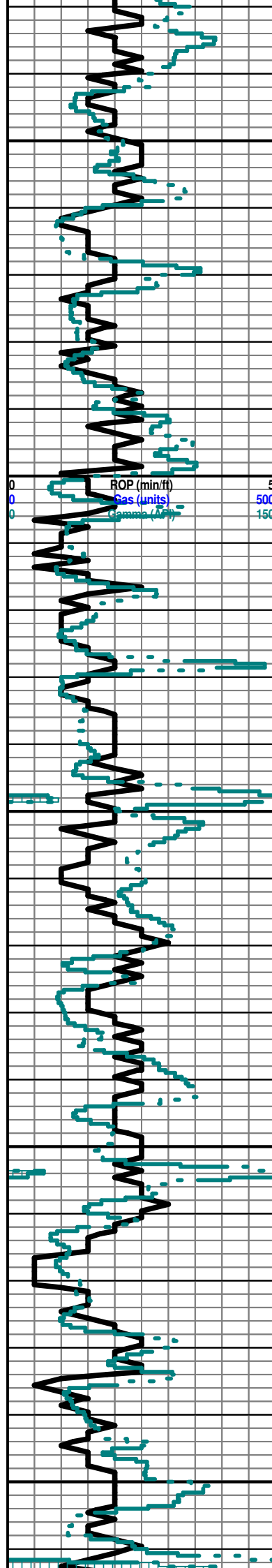
10 Lt Crm-Lt tan Semi-Fos Ls P-F Por NS Few Loose Wh Cky

20 Lt Crm Fos Hard Ls Fair Por NS No Odor Few Blk Shs

30 Lt Crm-Tan-Buff Semi-Fos Ls P=F Por NS

40 Lt Buff-Flesh-Ran Semi-Fos Ls P-F Por NS No Odor

Mudco Ck @
 3538' @
 10:00 AM
 01/25/2013
 Vis 51;
 WT= 8.6#;
 PV= 18;
 YP= 16;
 WL= 6.4;
 Cake= 1;
 Chl= 1500;
 Cal = 40;
 Sol= 3.1%.
 LCM= 3#;
 DMC=\$
 2,368.25
 CMC=\$
 9,812.20



50 Flood Lt Gry Silty Ls Poor Por NS No Odor

60 Flood Wh-Lt Crm-Lt Orange Fos Ls P-F Por NS

Note: Mike Englebrecht Geologist on Location 3:30 PM 1/25/13

70 Pred Crm Sli Fos Ls Poor Por NS No Odor Sli Chty

80 Lt Crm-Lt Tan Dns Ls NS

90 Wh-Lt Crm Micro-OOL Ls P-F Por NS No Odor

00 Lt Crm-Lt Tan Semi-Fos Ls P-F Por NS

10 Gry-Tan Nod-Fussls Ls P-F Por NS No Odor

20 Gry-Tan Ls Semi-Fos Sli Chty Fair Por NS

30 Wh-Lt Crm Semi-Fos Ls Ptlly Cky Fair Por NS No Odor

40 Flood Wh-Lt Crm Cky Ls NS

50 Lt Crm-V Lt Tan Sli Fos Ls P-F Por NS

60 Pred Lt Crm-V Lt Tan Sli Fos Ls Poor Por NS No Odor

KING HILL 3848' (- 872)

70 Few Blk Shs Crm-Lt Tan Sli Fos LS Poor Por NS No Odor

80 Lt Gry Siltstone Silty Shs

90 Lt Gry-Crm Few Wh Fn Xln Ls poor Por NS

00 Wht-Lt Crm Sli Fos Ls P-F Por NS No Odor Ptlly Chky

10 Lt Crm Sli Foss Ls Poor Por Ptlly Cky NS No Odor

QUEEN HILL 3902' (- 926)

20 Lt Crm-Lt Tan Semi-Fos Ls P-F Fos Por NS

30 Few Blk Shs & Ls AA NS

40 Flood Lt Crm Fos Dolo/Ls w/Fair Fos Vug Por NS No Odor

50 Wht-Crm-Lt Tan Sli Fos Ls Dns Fair Por NS

60 Wht-Lt Crm Semi-Fos Ls P-F Por NS No odor

70 Wh-Lt Cem Semi-Fos Ls Dns Fair Por NS Inc Cky

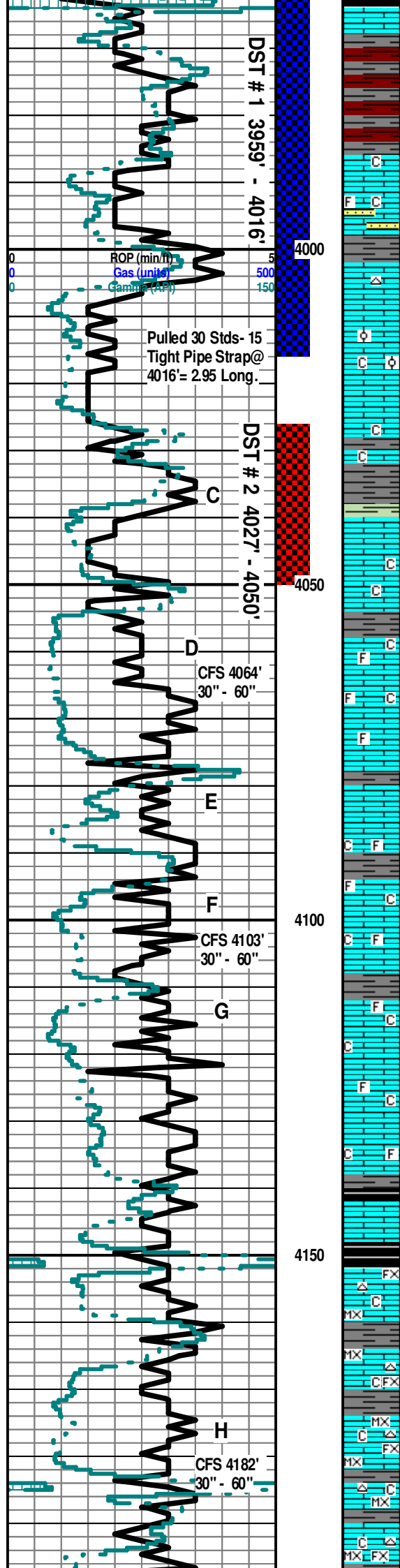
HEEBNER 3960' (- 984)

700# Pump Pressure

750 # Pump Pressure

DST # 1
 3959' - 4016'
 30"-45"-30"-45"
 Tool Slid 5' to Btm.
 Blow: IF= Fair
 Building BOB/5";
 FF= Fair Building
 BOB/6". Recovery:
 1102' TF: 882'
 SGCMMW (1% G;5%
 M; 94% W); 220'
 MW (50%M &
 50%W).
 Pressures:
 IH = 1974#;
 FH =1957#;
 IF= 105-391#;
 FF= 430-590#;
 ISIP = 1143#;
 FSIP = 1135#;
 Chlorides= 38,000
 Ppm;
 RW= .18 @ 58
 Degrees F.
 Temp= 118
 Degrees F.

Mudok Cl @



80 Lots of Blk Carb Sh

90 Lots of Gry Silty Shs & Rust-Peach Shs

TORONTO 3986' (- 1010)

00 Flood Red Rust-Drk Peach Gubo Shs & Wh Fn-Xln Ls Cky No Odor NS

10 Few Pcs Wh-Lt Crm Sli Fos Ls w/P-F Scat Vug Por w/Ss Lt & Drk FO Faint Odor on Break

LANSING 4002' (- 1026)

16 Few Pcs Wh-Crm Ls & lt & Drk Stn VSSFO Ft Odor Fair Vug Por Sli Chty

30" CFS @ 4016' Few Pcs Crm Ls w/Vug Por Lt & Drk Stn VSSFO Faint Odor

60" CFS @ 4016' Pred Wh-OOL Ls Poor Por NS Lots Cky No Odor Fair Vug Por

30 Junk Mostly Shs

40 Flood Wh Fn-Xln Cky Ls Poor Por NS No Odor Soft

50 Gry-Grn Sh

64 Junk Shs & Wh Fn Xln Ls NS

30" CFS @ 4064' Flood Wht-Lt Crm Sli Fos Ls P-F Fos Por Ns No Odor Ttly Cky

60" CFS @ 4064' Pred Wht-Lt Crm Sli Fos Ls P-F Fos/Vug Por NS Ptlly Cky

80 Lt Crm Sli Fos Ls w/ P-F Por Small Vug NS No Odor

90 Flood V Lt Crm-Lt Tan Sli Fos Ls P-F Por NS No Odor

00 Flood Lt Crm-V Lt Tan Sli Fos Ls P-F Fos Por Scat Vug NS No Odor Sli Cky

30" CFS @ 4103' Ls Lt Tan Sli Fos Ls Poor Por NS ? Lt Stn 3 Pcs

60" CFS @ 4103' Wht-Lt Crm Ls Poor Por NS No Odor Inc Cky

20 Flood Wh Lt Crm Fn Xln Ls Poor Por NS No Odor Cky

30 Wht-Crm V Lt Tan Fn Xln Ls Lots Cky Poor Por NS No Odor

40 Lt Tan - Org Fn Xln Ls Poor Por No Odor Cky

50 Flood Lt Crm-V Lt Tan Ls Fn-Xln Dns Cky NS

60 Few Pcs Drk Gry-Blk Shs

MUNCIE CREEK 4149' (- 1173)

Note: Spl. Examination Begins For David P. Williams @ 4170' @ 2:00 P.M. 1/27/2013

Ls Wht-Crm MicroIn-Fixn Micritic to Poor Pin-Pt Ixln Por Fos (Fuss) Cht Wht-Gry Translu-Op Shp Vit Chalky Sh Char-Gry-Grn- Blk Carb-Red Soft-Fissil No Odor No Stn No Flor NS

30" CFS @ 4182' Ls Wht-Crm-Gry MicroIn-Fixn Micritic to Poor Pin-Pt Ixln Por Cht Gry-Drk Gry Translu-Op Shp Vit Pyr Mass Chalky Sh Char-Gry-Brn-Red Soft-Fissil No Odor No Stn No Flor NS

60" CFS @ 4182' Ls Wht-Crm-Gry MicroIn-Fixn Micritic to Poor Pin-Pt Ixln Por Cht Gry-Drk Gry Translu-Op Shp Vit Pyr Mass Chalky Sh Char-Gry-Brn-Red Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry MicroIn-Fixn Micritic to Poor Pin-Pt Ixln Por Cht Gry (w/OOL in pl) Translu-Op Shp Vit Chalky Sh Char-Gry -Blk Carb- Grn- Maroon -Red Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm MicroIn-Fixn Dns Micritic Cht Wht-Lt Gry (w/OOL in pl) Translu-Op Shp Vit Chalky Sh Char-Gry- Blk Carb- Grn- Maroon -Red Soft-Fissil No Odor No Stn No Flor NS

Mudco Ck @ 4016' @ 7:30 AM

01/26/2013

Vis 54;

WT=9.2; PV=14; YP=17; WL=7.2; Cake=1; Chl=1500; Cal=60; Sol=5.9%. LCM=3#;

DMC=\$342.65.25

CMC=\$10,154.85

DST # 2

4027' - 4050'

30"-45"-30"-45"

Blow: IF= Weak

Building to 7";

FF= Weak Building to 7". Flushed

Tool. Recovery: 5' - 219' TF: 126'

MW+SO: (10% M; 90% W) & 93'

MW+SO (50% M & 50% W).

Pressures:

IH = 1958#;

FH= 1947#;

IF= 43 - 102#;

FF= 103-135#;

ISIP= 1143#;

FSIP= 1100#;

Chlorides= 54,000 Ppm;

RW= 22 @ 40 Degrees F.

Temp= 114 Degrees F.

Mudco Ck @ 4064' @ 8:00 AM

01/27/2013

Vis 49;

WT=9.3; PV=15; YP=16; WL=6.4; Cake=1; Chl=2200; Cal=80; Sol=6.6%. LCM= 4#;

DMC=\$1,122.20

CMC=\$11,277.05

DST # 3

4210' - 4238'

30"-30"-30"-30"

Blow: IF= Weak

Building to 4";

FF= Weak Building to 2". Recovery: 150' MW.

Pressures:

IH = 2062#;

FH= 2047#;

IF= 44 - 96#;

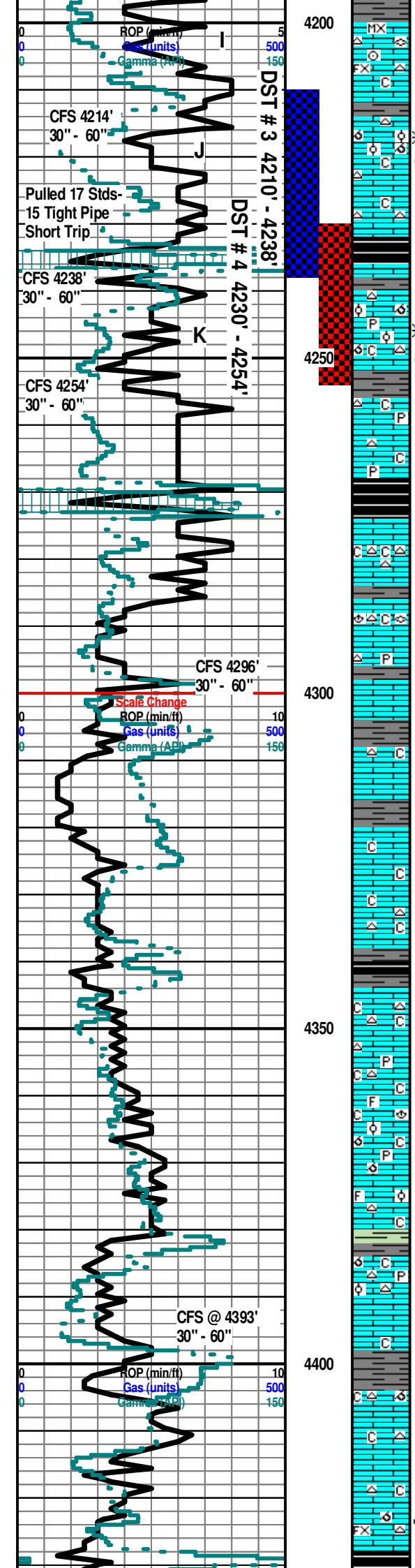
FF= 100-116#;

ISIP= 1198#;

FSIP= 1146#;

Chlorides= 48,000 Ppm;

RW= 20 @ 50 Degrees F



30" CFS @ 4214' Ls Wht-Crm MicroIn-Fixn Dns Micritic Grad Poor-Fair Ixn Por (w/Pyr Includ) Fos (Crin, Fuss) Cht Wht-Lt Gry (w/OOL in pl) Translu-Op Shp Vit Chalky Sh Char-Gry- Blk Carb- Aqua- Maroon-Red-Org Soft-Fissil No Odor No Stn No Flor NS

60" CFS @ 4214' Ls Wht-Crm MicroIn-Fixn Dns Micritic Cht Wht-Lt Gry Translu-Op Shp Vit Chalky Sh Char-Gry-Maroon-Red-Org Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm MicroIn-Fixn Dns Micritic (w/Pyr Includ) Grad Poor-Fair OOM Por (w/OOL in pl) Tr/Fair InterOOM/OOL Vug Leaching Fair Develop Poor-Fair w/SG w/SFO w/Broken (10 Pcs in Tray) Cht Wht-Lt Brn (w/OOL in pl) Translu-Op Shp Vit Chalky Sh Char-Gry-Aqua-Maroon-Red Soft-Fissil Faint Odor Lt Brn Stn (on Vug Edges) V Faint (Lt Grn) Flor Sli-Fair SG & Sli SSO (Both Gas & Oil Do Not Flor

30" CFS @ 4238' Ls Wht-Crm MicroIn-Fixn Dns Micritic Cht Wht-Lt Gry Translu-Op Shp Vit Chalky Sh Char-Gry-Maroon-Red-Org Soft-Fissil No Odor No Stn No Flor NS

STARK 4234' (-1258)

60" CFS @ 4238' Sh Blk Carb-Char-Gry-Maroon-Red Fissil AA Ls Wht Dns Micritic AA Cht AA ? Faint Odor No Flor No Stn NS

Ls Crm-Wht MicroIn-Fixn Micrite (w/Pyr Includ) Grad Poor-Fair Ixn Por Cht Wht Op Shp Vit Fos (Crin) Chalky Blk Carb-Char-Aqua Fissil AA Fair Inc Odor Faint Flor (Lt Grn) Sli Show Lt Brn Stn

30" CFS @ 4254" Ls Crm-Wht-Tan Fxn Micrite AA Grad Fair-Med Ixn & OOM/OOL Por Fair Develop Fair Inc Leaching (w/ Poor-Fair SG w/Broken) Cht AA Chalky Sh AA Good Odor Faint Flor (Lt Grn) (Gas Does Not Flor ? SFO w/Broken Fair (Lt Brn) Stn SSG & ? SSO

HUSHPUCKNEY 4268' (- 1292)

Ls Wht-Crm MicroIn-Fixn Dns Micritic Cht Wht Op Shp Vit Chalky Sh Blk Carb Abd-Char-Gry-Aqua-Maroon Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm MicroIn-Fixn Dns Micritic Cht Wht-Lt Gry Translu-Op Shp Vit Chalky Sh Blk Carb Abd-Char-Gry-Aqua-Maroon Soft-Fissil No Odor No Stn No Flor NS

30" CFS @ 4296' Ls Wht-Crm-Tan MicroIn-Fixn Dns Micritic Cht Wht-Lt Gry Translu -Op Shp Vit Fos (Brach, Fuss) Pyr Mass Chalk V Abd Sh Blk Carb-Char- Gry- Aqua- Maroon Soft- Fissil No Odor No Stn No Flor NS

60" CFS @ 4296' Ls Wht-Crm-Gry MicroIn-Fixn Dns Micritic Cht Wht-Lt Gry Translu -Op Shp Vit Chalk V Abd Sh Blk Carb-Char- Gry- Aqua- Maroon Soft- Fissil No Odor No Stn No Flor NS

BASE KANSAS CITY 4305' (- 1329)

Sh Char-Gry-Aqua-Maroon- Blk Carb Tr Fissil Ls Wht - Crm MicroIn -Fixn Dns Micritic Cht Crm-Lt Gry Translu-Op Shp Vit Chalk V Abd No Odor No Stn No Flor NS

MARMATON 4326' (-1350)

Ls Wht-Crm MicroIn-Fixn Dns Micritic Chalk V Abd Sh Blk Carb-Char- Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm MicroIn-Fixn Dns Micritic Cht Wht-Lt Gry Translu-Op Shp Vit Chalk V Abd Sh Blk Carb-Char- Gry Fissil No Odor No Stn No Flor NS

ALTAMONT "A" 4344' (- 1368)

Ls Wht-Crm-Gry MicroIn-Fixn Dns Micritic Grad Poor IGran Ixn Por Soft Cht Wht Op Shp Vit Dec Chalk V Abd Sh Blk Carb-Char- Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Lt Tan MicroIn-Fixn Dns Micritic (w/Pyr Includ) Cht Wht Op Shp Vit (Tr Only) Chalk V Abd Sh Char- Gry -Maroon Fissil No Odor No Stn No Flor NS

Ls Wht-Lt Gry MicroIn Dns Micritic Chalk V Abd Sh Char- Gry -Aqua- Maroon Fissil No Odor No Stn No Flor NS

Ls Wht-Gry (w/Fos (Brach, Spicule Includ) MicroIn-Fixn Micritic Grad Poor OOM Por (w/OOL in pl) Tr Poor Vug Por Poor Dissolu Poor leaching Por Barren Pyr Mass Cht Tan Translu-Shp Vit Chalk Sh Char- Gry -Aqua- Blk-Carb Tr-Purple Fissil No Odor No Stn No Flor NS

ALTAMONT "B" 4384' (- 1408)

60" CFS @ 4393' Ls Wht-Tan (w/Fos Includ) MicroIn-Fixn Micritic Grad Fxn Gran OOL (w/OOL in pl) Por Barren Pyr Mass Cht Tan Translu-Shp Vit Chalk Sh Char- Gry -Aqua- Maroon Fissil No Odor No Stn No Flor NS

Ls Wht-Crm MicroIn-Fixn Micritic Grad Fxn Poor Pin-Pt Ixn Por w/Tr v Poor InterOOM Por Barren V Poor Leaching (1 Pc) Cht Lt Gry Translu-Shp Vit Chalk Sh Char-Gry-Maroon Fissil No Odor No Stn No Flor NS

ALTAMONT "C" 4405' (- 1429)

Ls Wht-Crm-Gry MicroIn-Fixn Micritic Grad Fxn Poor Pin-Pt Ixn Por Barren w/Tr v Poor InterOOM Por Barren V Poor Leaching AA Cht Wht-Lt Gry Translu-Op Shp Vit Chalk Sh Char-Gry-Maroon Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry MicroIn-Fixn Micritic Grad Fxn Poor-Fair Pin-Pt Ixn Por Barren V Poor Leaching Cht Wht-Lt Gry Translu-Op Shp Vit (1 Pc w/Poor Vug Leached Por w/ ? Blk Stn) Chalk Sh Char-Gry-Maroon Fissil No Odor ? Blk Stn No Flor NS

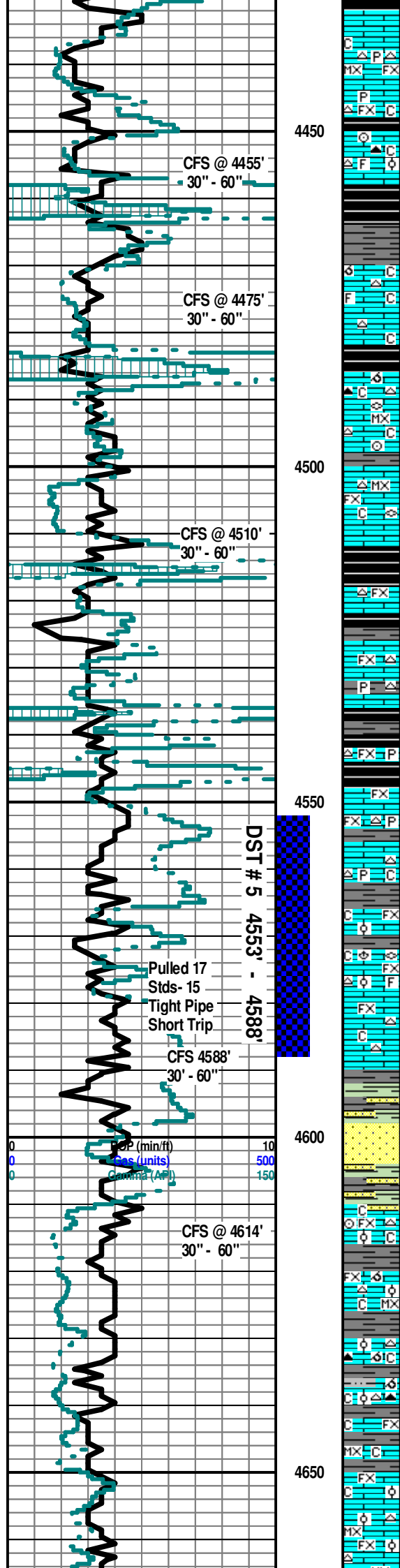
Temp= 112 Degrees F.

Mudco Ck @ 4238' @ 10:15 AM 01/28/2013 Vis 52; WT=9.3; PV= 19; YP= 18; WL= 5.6; Cake= 1; Chl= 2500; Cal= 20; Sol=6.5%; LCM= 3#; DMC=\$ 1,492.65 CMC=\$ 12,769.70

DST # 4 4230' - 4254'. 30"-30"-30"-30". Blow: IF= Weak Building to 1"; FF= No Blow/9"/ Weak Build/0.5". Recovery: 65' Wtr M+SO (<1%). Pressures: IH = 2086#; FH= 2046#; IF= 41-58 #; FF= 61-75#; ISIP= 1232#; FSIP= 1191#; Chl.=17000 Ppm; RW=.32 @ 64 degrees F.; Temp = 109 degrees F.

Mudco Ck @ 4419' @ 11:00 AM 01/29/2013 Vis 53; WT=9.4; PV=

DAWNEE 4422' (- 1466)



17; YP= 19;
WL= 7.2;
Cake= 1;
Chl= 3000;
Cal= 80;
Sol=7.4%
LCM= 3#;
DMC=\$
879.455
CMC=\$
13,649.15

30" CFS @ 4455' Ls Wht-Crm-Tan MicroIn-Fxn Micritic Barren Cht Wht-Lt Gry (w/Pyr Includ) Translu-Op Shp Vit Chalky Sh Char-Gry-Maroon-Olive Fissil No Odor No Stn No Flor NS

60" CFS @ 4455' Sh Blk Carb Inc-Char-Gry-Aqua-Maroon Fissil Ls AA Cht AA Chalk Abd AA No Odor No Stn No Flor NS

30" CFS @ 4475' Ls Wht-Crm-Tan MicroIn-Fxn Micritic Grad V-Poor Pin-Pt Ixln Por Grad PV Poor OOM Por Poor-No Dissolu (1 Pc ? Vug w/Dead Blk Stn?) V Poor-No Leaching Cht Wht-Gry-Amber (w/OOL & Fos (Spicule) in pl)-Drk Gry Translu-Op Shp Vit Fos (Crin) Chalky Sh Blk Carb-Char-Gry-Grn Fissil No Odor No Flor No Stn NS

MYRICK STATION 4470' (- 1494')

60" CFS @ 4475' Ls AA Cht AA Chalk AA Sh Blk Carb-Char-Gry-Grn Fissil No Odor No Flor No Stn NS

Ls AA Cht AA Chalk AA Sh Blk Carb-Char-Gry-Grn Fissil No Odor No Flor No Stn NS

FORT SCOTT 4486' (- 1510)

Ls Crm-Tan MicroIn-Fxn Micritic Grad V-Poor Pin-Pt Ixln Por Grad V Poor OOM Por No Dissolu V Poor-No Leaching Cht Tan-Amber (w/Fos (Fuss) in pl) Translu-Op Shp Vit Chalky Sh Blk Carb-Char-Gry-Grn Fissil No Odor No Flor No Stn NS

30" CFS @ 4510' Ls Wht-Crm-Tan MicroIn-Fxn Micritic Grad V-Poor Pin-Pt Ixln Por Cht Wht-Tan-Amber (w/Fos (Fuss) in pl) Translu-Op Shp Vit Fos (Crin) Chalky Sh Blk Carb-Char-Gry-Grn Fissil No Odor No Flor No Stn NS

60" CFS @ 4510' Ls Wht-Crm-Tan MicroIn-Fxn Micritic Grad V-Poor Pin-Pt Ixln Por Cht Wht-Tan-Amber (w/Fos (Fuss) in pl) Translu-Op Shp Vit Chalky Sh Blk Carb-Char-Gry-Grn Fissil No Odor No Flor No Stn NS

CHEROKEE 4512' (- 1536)

Ls Wht-Crm Fxn Dns Micrite Grad Pin-Pt Ixln Por Barren Cht Wht Op Shp Vit Chalky Sh Blk Carb-Gry-Grn-Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxn Dns Micrite Grad Pin-Pt Ixln Por AA Cht Wht Op Shp Vit Chalky Sh Char-Gry-Grn-Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan Fxn Dns Micrite (w/Pyr Includ) Grad Pin-Pt Ixln Por AA Cht Wht Op Shp Vit Chalky Sh Char-Gry-Grn-Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan Fxn Dns Micrite (w/Pyr Includ) Grad Pin-Pt Ixln Por AA Cht Wht Op Shp Vit Chalky Sh Char-Gry-Grn-Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan Fxn Dns Micrite (w/Pyr Includ) Grad Pin-Pt Ixln Por AA Cht Wht Op Shp Vit Chalky Sh Char-Gry-Aqua-Grn-Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan Fxn Dns Micrite (w/Pyr Includ) Grad Pin-Pt Ixln Por AA Cht Wht Op Shp Vit Chalky Sh Blk Carb Char-Gry-Aqua-Grn-Maroon Soft-Fissil ? V Faint Odor No Flor No Stn NS

JOHNSON 4566' (- 1590)

30" CFS @ 4588' Ls Crm-Tan Fxn w/Tr Poor-Fair OOL Tr Vug Por Grad Poor-Fair Pin-Pt Por w/SG & Drk Brn Stn (8 Pcs) Cht AA Fos (Brach, Sponge, Fuss) Chalky Sh AA ? Faint Odor Sil Tr (Lt Grn) Flor VSSG & VSS Stn

BASE JOHNSON 4580' (- 1614)

60" CFS @ 4588' Ls Crm-Tan Fxn w/Tr Poor-Fair OOL Por Grad Poor-Fair Pin-Pt Por Inc Poor-Fair Vug Por (w/ SFO) (+/- 10 Lt Brn Droplets) & Tr Drk Brn Stn (6 Pcs) Gas & Oil Do Not Flor Cht AA Chalky Sh AA No Odor ? Faint (Lt Grn) Flor SSG & SFO & Lt Brn Stn Poor-Fair Show

Sh Varicolored Char-Gry-Yell-Aqua-Grn-Red Ls AA Cht Wht-Org Op Shp Vit Tr Qtz Ss Wht V SmallSub-Ang Well Sort Clusters (Lt CaCO3 Cmt Matrix & Glacu Includ) Friable Barren Pyr Mass Fos (Fuss) No Odor No Stn No Flor NS

MORROW SAND 4598' (- 1622)

30" CFS @ 4514' Qtz Ss Wht AA Ls Wht MicroOOL (Sandy Carb Ls w/OOL in pl) Tr Sh Varicolored AA No Odor No Stn No Flor NS

MISSISSIPPIAN 4610' (- 1634)

60" CFS @ 4514' Ls Wht Fxn MicroOOL (Sandy Carb Ls w/OOL in pl) Poor InterOOL Por Barren Cht Gry Translu Shp Vit Fos (Crin) Sh Varicolored Char- Gry- Yell- Aqua- Grn -Red Soft-Fissil Tr Qtz Ss (w/Pyr Includ) Dec No Flor No Stn ? Faint Odor NS

Ls Wht-Crm-Lt Tan-MicroIn-Fxn Poor MicroOOL (Sandy Carb Ls w/OOL in pl) Poor InterOOL Por Grad Dns Micritic Grad Poor Pin-Pt Ixln Por Poor-No Leaching Poor Develop Barren Cht Wht-Lt Gry-Crm-Amber Translu-Op Shp Vit Chalky Sh Char-Aqua Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Lt Tan-MicroIn-Fxn Micritic Grad Poor Pin-Pt Ixln Por Grad Poor MicroOOL (Sandy Carb Ls w/OOL in pl) Poor InterOOL Por (w/OOL in pl) No Leaching Poor Develop Barren Cht Wht-Lt Gry-Crm-Amber Translu-Op Shp Vit Chalky Sh Char-Aqua (Siltsin) -Maroon Fissil No Odor No Flor No Stn NS

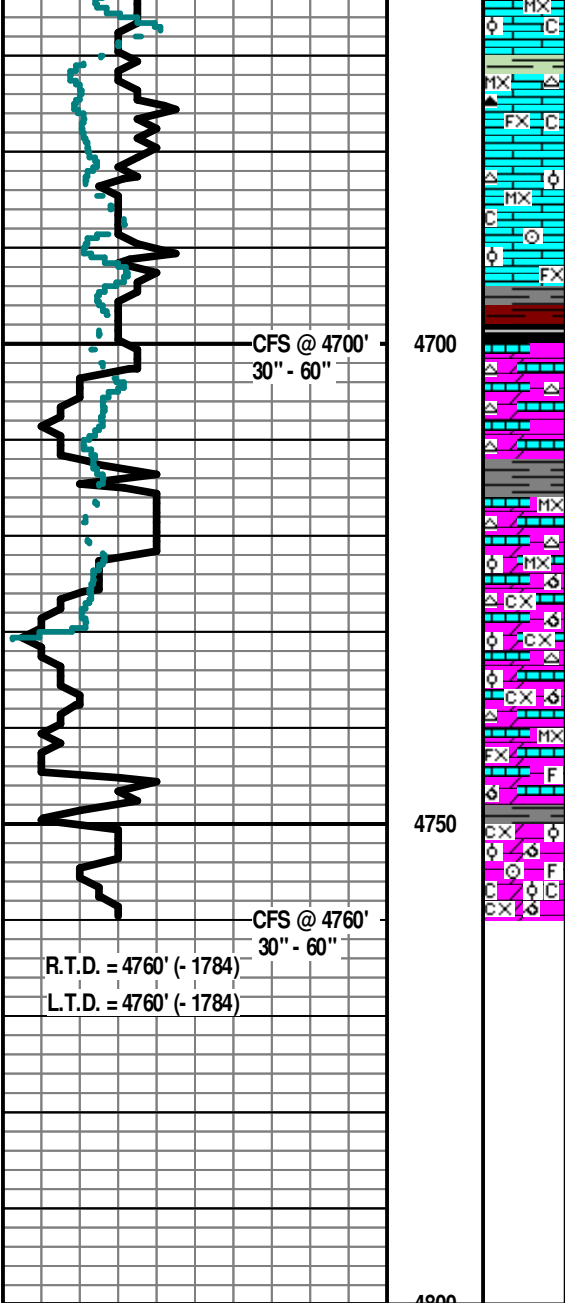
Ls Wht-Crm-Lt Tan-MicroIn-Fxn Micritic Grad Poor Pin-Pt Ixln Por Cht Wht Translu -Op Shp Vit Chalky Sh Char-Aqua-Maroon Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Lt Tan-MicroIn-Fxn Micritic Grad Poor MicroOOL (Sandy Carb Ls w/OOL in pl) Poor InterOOL Por (w/OOL in pl) No Leaching Poor Develop Barren Grad Poor Pin-Pt Ixln Por (Tr Only) Cht Wht-Lt Gry-Tan Translu-Op Shp Vit Chalky Sh Char-Aqua-Maroon Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Lt Tan-MicroIn-Fxn Micritic Grad Poor Pin-Pt Ixln Por Grad Poor MicroOOL (Sandy Carb Ls w/OOL in pl) Poor InterOOL Por (w/OOL in pl) No Leaching Poor Develop Barren (Tr Only)

DST # 5
4553' - 4588'.
30"-45"-30"-45".
-Blow: IF= Weak Building to 1.5";
-FF= No Blow & Flushed Tool @ 10". No Help.
-Recovery: 5' M.
Pressures:
IH = 2354#;
FH = 2337#;
IF = 48-50#; FF = 50-54#; ISIP= 117#; FSIP= 119#;
Temp= 116 degrees F.

Mudco Ck @ 4588' @ 9:00 AM
01/30/2013
Vis 57;
WT=9.4;
PV= 12;
YP= 18;
WL= 7.2;
Cake= 1;
Chl= 3200;
Cal= 40;
Sol=7.5%
LCM= 3#;
DMC=\$
519.40
CMC=\$
14,158.55



Cht Wht Translu -Op Shp Vit Chalky Sh Char-Aqua-Maroon Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Lt Tan-MicroIn-FxIn Micritic Grad Poor Pin-Pt IxIn Por Cht Wht-Org Translu -Op Shp Vit Chalky Sh Char-Aqua-Maroon Fissil No Odor No Flor No Stn NS

30" CFS @ 4700' Ls Wht-Crm-Lt Tan-MicroIn-FxIn Micritic (w/Pyr Inclus) Grad Poor-Fair Pin-Pt IxIn Por Grad Poor MicroOOL (Sandy Carb Ls w/OOL in pl) Poor InterOOL Por (w/OOL in pl) Poor Leaching Poor Develop Barren (Tr Only) Cht Wht -Lt Gry Translu -Op Shp Vit Fos (Crin) Chalky Sh Char-Aqua-Maroon Fissil No Odor No Flor No Stn NS

60" CFS @ 4700' Ls Wht-Crm-Lt Tan-MicroIn-FxIn Micritic (w/Pyr Inclus) Grad Poor-Fair Pin-Pt IxIn Por Grad Poor MicroOOL (Sandy Carb Ls w/OOL in pl) Poor InterOOL Por (w/OOL in pl) Poor Leaching Poor Develop Barren (Tr Only) Cht Wht -Lt Gry Translu -Op Shp Vit Chalky Sh Blk Carb-Char-Aqua-Maroon Fissil No Odor No Flor No Stn NS

Dolo/Ls Tan MxIn Fair-Good IxIn Lg Sucrosic Vug Por Barren Ls Crm- Lt Tan -MicroxIn -FxIn Micritic Barren Cht Lt Gry Translu -Op Shp Vit Chalky Sh Char-Gry-Red Fissil No Odor No Flor No Stn NS

Dolo/Ls Tan MxIn Fair-Good IxIn Lg Sucrosic Vug Por Barren Ls Crm- Lt Tan -MicroxIn -FxIn Micritic Barren Cht Lt Gry Translu -Op Shp Vit Chalky Sh Char-Gry-Red Fissil No Odor No Flor No Stn NS

Dolo/Ls Tan MxIn Fair-Good IxIn Lg Sucrosic Vug Por Barren Grad Fair-Med OOM Por (w/OOL in pl) Med-Good Leaching Med Develop Ls Crm- Lt Tan -MicroxIn -FxIn Micritic Barren Cht Lt Gry Translu -Op Shp Vit Chalky Sh Char-Gry-Red Fissil No Odor No Flor No Stn NS

Dolo/Ls Tan MxIn Fair-Good IxIn Lg Sucrosic Vug Por Barren Grad Med-Good OOM Por (w/OOL in pl) Good Leaching Develop Ls Crm- Lt Tan -MicroxIn -FxIn Micritic Barren Cht Lt Gry Translu -Op Shp Vit Chalky Sh Char-Gry-Red Fissil No Odor No Flor No Stn NS

30" CFS @ 4760' Dolo Gry MxIn Med-Good IxIn Por Barren Grad Med-Good OOM Por (w/OOL in pl) V Fos (Crin+ Fos Inlus) Med Leaching Med Develop Ls AA Cht AA Chalky Abd "Gummy" Sh Char-Gry-Red Fissil No Odor No Flor No Stn NS

60" CFS @ 4760' Dolo Gry MxIn Med-Good IxIn Por Barren Grad Med-Good OOM Por (w/OOL in pl) V Fos (Crin+ Fos Inlus) Med Leaching Med Develop Ls AA Cht AA Chalky Abd "Gummy" Sh Char-Gry-Red Fissil No Odor No Flor No Stn NS

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

Geologist Left Location at: 1:00 PM on 01/31/2013