



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

Well Name: HAROLD SMITH #1-12 (NW)
Location: NE-SW-NE-NW OF SEC. 12 - 28 S. - 30 W.
License Number: API #15-069-20367-00-00
Spud Date: 03/09/12
Surface Coordinates: 880' FNL & 1720' FWL
Region: GRAY CO., KANSAS
Drilling Completed: 3/23/12

Bottom Hole Coordinates:

Ground Elevation (ft): 2795' K.B. Elevation (ft): 2808'
Logged Interval (ft): BASE SURF To: E(5285' Total Depth (ft): 5285'
Formation: MISSISSIPPIAN "ST. LOUIS".
Type of Drilling Fluid: CHEMICAL MUD

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OPERATOR

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WICHITA, KANSAS 67202

GEOLOGIST

Name: DAVID P. WILLIAMS
Company: DW ENERGY, LLC
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WICHITA, KANSAS 67208

Casing & Deviation Surveys

Spud at 7:15 pm on 03/09/12. Drilled 12-1/4" to 1871'. Ran 47 joints of new 24#, 8-5/8" casing. Tallied 1846'. Set at 1866' KB. Welded straps on GS & bottom 3 joints, then tack welded all collars. Float insert in 1st collar. Centralizers (3) 1-3-41. Baskets (3) 1-40-42. Cemented with 675 sks 65/35 Poz; 6% Gel; 3% CC, 1/4# FS.; Tailed with 150 sks Class A; 2% Ge; 3% CC. Cement did circulate to pit. Plug down at 1:30 pm on 03/11/12. Allied Cementing ticket #27169. □□□□□□□□ Deviation Survey's Taken: @ 1871' = 1 1/4 degrees; @ 3520' = 3/4 degree; @ 4240' = 1 degree; @ 4409' = 3/4 degree; @ 4810' = 1 degree; @ 5166' = 1 degree; @ 5285' = 3/4 degree. □□□□

DSTs

DST # 1 3456' - 3520'. Times: 5"- 90"- 140"-210"; Blow: IF: Strong BOB/ 1". FF: Strong w/ GTS in 2 1/2 Min./TSTM. (See Gauge Report Below). Recovery: 3328' GIP; 100' DM. Pressures: IH= 1581#; FH= 1573#; IF= 23-34#; FF= 38-149#; ISIP= 915#; FSIP= 903#; Temp= 107 degrees F.

DST # 1 Gas Flow:: FF GTS On Open TSTM; @ 10" = 32.4 Mcf; @ 20" = 56.3 Mcf; @ 30" = 78.6 Mcf; @ 40" = 89.7 Mcf; @ 50" = 99.5 Mcf; @ 60" = 112 Mcf; @ 70" = 124.5 Mcf; @ 80" = 131.4 Mcf; @ 90" = 141.2 Mcf; @ 100"= 146.7 Mcf; @ 110"= 150.9 Mcf; @ 120"= 155.1 Mcf; @ 130"= 156.5 Mcf; @ 140"= 157.9 Mcf.

DST # 2- 4180' - 4240'. Times: 5"- 90"- 120"-90"; Blow: IF: Strong BOB/ 3.5". FF: Strong w/ GTS Instant/TSTM. (See Gauge Report Below). Recovery: 3985' GIP ; 130' DM. Tool Spl:(1% O; 99% M.). Pressures: IH= 1968#; FH= 1965#; IF= 14-18#; FF= 30-71#; ISIP= 1219#; FSIP= 1207#; Temp = 118 degrees F.

DST # 2 Gas Flow:: FF GTS On Open TSTM; @ 40"= 7.32 Mcf; @ 50"=12.2 Mcf; @ 60"=20.9 Mcf; @ 70"=21.9 Mcf; @ 80"= 23.6 Mcf; @ 90"=24.5 Mcf; @ 100"=26.4 Mcf; @ 110"=27.3 Mcf; @ 120" = 28.0 Mcf.

DST # 3 4380' - 4409'. Times: 5"- 90"- 60"-90"; Blow: IF: Weak/1" Inc to 6.5"". FF: Weak Building to Strong B.O.B./13.5". Recovery: 850' Total Fluid: 35' WCM; 65' MCW; 690' SMCW; 60' HMCW. Tool Spl:(Tr. O; 71% Wtr; 29% M.). Chl = 87000 Ppm; Rw=.08 @ 75 degree. F. Prssures: IH= 2057#; FH= 2057#; IF= 20 - 102#; FF= 114 - 408#; ISIP= 1274#; FSIP= 1247#; Temp = 118 degrees F.

DST # 4 4780' - 4821'. Times: 5"- 60"- 60"- 90"; Blow: IF: Weak Surface Blow. FF: Weak Surface Blow. Recovery: 10' M. Tool Spl. Tr Oil; 100% Mud. Pressures: IH= 2251#; FH= 2251#; IF= 6-8#; FF=10-28#; ISIP=1436#; FSIP=1300#; Temp= 118 degrees F.

DST # 5 5124'-5166'. Times: 5"- 90"- 90"- 180"; Blow: IF: Weak Surface Blow. FF: Weak Surface Blow Slowly Building From 2" to 7". Recovery: 285' GIP; 20' VSOCM (4% O; 96% M). . Tool Spl. 14% G; 17% O & 69% M. Pressures: IH= 2439#; FH= 2435#; IF= 6-9#; FF= 19-29#; ISIP= 1307#; FSIP= 822#; Temp= 123 Degrees F.

DST # 6 5164'-5235'. Times: 5"- 90"- 60"- 90"; Blow: IF: Weak Surface Blow= 3/4". FF: Weak Surface Blow Slowly Building to 1.5". Recovery: 70' HWCM w/Tr Oil: (46% Wtr; 54% M). . Tool Spl.: Tr Oil; 49% Wtr; 51% M. Chl.= 29000; Ph= 6; RW= .18 @ 79 degrees F. Pressures: IH= 2459#; FH= 2458#; IF= 8-17#; FF= 21-56#; ISIP= 1422#; FSIP= 1358# Temp= 119 Degrees F.


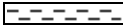


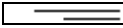
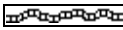


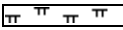

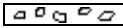









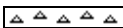


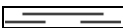

Comments

After review of all of the pertinent geological and structural data, drill test recoveries and reservoir pressures including the electric logs analyses, it was recommended by all parties to run production casing and to attempt to complete this well as a commercial producer.

Respectfully submitted,

David P. Williams, P. G.

ROCK TYPES

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

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
- Oomold
- Oolite
- Ostra
- Pelec

- Pellet
- Pisolite
- Plant
- Strom

- STRINGER**
- Anhy
 - Arg
 - Bent
 - Coal
 - Dol
 - 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

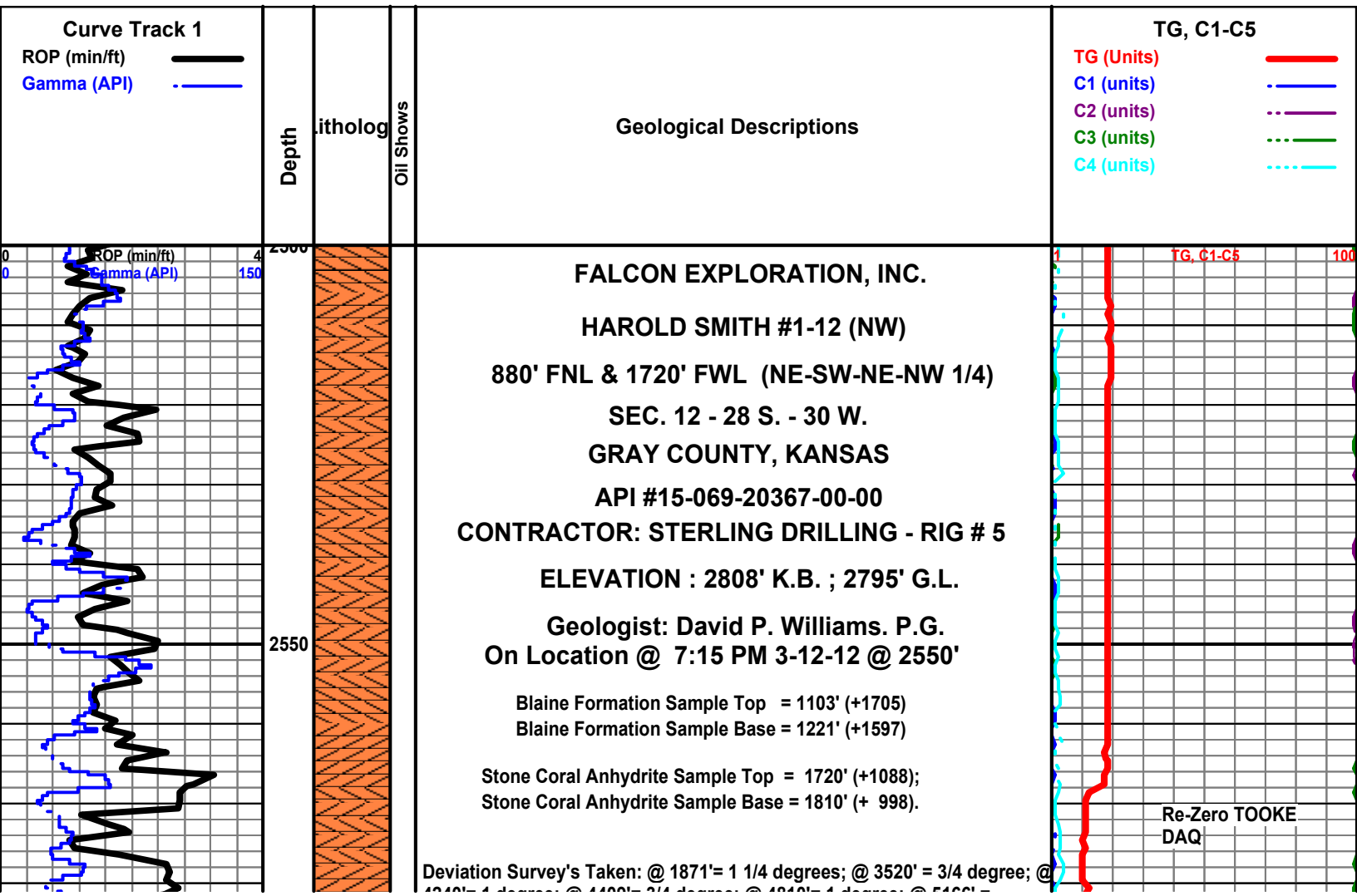
- ROUNDING**
- Rounded
 - Subrnd
 - Subang
 - Angular

- OIL SHOW**
- Even

- Gas show
- Spotted
- Ques
- Dead

- INTERVAL**
- Core
 - Dst_alt

- Dst
- EVENT**
- Rft
 - Sidewall



4240' = 1 degree; @ 4409' = 3/4 degree; @ 4810' = 1 degree; @ 5166' = degree; @ 5285' = 3/4 degree.

Begin 20' Sample Examination @ 2640'.

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

Anhy Wht-Clear-Gry Tr Ls Crm FxIn Dns w/Inclus (? OOM or Rhombic Calc Cube DNS Sh Grn-Gry Soft Tr. Red No Odor No Stn V.Faint Pale Grn Flor. NS

Anhy Wht-Clear-Gry Tr Ls Crm FxIn Dns w/Inclus (? OOM or Rhombic Calc Cube DNS Sh Grn-Gry Soft Tr. Red No Odor No Stn V.Faint Pale Grn Flor. NS

Anhy Wht-Clear-Gry Tr Ls Crm FxIn Dns Micrite Sh Grn-Gry Soft Tr. Red No Odor No Stn V.Faint Pale Grn Flor. NS

CHASE GROUP 2642' (+ 166)

Ls Crm-Wht Grad Sli Dolo Wht-Gry FxIn No Vis Por Dns Sh Gry Grn AA No Odor No Stn V. Sli. Flo

KRIDER 2674' (+ 134)

Dolo Wht-Gry FxIn tr Poor-Med Sucrosic Por w/Fair IxIn PorTr. Leaching Por Sh Gry Grn AA No Odor Te Brn Stn V. Sli. Flor Lt Grn w/ Fair SG when Broken

Dolo Wht-Gry FxIn tr Poor-Med Sucrosic Por w/Fair IxIn PorTr. Leaching Vug Por Sh Gry Grn AA No Odor Tr Brn Stn V. Sli. Flor Lt Grn w/ Fair SG w Broken

WINFIELD 2723' (+ 85)

Dolo Wht-Crm FxIn Fair-Med Sucrosic Por w/ Sm-Med Vug Leaching w/ Fair-Good Show Gas Faint Scatt Flor (Pale-Lt Grn) No Odor SG

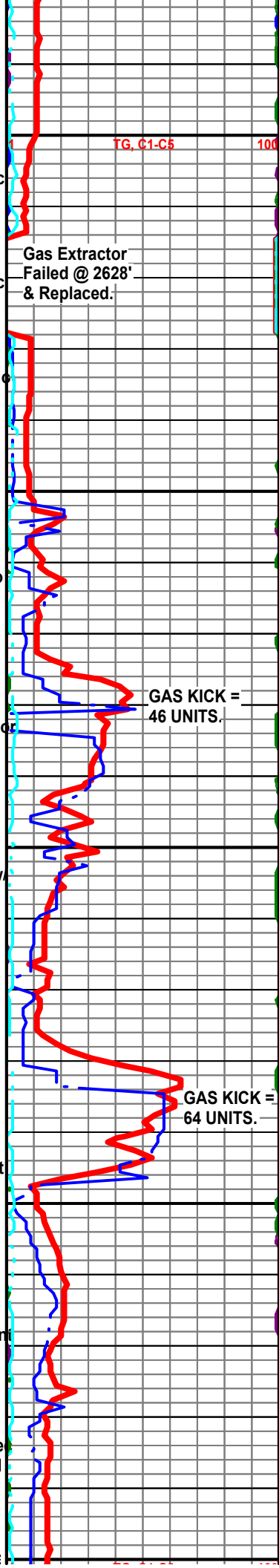
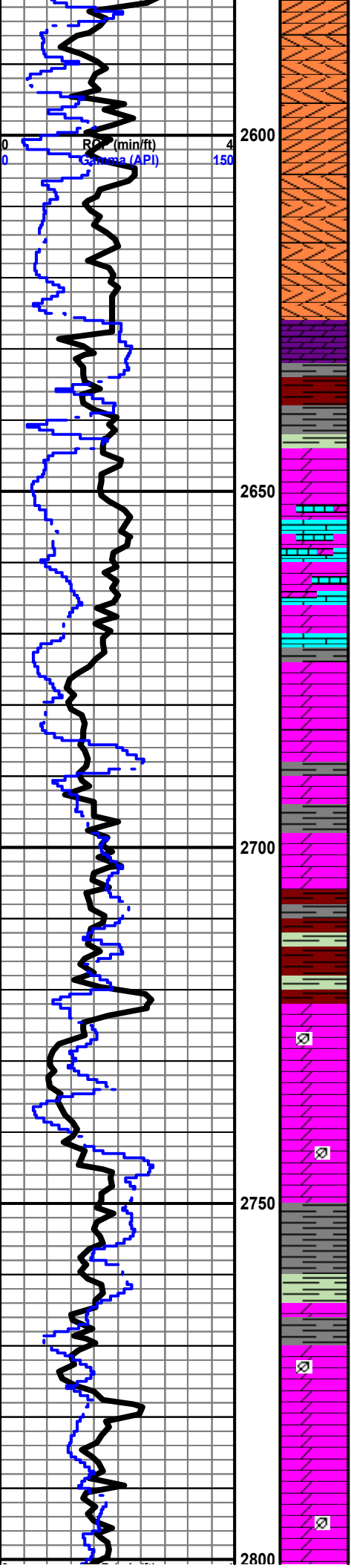
Dolo Wht-Crm FxIn Fair-Med Sucrosic Por w/ Sm-Med Vug Leaching w/ Fair-Dec Show Gas Faint Scatt Flor (Pale-Lt Grn) Tr ? Gillsonitic Fos Plant Residue No Odor ? Stn Lt Grn Scatt Dec Flor

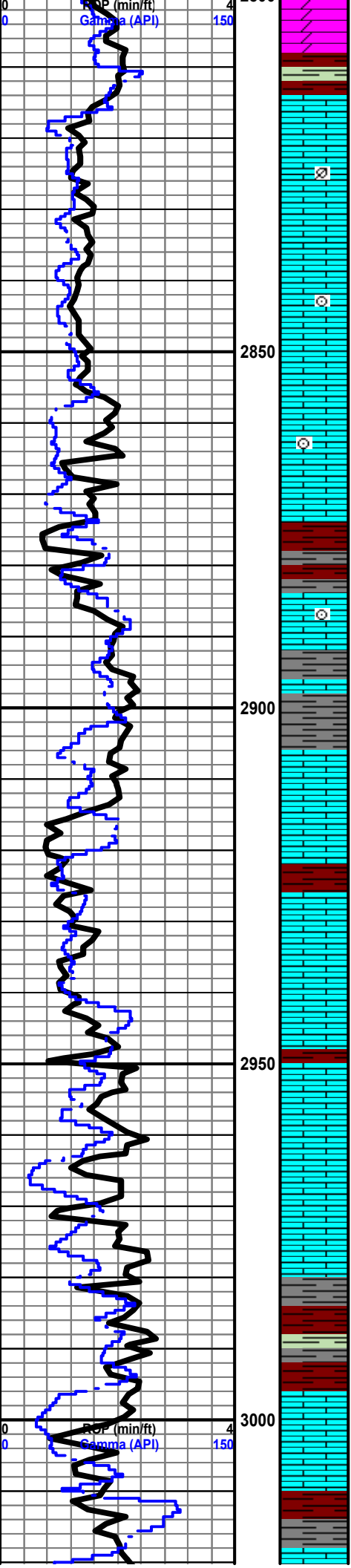
TOWANDA 2765' (+ 43)

Dolo Wht-Crm FxIn Poor-Fair Sucrosic Por w/ Tr. Sm Vug Leaching AA w/ Dec-NS Gas Dec Faint Scatt Flor (Pale-Lt Grn) Tr ? Dec Gillsonitic Fos Plant Residue No Odor ? Mostly Barron FxIn Sh Abd Red-Tr. Gry Soft Fissil NS

Dolo Wht-Crm-Gry FxIn Poor-Fair Sucrosic Por Grad Dns FXLN w/ Tr. Sm Vug Leaching AA w/ Dec-NS Gas Dec Faint Scatt Flor (Pale-Lt Grn) Tr ? Dec Gillsonitic Fos Plant Residue No Odor ? Mostly Barron FxIn Cht Wht Op Sl Vit Sh Abd Red-Tr. Gry Soft Fissil NS

Dolo Wht-Crm-Gry FxIn Poor-Fair Sucrosic Por Grad Dns FXLN w/ Tr. Sm Vug Leaching AA w/ Dec-NS Gas Dec Faint Scatt Flor (Pale-Lt Grn) Tr ? Dec





Gillsonitic Fos Plant Residue No Odor ? Mostly Barron FxIn Cht Wht Op Sp
 Vit Sh Abd Red-Tr. Gry Soft Fissil NS

FORT RILEY 2814' (- 6)

Ls Wht- Crm- Gry Dec FxIn Poor-Fair Sucrosic Por Grad Dns FXLN AA w/
 Dec-NS Gas Dec Faint Flor (Pale-Lt Grn) No Odor Barron FxIn Sh Abd
 Red-Tr. Gry Soft Fissil No Odor No Stn No Flor NS

Ls Wht- Crm- Gry FxIn Poor-Fair Sucrosic Por Grad Dns FXLN Micrite AA
 Fos Crin w/ Dec-NS Gas Dec Faint Flor (Pale-Lt Grn) Few Pcs No Odor
 Barron FxIn Sh Abd Red-Tr. Gry Soft Fissil No Odor No Stn No Flor NS

Ls Wht- Crm- Gry FxIn Poor-Fair Sucrosic Por Grad Dns FXLN Micrite AA
 Fos Crin w/ Dec-NS Gas Dec Faint Flor (Pale-Lt Grn) Few Pcs No Odor
 Barron FxIn Sh Abd Red-Tr. Gry Soft Fissil No Odor No Stn No Flor NS

Ls Wht- Crm- Gry FxIn Poor-Fair Sucrosic Por Grad Dns FXLN Micrite AA w/
 Pyr Inclus Fos Crin w/ Dec-NS Gas Dec Faint Flor (Pale-Lt Grn) Few Pcs No
 Odor Barron FxIn Sh Abd Red-Tr/Gry Soft Fissil No Odor No Stn No Flor NS

Ls Wht-Crm Grad Abd Gry FxIn Micrite to Poor Sucrosic Por AA Sh Abd
 Red-Gry Soft No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

Ls Crm- Abd Gry FxIn Micrite to Poor Sucrosic Por AA Sh Abd Red-Gry
 Soft No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

Ls Abd Gry FxIn V Poor Sucrosic Por Grad Crm FxIn Micrite Sh V Abd
 Red-Gry Soft No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

Ls Gry FxIn V Poor Sucrosic Por Grad FxIn Micrite Sh V Abd Red-Gry Soft
 No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

Ls Gry FxIn V Poor Sucrosic Por Grad Crm FxIn Micrite Sh V Abd Red-Gry
 Soft No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

WREFORD 2996' (- 188)

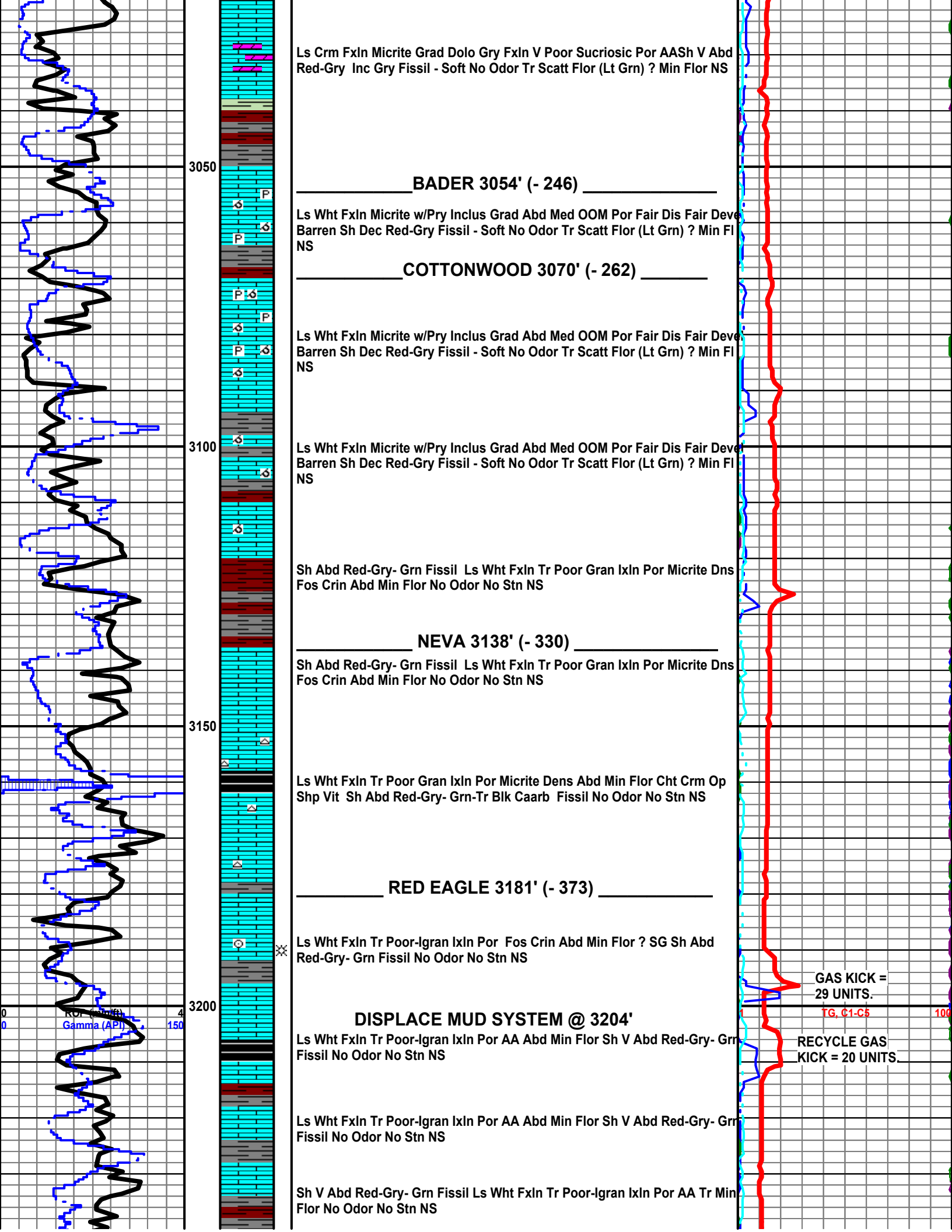
Ls Gry FxIn V Poor Sucrosic Por Grad Crm FxIn Micrite Sh V Abd Red-Gry
 Soft No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

BASE CHASE GROUP 3020' (- 212)

Mud Co Mud
 Ck @ 2957' @
 6:45 AM
 3/13/12
 Vis 31;
 Wt 9.55#;
 Pv 2; Yp 3;
 WL NA;
 Cake 1;
 Chl 4400;
 Cal HVY;
 Sol 6.1;
 LCM 0#
 DMC= \$
 5,882.05
 CMC=\$
 9,695.55

TG, C1-C5

100



Ls Crm FxIn Micrite Grad Dolo Gry FxIn V Poor Sucrosic Por AASh V Abd Red-Gry Inc Gry Fissil - Soft No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

BADER 3054' (- 246)

Ls Wht FxIn Micrite w/Pry Inlus Grad Abd Med OOM Por Fair Dis Fair Deve Barren Sh Dec Red-Gry Fissil - Soft No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

COTTONWOOD 3070' (- 262)

Ls Wht FxIn Micrite w/Pry Inlus Grad Abd Med OOM Por Fair Dis Fair Deve Barren Sh Dec Red-Gry Fissil - Soft No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

Ls Wht FxIn Micrite w/Pry Inlus Grad Abd Med OOM Por Fair Dis Fair Deve Barren Sh Dec Red-Gry Fissil - Soft No Odor Tr Scatt Flor (Lt Grn) ? Min Flor NS

Sh Abd Red-Gry- Grn Fissil Ls Wht FxIn Tr Poor Gran IxIn Por Micrite Dns Fos Crin Abd Min Flor No Odor No Stn NS

NEVA 3138' (- 330)

Sh Abd Red-Gry- Grn Fissil Ls Wht FxIn Tr Poor Gran IxIn Por Micrite Dns Fos Crin Abd Min Flor No Odor No Stn NS

Ls Wht FxIn Tr Poor Gran IxIn Por Micrite Dns Abd Min Flor Cht Crm Op Shp Vit Sh Abd Red-Gry- Grn-Tr Blk Caarb Fissil No Odor No Stn NS

RED EAGLE 3181' (- 373)

Ls Wht FxIn Tr Poor-Igran IxIn Por Fos Crin Abd Min Flor ? SG Sh Abd Red-Gry- Grn Fissil No Odor No Stn NS

DISPLACE MUD SYSTEM @ 3204'

Ls Wht FxIn Tr Poor-Igran IxIn Por AA Abd Min Flor Sh V Abd Red-Gry- Grn Fissil No Odor No Stn NS

Ls Wht FxIn Tr Poor-Igran IxIn Por AA Abd Min Flor Sh V Abd Red-Gry- Grn Fissil No Odor No Stn NS

Sh V Abd Red-Gry- Grn Fissil Ls Wht FxIn Tr Poor-Igran IxIn Por AA Tr Min Flor No Odor No Stn NS

GAS KICK = 29 UNITS.

TG, C1-C5

RECYCLE GAS KICK = 20 UNITS.

Gamma (API)

0

150

100

3050

3100

3150

3200

FORAKER 3246' (- 438)

Ls Crm Fxln Poor-Fair Ixln Grad OOL Poor InterOOL Por Fos Spic Tr Igran
Poor Por Chalky Wht No Flor No Odor No Stn Sh Red-Brn Dec NS

Ls Crm Fxln Poor-Fair Ixln Grad OOL Poor InterOOL Por Fos Spic Tr Igran
Poor Por Chalky Wht No Flor No Odor No Stn Sh Red-Brn Dec NS

Sh V Abd Red-Gry- Grn Fissil Ls Wht Fxln Tr Poor-Igran Ixln Por AA Chalky
Wht Tr Min Flor No Odor No Stn NS

@ 3300' Samples Start 10' Interval Wet & Dry

Ls Wht Fxln Tr Poor-Igran Ixln Por AA Tr Min Flor Sh V Abd Red-Gry- Grn
Fissil No Odor No Stn NS

Ls Crm-Gry-Wht Fxln Poor-Fair Ixln Por Tr OOL Por w/OOL in pl Poor Poor
Dis Poor Devel Por Tr Inc Chalk No Flor No Odor No Stn Sh Dec Red-Brn
Dec NS

LS Crm-Gry Fxln Ixln Por Grad Micritic Sh Char-Grn Soft Fissil (Tr Only) Cl
Gry Op Shp Vit Chalk Wht Tr No Odor No Flor No Stn No Flor NS

LS Char-Gry-Crm Fxln Ixln Por Grad Micritic Sh Char-Grn Soft Fissil (Tr
Only) Cht Drk Gry-Char Op Shp Vit Chalk Wht Tr No Odor No Flor No Stn
No Flor NS

LS Char-Gry-Crm Fxln Ixln Por Grad Micritic Sh Char-Grn Soft Fissil (Tr
Only) Cht Drk Gry-Char Op Shp Vit Chalk Wht Tr No Odor No Flor No Stn
No Flor NS

LS Char-Gry-Crm Fxln Ixln Por Grad Micritic Sh Char-Grn Soft Fissil (Tr
Only) Cht Drk Gry-Char Op Shp Vit Chalk Wht Tr No Odor No Flor No Stn
No Flor NS

LS Char-Gry-Crm Fxln Ixln Por Grad Micritic Grad Poor Develop OOM Por w
OOL in pl No Dissolu No Vis Por Cht Drk Gry-Char Op Shp Vit Chalk Wht
Sh Char-Grn Soft Fissil Fos (Fuss) No Odor No Flor No Stn No Flor NS

LS Char-Gry-Crm Fxln Ixln Por Grad Micritic Grad Poor Develop OOM Por w
OOL in pl No Dissolu No Vis Por Cht Drk Gry-Char Op Shp Vit Chalk Wht
Sh Char-Grn Soft Fissil Fos (Fuss) No Odor No Flor No Stn No Flor NS

LS Crm-Gry Fxln Ixln Por Grad Micritic Sh Char-Grn Soft Fissil Cht Drk-Gry
Op Shp Vit Chalk Wht Tr No Odor No Flor No Stn No Flor NS

FALL CITY 3381' (- 573)

LS Char-Gry-Crm Fxln Ixln Por Grad Micritic Grad Poor Develop OOM Por w
OOL in pl No Dissolu No Vis Por Cht Drk Gry-Char Op Shp Vit Chalk Wht
Sh Char-Grn Soft Fissil Fos (Fuss) No Odor No Flor No Stn No Flor NS

LS Crm-Gry Fxln Ixln Por Grad Micritic Sh Char-Grn Soft Fissil Cht Drk-Gry
Op Shp Vit Chalk Wht Tr No Odor No Flor No Stn No Flor N

LS Gry-Crm Fxln Ixln Por Grad Micritic Cht Drk Gry-Char Op Shp Vit Chalk
Wht Sh Char-Grn Soft Fissil Fos (Fuss) No Odor No Flor No Stn No Flor NS

LS Gry-Crm Fxln Ixln Por Grad Micritic Cht Drk Gry-Char Op Shp Vit Chalk
Wht Sh Char-Grn Soft Fissil Fos (Fuss) No Odor No Flor No Stn No Flor NS

LS Gry-Crm Fxln Ixln Por Grad Micritic Cht Drk Gry-Char Op Shp Vit Chalk
Wht Sh Char-Grn Soft Fissil Fos (Fuss) No Odor No Flor No Stn No Flor NS

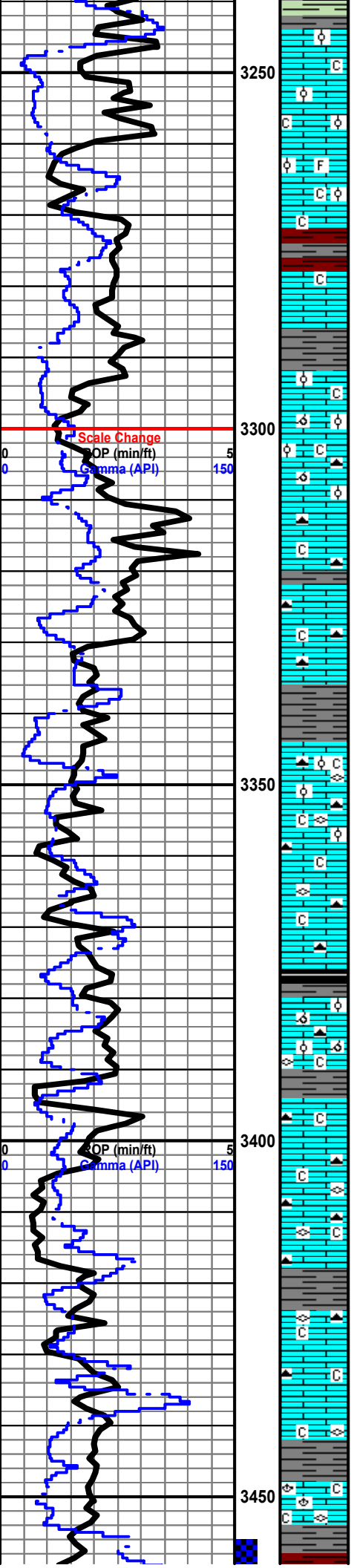
LS Crm Fxln Ixln Micritic Cht Drk-Gry Op Shp Vit Fos (Fuss) Chalk Wht Sh
Char-Grn Soft Fissil No Odor Sli ? Min Flor No Stn No Flor N

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

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

ROOT SHALE 3455' (- 647)

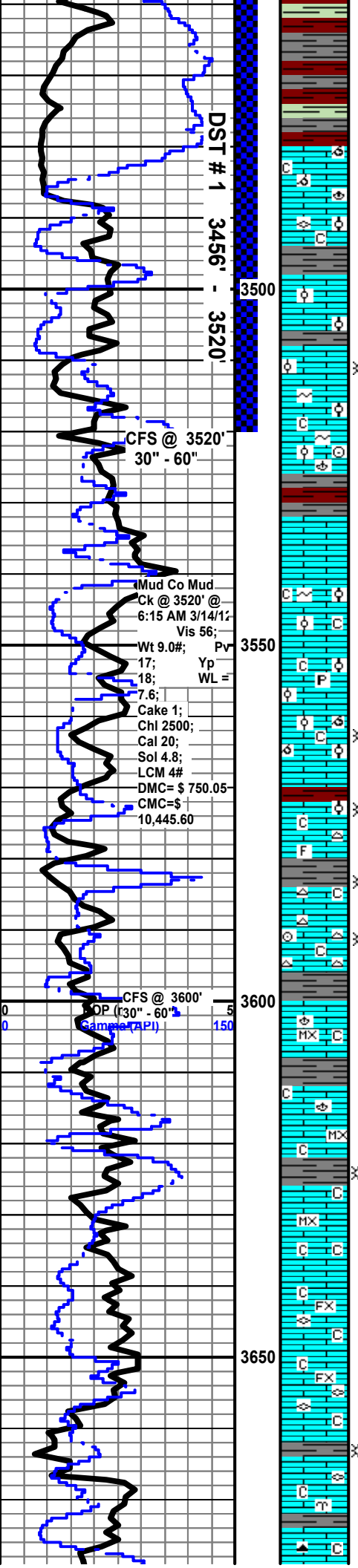
Sh Red- Gry-Char Abd Soft AA (Wash Red) Ls Crm AA Tr Poor OOM Por
Poor Dis Poor Develop Chalk No Odor Sli Tr Min Flor AA No Stn A



GAS TEST TOOKE DAQ IN
GEOTRAILER = 28 UNITS.
RE-ZERO BKGD GAS = 12
UNITS.

DST # 1 3456'-3520'. Times:
5"- 90". 140"-210"; Blow: IF:
Strong BOB/ 1". FF: Strong
w/ GTS in 2 1/2 Min./TSTM.
(See Gauge Report Below).
Recovery: 3328' GIP; ' 100
DM. Pressures:
IH 1581#;
FH 1573#;
IF 23-34#; FF
38-149#; ISIP
915#; FSIP 903#;
Temp = 107
Degrees F. Tool Spl.: (3% G
6% Oil; 91% M.).

DST # 1 Gas Flow;; FF:
GTS On Open TSTM;
@ 10" = 32.4
Mcf; @ 20" = 56.3
Mcf; @ 30" = 78.6
Mcf; @ 40" = 89.7
Mcf; @ 50" = 99.5
Mcf; @ 60" = 112.0
Mcf; @ 70" = 124.5
Mcf; @ 80" = 131.4
Mcf; @ 90" = 141.2
BKGD GAS = Mcf; @ 100" = 146.7
12 UNITS Mcf; @ 110" = 150.9
Mcf; @ 120" = 155.1



Sh Red- Gry-Char Abd Soft AA (Wash Red) Ls Crm AA Tr Poor OOM Por
 Poor Dis Poor Develop Chalk No Odor Sli Tr Min Flor AA No Stn NS

STOTLER 3482' (- 674)

Ls Crm FxIn Poor IxIn Por Micritic Fos (Fuss) Tr Ls Gry w/OOL in pl Poor
 Dis Poor Develop Poor InterOOL Por Chalk Fos (Fuss) Scatt ? Min Flor Sh
 Tr Red-Char-Gry No Odor No Stn N:

30" CFS @ 3520' Ls Wht FxIn w/Fair IxIn Por Grad Fair Pin-Pt OOL Por ?
 Frac Por Med-Good Scatt Flor (Lt Grn w/No Gas Flor) No Odor ? SG

60" CFS @ 3520' Ls Wht FxIn w/Fair IxIn Por Grad Fair Pin-Pt OOL Por w/T
 Glacu Inlus ? Frac Por Med-Good Scatt Flor (Lt Grn w/No Gas Flor) No
 Odor SG

Ls Wht-Gry FxIn w/Fair IxIn Por Grad Fair Pin-Pt OOL Por w/Tr Glacu Inlus
 ? Frac Por Fos (Crin, Brach) Chalk Wht Soft Sh Red-Gry Fissil Med-Good ?
 Scatt Min Flor (Lt Grn) No Odor SG

TARKIO 3542' (- 734)

Ls Wht-Gry FxIn w/Fair IxIn Por Grad Fair Pin-Pt OOL Por ? Frac Por Chalk
 Wht Soft Sh Maroon-Grn-Gry Fissil Med-Good ? Scatt Min Flor (Lt Grn) No
 Odor NS

Ls Wht-Gry FxIn Micrite w/Fair IxIn Por Grad Fair Pin-Pt OOL Por w/Tr OOL
 in pl ? Frac Por Chalk Wht Soft Pyr Mass Sh Red-Grn Fissil Med-Good Sca
 Flor (Lt Grn) No Odor ? SSG

Ls Wht FxIn w/Fair IxIn Por Grad Fair Pin-Pt OOL Por w/OOL in pl
 Tr/Poor-Fair Leaching OOL/OOM Por ? Frac Por Chalk Wht Soft Sh
 Red-Char Fissil Med Scatt Flor (Lt Grn w/ SG-Gas Does Not Flor) No Odor
 Sli-Fair SG

30" CFS @ 3600' Ls Wht FxIn AA w/Fair IxIn OOL Por Grad Micritic Por ?
 Frac Por Cht Tan (w/Fos (Transl Spic? Inlus) Op Shp-Dull Chalk Wht Soft
 Sh Red-Char Fissil Med Scatt Flor (Lt Grn w/ SG-Gas Does Not Flor) No
 Odor Inc SG

60" CFS @ 3600' Ls Wht FxIn Poor IxIn Por Grad Micritic Por ? Frac Por Ch
 Wht-Gry (w/Fos (Transl Spic? Inlus AA) Op Shp Vit Inc Chalk Wht Soft Fos
 (Crin) Sh Red-Char Fissil Poor ? Scatt Flor (Few Pcs Lt Grn) No Odor SSG

LS Gry-Crm MicroxIn-FxIn IxIn Por Micritic Dsn Barren Cht Gry Op Shp Vit
 Fos (Brach) Chalk Wht Abd Sh Gry-Char-Brn Soft No Odor ? Med Min Flor
 Dec No Stn NS

LS Gry-Tr/Crm MicroxIn-FxIn IxIn Por Micritic Dsn Barren Chalk Wht Abd S
 Gry-Char-Brn Soft No Odor ? Med Min Flor Dec No Stn NS

Sh Gry-Char Soft LS Gry-Crm MicroxIn-FxIn IxIn Por Micritic Dsn Barren
 Chalk Wht Abd No Odor ? Med Min Flor Dec No Stn NS

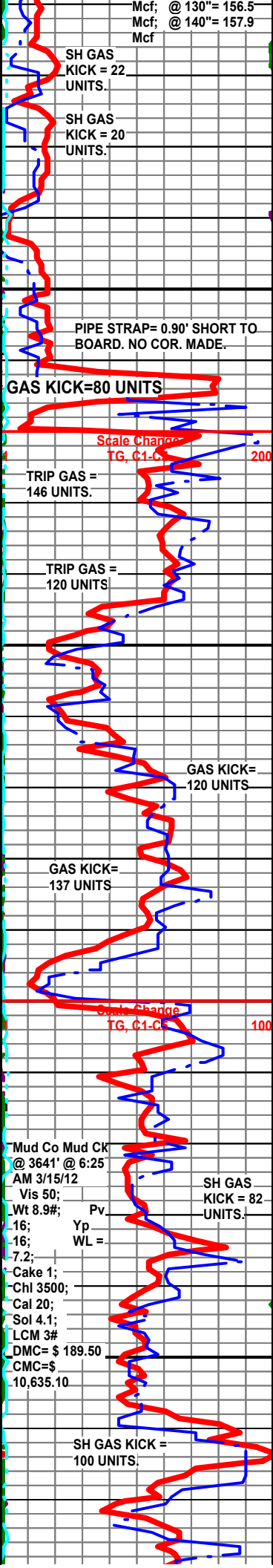
Sh Gry-Char-Grn Soft LS Gry-Crm-Wht MicroxIn-FxIn IxIn Por Micritic Dsn
 Barren Chalk Wht Abd No Odor Sli Flor No Stn SSG in Sh

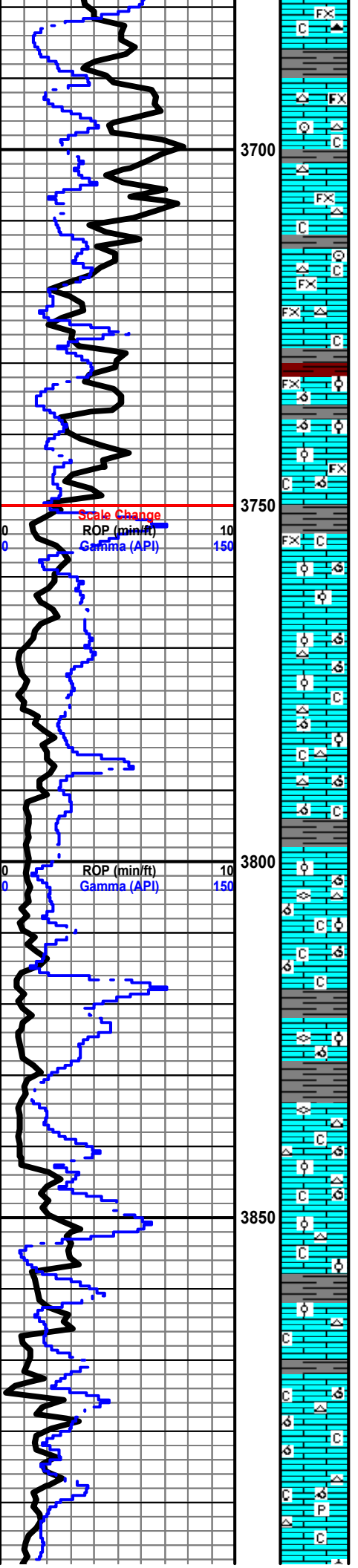
Ls Wht-Gry FxIn Poor IxIn Micritic Por w/Tr Glacu Inlus Fos (Fuss) Chalk
 Wht Soft Sh Char-Gry Fissil ? Scatt Min Flor (Lt Grn) No Odor NS

Ls Wht-Gry FxIn Poor IxIn Micritic Por Fos (Fuss) Chalk Wht Soft Sh
 Char-Gry Fissil ? Scatt Min Flor (Lt Grn) No Odor NS

BERN 3664' (- 856)

Ls Wht-Gry FxIn Tr/Poor IxIn Por Mostly Micritic Dsn Barren Chalk Wht Abd
 Fos (Fuss. Bry) Sh Gry-Char Soft No Odor No Flor No Stn SSG in Sh





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

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic Dsn Barren Cht Wht
(w/Fos Crin Includ) Op Shp Vit Chalk Wht Dec Sh Gry-Char Soft No Odor No
Flor No Stn NS

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

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
Pin-Pt Ixln Por Chalk Wht Cht Wht-Tan Transl-Op Shp Vit Sh Tr/Char-Red
Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
Pin-Pt Ixln Por Chalk Wht Cht Wht-Tan Transl-Op Shp Vit Sh Tr/Char-Red
Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM/Pelletal Por Tr Poor Dissolu Chalk Wht Sh Char-Red Soft No
Odor No Flor No Stn NS

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM/Pelletal Por Tr Poor Dissolu Chalk Wht Sh Char-Red Soft No
Odor No Flor No Stn NS

TOPEKA 3756' (- 948)

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM/Pelletal Por Tr Poor Dissolu Chalk Wht Sh Char-Red Soft No
Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM Por Poor Dissolu Chalk Wht Soft Cht Wht Op Shp Vit (Tr Only) S
Gry-Grn Fissil Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM Por Poor Dissolu Chalk Wht Soft V Abd Cht Wht Op Shp Vit (Tr
Only) Sh Gry-Grn Fissil Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM Por Poor Dissolu Chalk Wht V Abd Soft Cht Wht Op Shp Vit (Tr
Only) Sh Gry-Grn Fissil Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM Por Poor Dissolu Fos (Fuss in Cht/LS AA) Chalk Wht V Abd Soft
Cht Wht Op Shp Vit (Tr Only) Sh Gry-Grn Fissil Soft No Odor No Flor No S
NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM Por Poor Dissolu Fos (Fuss in Cht/LS AA) Chalk Wht V Abd Soft
Cht Wht Op Shp Vit (Tr Only) Sh Gry-Grn Fissil Soft No Odor No Flor No S
NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM Por Poor Dissolu Fos (Fuss in Cht/LS AA) Chalk Wht V Abd Soft
Cht Wht Op Shp Vit (Tr Only) Sh Gry-Grn Fissil Soft No Odor No Flor No S
NS

Ls Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Grad Poor
OOL/OOM Por Poor Dissolu Fos (Fuss in Cht/LS AA) Chalk Wht V Abd Soft
Cht Wht Op Shp Vit (Tr Only) Sh Gry-Grn Fissil Soft No Odor No Flor No S
NS

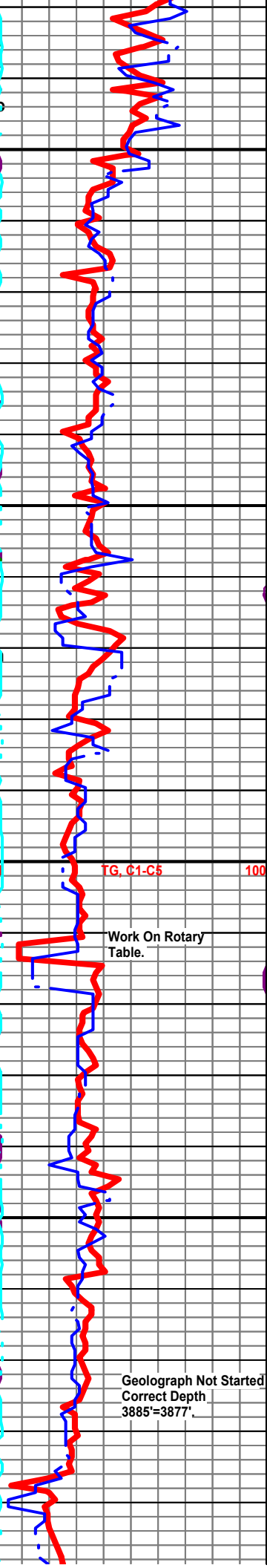
Ls Wht-Crm-Gry Fxln Poor-Fair Ixln Por Grad Tr/OOL Por w/ OOL in pl Poor
Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Wht Op Shp Vit Sh
Char-Red Fissil No Odor No Flor No Stn NS

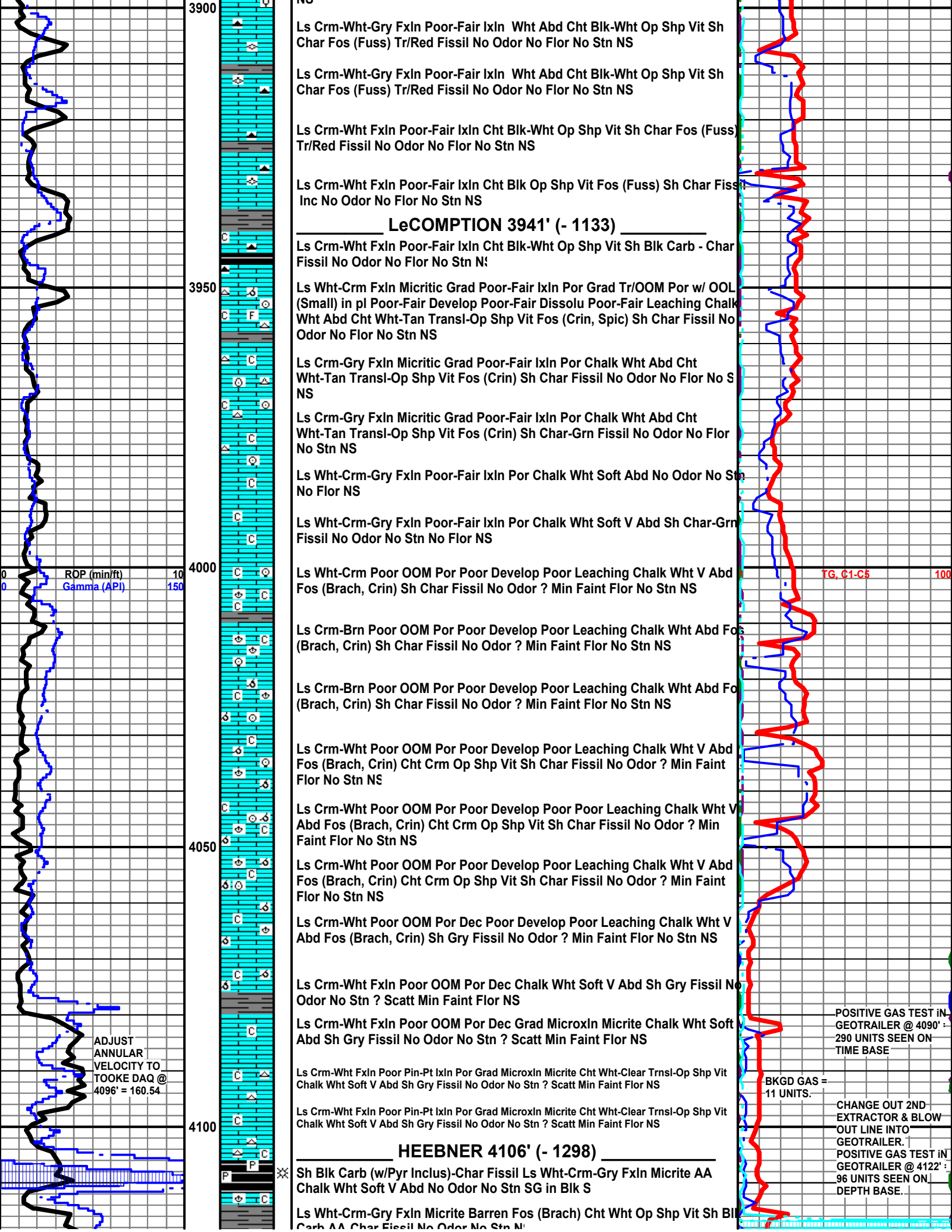
Ls Wht-Crm-Gry Fxln Poor-Fair Ixln Por Grad Tr/OOM Por Poor InterOOM
Por Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Wht Op
Shp Vit Sh Char-Red Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor-Fair Ixln Por Grad Tr/OOM Por Poor InterOOM
Por Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Wht Op
Shp Vit Sh Char Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor-Fair Ixln Por Grad Tr/OOM Por Poor InterOOM
Por Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Wht Op
Shp Vit Sh Char Fissil No Odor No Flor No Stn NS

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





Card AAA-Char Fissil No Odor No Stn NS

TORONTO 4124' (- 1316)

0" CFS @ 4149' Ls Wht-Crm-Gry Fxln Micrite Barren Grad Poor Pin-Pt Por Fos (Crin) Cht Wht Op Shp Vit Sh Blk Carb AA-Char Fissil No Odor No Stn NS

30" CFS @ 4149' Ls Wht-Crm-Gry Fxln Micrite Barren Grad Poor Pin-Pt Por Fos (Crin) Cht Wht Op Shp Vit Sh Blk Carb AA-Char Fissil No Odor No Stn NS

60" CFS @ 4149' Ls Wht-Crm-Gry Fxln Micrite Barren Grad Poor Pin-Pt Por Fos (Crin) Cht Wht Op Shp Vit Sh Blk Carb AA-Char Fissil No Odor No Stn NS

Sh Char-Gry-Grn Soft-Fissli w/ \Fos (Fuss) Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Abd No Odor No Stn Few Pcs Sli ? Min Flor AA Grad No Flor NS

Sh Char-Gry-Grn Soft-Fissli w/ \Fos (Fuss) Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Abd No Odor No Stn Few Pcs Sli ? Min Flor AA Grad No Flor NS

Sh Char-Gry-Grn Soft-Fissli Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Abd No Odor No Stn Few Pcs Sli ? Min Flor AA Grad No Flor NS

Ls Wht-Crm Microxln-Fxln Poor-Fair Ixln Por Cht Wht-Tan Op Shp Vit Chalk Wht Soft Abd Sh Char-Gry-Grn Tr/Blk Carb Fissil No Odor No Stn Dec Sli ? Min Flor NS

IATAN 4194' (- 1386)

Ls Wht-Crm Microxln-Fxln Poor-Fair Ixln Por Cht Wht-Tan Op Shp Vit Chalk Wht Soft Abd Sh Char-Gry-Grn Tr/Blk Carb Fissil No Odor No Stn Dec Sli ? Min Flor NS

LANSING 4204' (- 1396)

0" CFS @ 4240' Ls Wht-Crm-Gry Microxln w/ Pin-Pt Ixln Por w/ Poor-Fair S (Under Heat) ? Frac Por Even Sat Stn Flor (Lt Grn-Wht) Through Tray Cht Wht-Tan Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor SG

30" CFS @ 4240' Ls Wht-Crm-Gry Microxln-Fxln w/ Poor Pin-Pt Ixln Por w/ Poor-Fair SG (Under Heat) ? Frac Por Even Sat Stn Flor (Lt Grn-Wht) Throughout Tray Cht Wht-Tan Op Shp Vit Chalk Wht Soft Sh Char-Gry-Tr Blk Carb Fissil Faint Odor SG

60" CFS @ 4240' Ls Wht-Crm-Gry Microxln-Fxln w/ Poor Pin-Pt Ixln Por w/ Poor SG (Under Heat) ? Frac Por Even Sat Stn Flor (Lt Grn-Wht) Throughout Tray Cht Wht-Tan Op Shp Vit Chalk Wht Soft Sh Char-Gry-Tr Blk Carb Fissil Faint Odor SG

Ls Crm-Gry Microxln-Fxln Poor Ixln Por Grad Micritic Chalk Wht Soft Cht Wht Op Shp Vit (Tr Only) Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

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

Ls Crm-Gry Microxln-Fxln Poor Ixln Por Grad Micritic Chalk Wht Soft Cht Wht Op Shp Vit (Tr Only) Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

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

30" CFS @ 4304' Chalk Wht Soft V Abd (50% of Spl) Ls Crm-Tan Microxln-Fxln Poor Ixln Por Grad Tr Poor OOL (Small Ooids) Por Cht Wht (w/OOL Inclus)-Tan Op Shp Vit Sh Char-Gry-Grn Fissil No Odor No Stn ? V Sli Min Flor (30% of Spl. (50% Lt Wht & 50% Lt Grn)) ? SG (No Gas Shown In Wet Spl).

60" CFS @ 4304' Chalk Wht Soft V Abd (50% of Spl) Ls Crm-Tan Microxln-Fxln Poor Ixln Por Grad Tr Poor OOL (Small Ooids) Cht Wht (w/OOL Inclus)-Tan Op Shp Vit Sh Char-Gry-Grn Fissil No Odor No Stn ? V Sli Min Flor (40% of Spl. (50% Lt Wht & 50% Lt Grn)) ? SG (No Gas Shown In Wet Spl).

Ls Gry-Crm-Wht Microxln-Fxln Poor Ixln Por Grad Micritic Cht Drk Char-Gry Transl-Op Shp Vit Fos (Crin) Chalk Wht Soft Dec Sh Char-Tr/Blk Carb Fissil ? Faint Odor No Stn No Flor NS

Ls Gry-Crm-Wht Microxln-Fxln (w/Tr Pyr Inclus) Poor Ixln Por Grad Micritic Cht Drk Char-Gry Transl-Op Shp Vit Chalk Wht Soft Dec Sh Char-Gry Fissil ? Faint Odor No Stn No Flor NS

Ls Wht-Crm-Gry Microxln-Fxln Poor Ixln Por Micritic Chalk Wht Soft Dec Fos (Brach) Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Poor OOL Por (w/Small OOL in pl) Grad Poor OOM Por Poor Dissolu Poor Develop Grad Microxln Micrite Cht Gry Transl-Op Shp Vit Fos (Crin) Chalk Wht Soft Sh Gry Fissil No Odor No Stn No Flor NS

BKGD GAS = 11 UNITS

GAS KICK = 27 UNITS

DST # 2 4180'-4240'. Times: 5"- 90"- 120"-90"; Blow: IF: Strong BOB/ 3.5". FF: Strong w/ GTS Instant/TSTM. (See Gauge Report Below). Recovery: 3985' GIP; ' 130' DM.

Pressures: IH= 1968#; FH= 1965#; IF= 14-18#; FF= 30-71#; ISIP= 1219#; FSIP= 1207#; Temp = 118 Degrees F. Tool Spl:(1% O; 99% M.).

TG, C1-C5 100

DST # 2 Gas Flow::; FF GTS On Open TSTM; @ 40" = 7.32 Mcf; @ 50" = 12.2 Mcf; @ 60" = 20.9 Mcf; @ 70" = 21.9 Mcf; @ 80" = 23.6 Mcf; @ 90" = 24.5 Mcf; @ 100" = 26.4 Mcf; @ 110" = 27.3 Mcf; @ 120 = 28.0 Mcf;

GAS KICK= 22 UNITS

GAS KICK= 18 UNITS

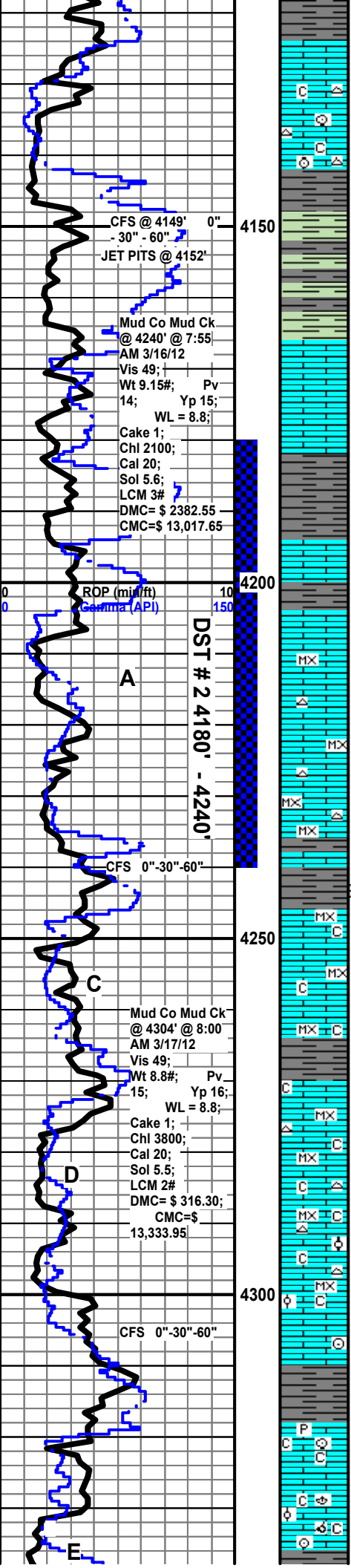
PIPE STRAP= 0.33' SHORT TO BOARD. NO COR. MADE

GAS KICK= 66 UNITS

GAS KICK= 74 UNITS

GAS KICK= 81 UNITS

JET PITS

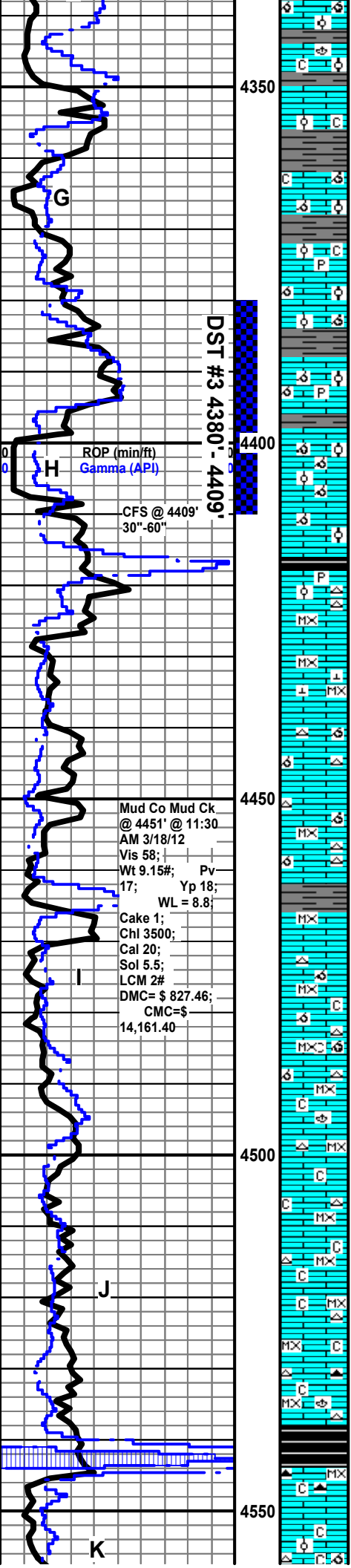


CFS @ 4149' -30" -60"
JET PITS @ 4152'
Mud Co Mud Ck @ 4240' @ 7:55 AM 3/16/12
Vis 49; Wt 9.15#; Pv 14; Yp 15; WL = 8.8;
Cake 1; Chl 2100; Cal 20; Sol 5.6; LCM 3#; DMC= \$ 2382.55; CMC=\$ 13,017.65

ROP (mi/ft) @ 4240'
Gamma (API)
DST # 2 4180' - 4240'

Mud Co Mud Ck @ 4304' @ 8:00 AM 3/17/12
Vis 49; Wt 8.8#; Pv 15; Yp 16; WL = 8.8;
Cake 1; Chl 3800; Cal 20; Sol 5.5; LCM 2#; DMC= \$ 316.30; CMC=\$ 13,333.95

CFS 0"-30"-60"



Ls Wht-Crm-Gry MicroXln-Fxln Poor Ixln Poor OOL Por (w/Small OOL in pl)
Grad Poor OOM Por Poor Dissolu Poor Develop Grad Por Micritic Chalk
Wht Soft Dec Fos (Brach) Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Wht Med-Good OOM Por w/OOL in pl Good Develop Good Leachin
Barren Poor InterOOM Por Chalk Wht Abd Sh Char-Gry Fissil No Odor No
Flor No Stn NS

Ls Crm-Wht Med-Good OOM Por w/OOL in pl Good Develop Good Leachin
Barren Poor InterOOM Por Pyr Mass Chalk Wht Abd Sh Char-Gry Fissil No
Odor No Flor No Stn NS

Ls Crm-Wht Med-Good OOM Por w/OOL in pl Good Develop Good Leachin
Barren Poor InterOOM Por Pyr Mass Chalk Wht Abd Sh Char-Gry Fissil No
Odor No Flor No Stn NS

Ls Crm-Wht Med-Good OOM Por w/OOL in pl Good Develop Good Leachin
Barren Poor InterOOM Por Pyr Mass Chalk Wht Abd Sh Char-Gry Fissil No
Odor No Flor No Stn NS

KANSAS CITY "DRUM (H)" 4388' (- 1580)

30" CFS @ 4409' Ls Wht-Crm Good OOM Por (w/Large OOM Vug Por w/tr OOL in pl) Med-Goo
Dissolu Fair-Med Leaching Por Good Odor (w/SG Under Heat in Wtr) Sli Scat Flor (Lt Grn-Gas
Does Not Flor) ? InterOOM/OOL Connectivity) SSG

60" CFS @ 4409' Ls Wht-Crm Good OOM Por (w/Large OOM Vug Por w/tr
OOL in pl) Med-Good Dissolu Fair-Med Leaching Por Good-Inc Odor (w/SG
Under Heat in Wtr) Sli Scat Flor (Lt Grn-Gas Does Not Flor) SG

Ls Crm-Wht-Gry MicroXln-Fxln Poor Ixln Por w/ Pyr Inclus Grad Micritic Ch
Wht-Gry w/OOL in Pl Op Shp Vit Chalk Wht Soft Sh Char-Gry Tr Blk Carb
Fissil Sli Tr ? Odor No Stn No Flor NS

Ls Crm-Gry MicroXln-Fxln Poor Ixln Por Grad Micritic w/Rhom Calcite Xls
Inclus (It Brn-Transl w/Lt Grn Flor) Chalk Wht V Abd Soft Fos (Crin) Sh
Char-Gry Fissil Faint Odor No Stn ? Sli Min (Calcite) Flor Sh Char-Gry Tr Blk
Carb Fissil NS

Ls Crm-Wht-Gry MicroXln-Fxln Grad Tr/Poor OOM Por Med Dissolu Med
Develop Poor Ixln Por Grad Micritic Cht Wht Op Shp Vit Chalk Wht V Abd
Soft Sh Char-Gry-Blk Carb AA Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry MicroXln-Fxln Grad Tr/Poor OOM Por Med Dissolu Med
Develop Poor Ixln Por Grad Micritic Cht Wht Op Shp Vit Chalk Wht V Abd
Soft Sh Char-Gry Fissil No Odor No Stn No Flor N

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

Ls Crm-Wht-Gry OOM Por Poor Develop Poor Dissolu MicroXln - Fxln Poor
Ixln Micritic Cht Wht-Gry Op Shp Vit (Tr Only) Chalk Wht Soft V Abd Sh
Char-Gry Tr Blk Carb Fissil No Odor No Stn No Flor NS

Ls Crm-Gry OOM Por Poor Develop Poor Dissolu MicroXln - Fxln Poor Ixln
Micritic Cht Gry Op Shp Vit Chalk Wht Soft V Abd Sh Char-Gry Fissil No
Odor No Stn No Flor NS

Ls Crm-Gry MicroXln - Fxln Poor Ixln Micritic Cht Gry Op Shp Vit Fos
(Brach) Chalk Wht Soft V Abd Sh Char-Gry Fissil No Odor No Stn No Flor
NS

Ls Crm-Wht-Gry MicroXln - Fxln Poor Ixln Micritic w/Pyr Inclus Grad Fxln
Poor Pin-Pt Por Cht Gry Op Shp Vit Chalk Wht Soft V Abd Sh Char-Gry
Fissil Faint Odor No Stn No Flor NS

Ls Crm-Wht-Gry MicroXln - Fxln Poor Ixln Micritic w/Pyr Inclus Grad Fxln
Poor Pin-Pt Por Cht Gry Op Shp Vit Chalk Wht Soft V Abd Sh Char-Gry
Fissil Faint Odor No Stn No Flor NS

Ls Crm-Wht-Gry MicroXln - Fxln Poor Ixln Micritic Cht Gry Op Shp Vit Chalk Wht Soft V Abd S
Char-Gry Fissil Faint Odor No Stn No Flor NS

Ls Crm-Wht-Gry MicroXln - Fxln Poor Ixln Micritic Cht Drk-Gry Lt-Gry-Wht
Op Shp Vit Fos (Brach) Chalk Wht Soft V Abd Sh Char-Gry Fissil Faint Odo
No Stn No Flor NS

STARK 4540' (- 1732)

KANSAS CITY "SWOPE (K)" 4546' (- 1738)

Sh Blk Carb w/Good SG Fissil Ls Wht Fxln Micritic Grad Tr OOL/OOM Poor InterOOM/OOM Por
Cht-Gry Banded Op Shp Vit Chalk Wht Soft V Abd No Stn No Flor Faint Odor SG No Stn No Flor
Faint Odor SG in Blk Sl

30" CFS @ 4562' Sh Blk Carb w/Good SG Fissil Ls Wht Fxln Micritic Grad Tr OOM Poor
InterOOM Por No Stn No Flor Faint Odor SG

BKGD
GAS= 23
UNITS

GAS KICK
= 53 UNITS

FG, C1-C5

DST # 3 4380'-4409'. Times
5"- 90"- 60"-90"; Blow: IF:
Weak/1" Inc to 6.5". FF:
Weak Building to Strong
B.O.B./13.5". Recovery:
850' Total Fluid: 35' WCM;
65' MCW; 690' SMCW; 60'
HMCW. Tool Spl: (Tr. O);
71% Wtr; 29% M.) Chl=8700
Ppm; Rw=.08 @ 75 degree.
F.

Pressures: IH
2057#; FH =
2057#; IF =
20-102#; FF=
114-408#; ISIP=
1274#; FSIP=
1247#; Temp =
118 Degrees F. .

Sh Gas
Kick = 86
Units

CFS @ 4562'
30"-60"

60" CFS @ 4562' Sh Blk SG Fissil Ls Wht Fxln Micritic Grad Tr OOM Por InterOOM Por No Stn No Flor Faint Odor SG

Ls Wht-Crm Fxln Fair Ixln Por Grad Tr/Poor OOL Por w/ OOI in pl (small) Tr Fair Vug Dissolu Poor-Fair Soring Poor-Tr/Fair Leaching Por Chalky Wht Soft Cht Gry Transl-Op Shp Wht Sh G w/Pry Inlus-Gry-Char Soft No Odor No Flor No Stn NS

HUSHPUCKNEY 4578' (- 1770)

Sh Blk Carb-Gry Fissil w/ SG when broken Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Cht-Gry AA Chalky Wht Soft No Odor No Flor No Stn SG in Blk Carb Sh SG

KANSAS CITY "HERTHA (L)" 4586' (- 1778)

Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Grad Fair-Med OOM Por w/ OOL (small) in pl Fair Dissolu Fair Leaching Cht Gry w/Abd OOL in pl Op Shp Vit Chalk Wht Soft Sh Blk Carb-Gry Fissil w/ SG when broken AA SSG

Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Grad Fair-Med OOM Por w/ OOL (small) in pl Fair Dissolu Fair Leaching Cht Gry w/Abd OOL in pl Op Shp Vit Chalk Wht Soft Sh Blk Carb-Gry Fissil w/ SG when broken AA SSG

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

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Crin) Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Sh Gry Tr/Blk Carb Fissil Ls Drk Gry Fxln Poor Ixln Por Micritic Dns Barren Chalky Wht Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor-Fair Ixln Por Chalky Wht Soft Cht Wht-Gry OOL Inlus Transl-Op Shp Wht Sh Char-Gry Fissil AA No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor-Fair Ixln Por Chalky Wht Soft Cht Wht-Gry Transl-Op Shp Wht Sh Char-Gry Fissil AA No Odor No Flor No Stn NS

Sh Char-Gry Fissil AA Ls Wht-Crm Fxln Poor-Fair Ixln Por Micritic Dns Barren Grad Fair-Med OOM Por w/ OOL (small) in pl Fair-Med Dissolu (Few Pcs) w/Fair-Med Leaching Cht Wht Op Shp Vit Chalky Wht Soft V Abd Inc I Odor No Flor No Stn NS

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

Ls Wht-Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren V Abd Chalk Wht Soft Sh Char-Gry-Grn-Blk Carb (? Sluff) Fissil No Odor No Flor No Stn NS

BASE KANSAS CITY 4684' (- 1876)

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

MARMATON 4700' (- 1892)

Sh Gry Fissil Ls Wht Fxln Poor Ixln Por Micritic Dns Barren V Abd Chalk Wht Soft No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Crin) Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Crin) Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

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

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Crin) Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Sh Blk Carb-Gry Fissil-"Gummy-Soft" Ls Gry-Crm Fxln Poor Ixln Por Micritic Dns Barren Cht Wht-Brn (Banded) Trans Shp Vit Chalky Wht Soft Abd No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Crin) Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Crin) Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Sh Gas Kick = 61 Units.

100

10
0
Gamma (API)

4600

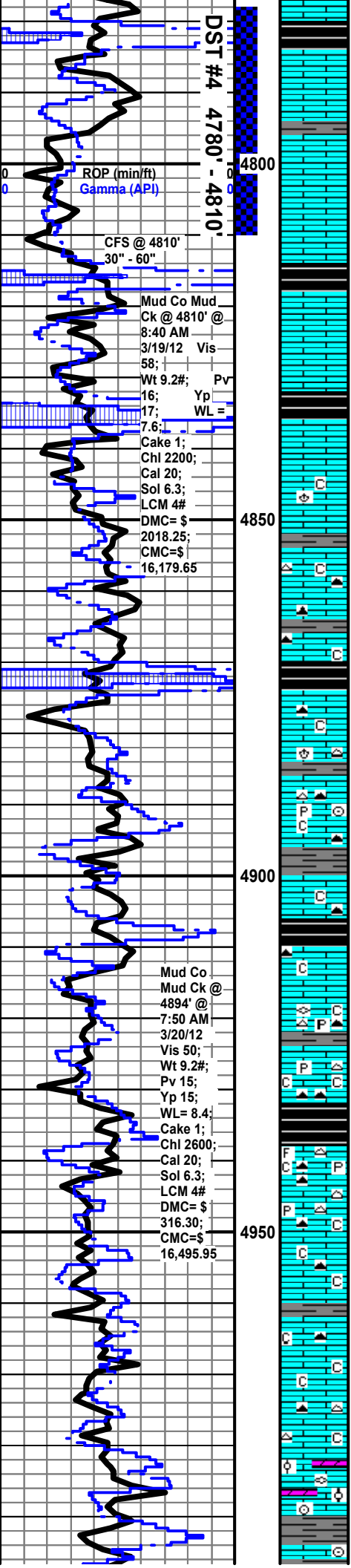
4650

4700

4750

DST # 4 4780'-4821'. Times: 5"- 60"- 60"- 90"; Blow: IF: Weak Ssurface Blow. FF: Weak Surface Blow. Recovery: 10' M. Tool Spl. Tr Oil; 100% Mud.

Pressures: IH
2251#; FH
2251#; IF 6-8#;
FF 10-28#;
ISIP 1436#;
FSIP 1300#;
Temp = 118 Degrees F



PAWNEE 4784' (-1976)

30" CFS @ 4810' Ls Wht Fxln Poor-Fair Pin-Pt Por Fair Ixln Por w/ Fair SG/SO w/Broken (Both Gas & Oil Flor Lt Grn-Lt Wht) Faint Inc Odor Scat S SFO (Lt Brn-Hi Gvy Under Heat in Wtr) Chalk AA FSG/FSO

60" CFS @ 4810' Ls Wht Fxln Poor-Fair Pin-Pt Por Fair Ixln Por Grad ?OOM/OOL Por (Few Pcs) Fair Inter OOM?OOL Develop Fair-Med Dissolu Fair SG/SO (Both Gas & Oil Flor Lt Grn-Lt Wht) (10% of Tray) ? Frac Por Faint Odor Scat Stn SFO (Lt Brn-Hi Gvy Under Heat in Wtr) Chalk AA FSG/FSO

LABETTE SHALE 4814' (- 2006)

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

CHEROKEE SHALE 4833' (- 2025)

Sh Blk Carb-Gry Fissil Ls Crm-Brn-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Poor OOL Por w/OOL in PI Poor Dissolu Por Leaching Cht Wht-Gry Op Shp Vit Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Sh Blk Carb Gry Fissil Ls Crm-Wht Fxln Poor-Fair Ixln Por Micritic Barren Chalk Wht Soft Fos (Brach) No Odor No Flor No Stn NS

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

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

2ND CHEROKEE SHALE 4870' (- 2062)

Sh Gry-Char-Blk Carb-Aqua Fissil Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren w/Pry Inklus Tr/Chalk AA Cht Gry-Wht Transl Shp Fos (Brach) Vit No Odor No Flor No Stn SG in Sh Blk Car

Sh Gry-Char-Blk Carb Fissil Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren w/Pry Inklus Tr/Chalk AA Cht Gry-Wht-Tan Transl Shp Fos (Crin) Vit No Odor No Flor No Stn NS

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

3RD CHEROKEE SHALE 4907' (- 2099)

Sh Gry-Char-Blk Carb-Gry Fissil Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren w/Pry Inklus Chalk Wht Soft Cht Gry-Wht Transl Shp Fos (Fuss) Vit No Odor No Flor No Stn N'

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren w/Pry Inklus Chalk Wht Soft Cht Gry-Wht Op w/OOL & Fos (Spic) Inklus Shp Vit Sh Gry-Char-Blk Carb-Gry-Aqua Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren w/Pry Inklus Chalk Wht Soft Cht Amber-Wht Banded -Drk Char Translu-Op Shp Op Vit Sh Gry-Char-Blk Carb-Gry-Aqua Fissil No Odor No Flor No Stn SG in Sh Blk Carb

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

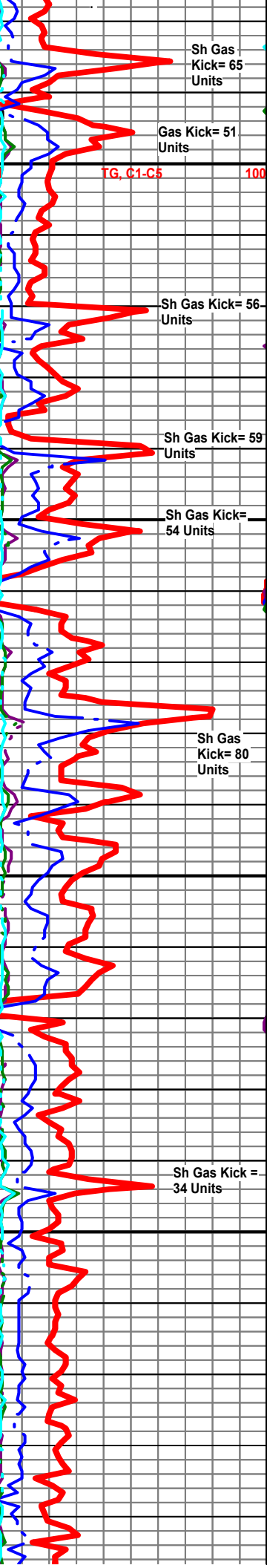
Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht Gry Op Shp Vit Sh Gry-Char-Blk Carb-Gry-Aqua Fissil No Odor No Flor No Stn NS

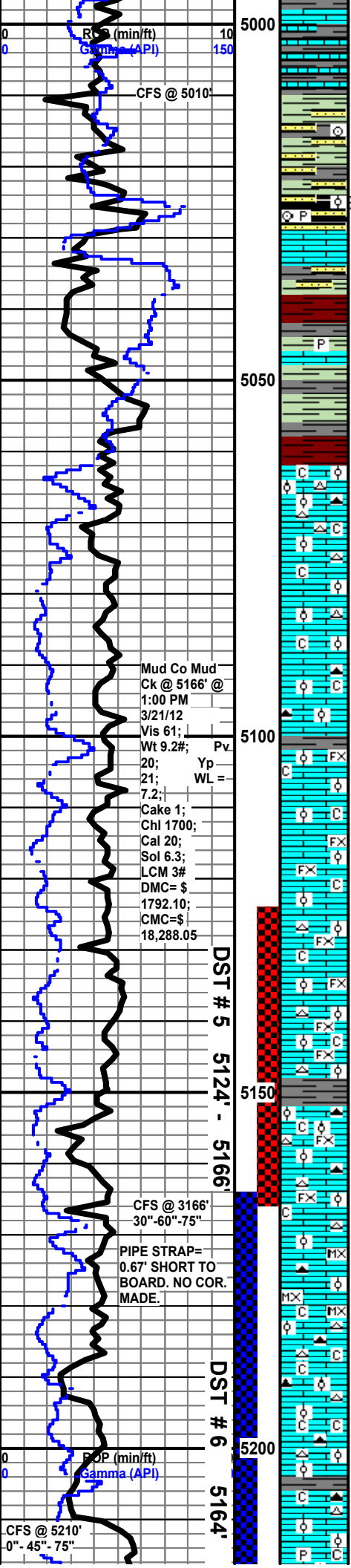
Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht Gry Op Shp Vit Sh Gry-Char-Blk Carb Fissil No Odor No Flor No Stn NS

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

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Tr Poor OOL Por (Small Ooids-"Sandy") Grad Tr Dolo Wht-Gry Fxln Tr Granular Chalk Wht Soft Fos (Fuss) Sh Gry-Char Fissil No Odor No Flor No Stn NS

30" CFS @ 5010' Sh Char-Gry Fissil Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Crin) Chalk Sh Gry-Char Fissil No Odor No Flor No Stn NS





60" CFS @ 5010' Sh Char-Gry Fissil Ls Crm-Gry FxIn Poor IxIn Por Micritic Dns Barren Fos (Crin) Chalk Sh Gry-Char Fissil No Odor No Flor No Stn NS

MORROW SHALE 5010' (- 2202)

Sh AA Inc Aqua-Blu-Tr Red Fissil Ls AA Qtz Ss Gry-Wht Fgrn Well Sort Friable w/Angul Grn Gillsonitic Stn (No Glacu) Pyr Mass Fos (Crin) No Odor No Stn No Flor NS

Sh Char-Aqua-Blu Fissil Ls Wht MicroIn-FxIn Grad Gran OOL Por (Small Ooids Grad Tr Med Ooids Qtz Ss Gry-Brn Fgrn Well Sort Friable w/Angul Grn Tr Gillsonitic Stn (No Glacu) Pyr Mass Fos (Crin) No Odor No Stn No Flor NS

Sh Varicolored Aqua-Gry-Char-Maroon-Red (Wash Red)-Grn-Blk Carb Fissil Ls Wht-Crm-Gry FxIn Poor IxIn Por Micritic w/Pyr Includ Grad Wht OOL (w/Tr Gillsonitic Stn Around OOL in pl) Por (Small Ooids "Sandy" OOL Por) Poor Inter OOL Por Poor Dissolu Poor Develop Cht Amber-Gry-Tan Banded Transl-Op Shp Vit Chalk No Odor No Flor No Stn NS

Sh Varicolored Aqua-Gry-Char-Maroon-Red (Wash Red)-Grn-Blk Carb Fissil Ls Wht-Crm-Gry FxIn Poor IxIn Por Micritic w/Pyr Includ Grad Wht OOL Por (Small Ooids "Sandy" OOL Por) Poor Inter OOL Por Cht Amber-Gry-Tan Banded Transl-Op Shp Vit Chalk No Odor No Flor No Stn NS

Sh Varicolored Aqua-Gry-Char-Maroon-Red (Wash Red)-Grn-Blk Carb Fissil Ls Wht-Crm-Gry FxIn Poor IxIn Por Micritic w/Pyr Includ Grad Wht OOL Por (Small Ooids "Sandy" OOL Por) Poor Inter OOL Por Cht Amber-Gry-Tan Banded Transl-Op Shp Vit Chalk No Odor No Flor No Stn NS

MISSISSIPPIAN "STE. GEN" 5062' (- 2254)

Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Gry Shp Vit (Tr Only) Chalk Sh -Char-Gry-Blk Carb-Red Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Tan Op Shp Vit Chalk Sh -Char-Gry-Grn Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Tan Shp Vit Chalk Sh -Char-Grn Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Blk Op Shp Vit Chalk Sh Char-Grn-Red Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Blk Op Shp Vit Chalk Sh Char-Gry-Blk Carb-Olive Fissil Tr No Odor No Flor No Stn NS

MISSISSIPPIAN ST. LOUIS 5107' (-2299)

Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Shp Vit (Tr Only) Chalk Sh -Char-Gry-Blk Carb-Red Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm FxIn Poor IxIn Por Grad Wht-Gry-Grn OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por w/Pyr Includ Grad Mrcitic No Vis Por Cht Tan Translu Shp Vit Chalk Sh Char-Gry-Grn-Red Fissil Tr No Odor No Flor No Stn NS

Ls Crm FxIn Poor IxIn Por Grad Wht-Gry-Grn OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Tan Translu Shp Vit Chalk Wht V Abd Soft Sh Gry-Grn Fissil Tr F ? Odor No Flor No Stn NS

30" CFS @ 5166' Ls Crm FxIn Poor IxIn Por Grad Wht OOL Por w/Small OOL in place "Sandy" OOL Por Poor Inter OOL Por w/ SSG Drk Blk Gillsonitic Stn Cht Tan Translu Shp Vit Chalk Wht Soft V Abd Sh Gry-Grn Fissil Fair-Strong Inc Odor No Flor No Stn NS

MISSISSIPPIAN "ST. LOUIS (B)" 5152' (-2344)

60" CFS @ 5166' Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/Small-Med OOL in pl "Sandy-Salt & Pepper" OOL Por Friable Fair-Med Inter OOL Por (Few Pcs) w/ SG & SFO (Under Heat) Med Brn Sat Stn Cht Gry w/OOL in pl w/Deep Vug Leaching w/SG/SO Op Shp Vit Chalk Wht Soft V Abd Sh Gry-Aqua-Grn Fissil Strong Odor Fair Scat Flor (Lt Grn) Fair Stn SG & SO

75" CFS @ 5166' Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/Small-Med OOL in pl "Sandy-Salt & Pepper" OOL Por Friable Med-Good Inter OOL Por (Few More Pcs) w/SG & SFO (Under Heat) Med Brn Sat Stn Around OOL Fair-Med Dissol Fair-Med Develop Tr Glacu Cht Gry w/OOL in pl w/Deep Vug Leaching w/SG/SO Op Shp Vit Chalk Wht Soft V Abd Sh Gry-Aqua-Grn Fissil Strong Odor Fair Scat Flor (Lt Grn) Fair Scat Stn w/SG & SO

Ls Crm-Wht FxIn-MicroIn Dns Poor IxIn Por Grad Poor OOL Por (Small Ooids) V Chalky Poor Develop Poor Dissolu Barren Cht Wht-Smoky Gry-Tan Transl-Op Shp Vit Sh Aqua-Char-Red Fissil Faint-Fair Odor No Flor No Stn NS

0" CFS @ 5210' Ls Crm-Wht FxIn-MicroIn Dns Poor IxIn Por Grad Poor OOL Por (Small Ooids) V Chalky Poor Develop Poor Dissolu Barren Cht Wht-Smoky Gry-Tan Transl-Op Shp Vit Sh Aqua-Char-Red Fissil Faint-Fair Odor No Flor No Stn NS

45" CFS @ 5210' Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/ Med OOL in pl "Sandy-Salt & Pepper" OOL Por Friable Fair-Med Inter OOL Por (2 Pcs) w/ SG & SFO (Under Heat) Med Brn Sat Stn Cht Smoky Gry-Amber-Tsn w/OOL in pl Translu-Op Shp Vit Chalk Wht Soft V Abd Sh Gry-Aqua-Char Fissil Oood Odor Tr Scat Flor (Lt Grn) Scat Stn SG & SO

75" CFS @ 5210' Ls Wht-Crm FxIn Poor IxIn Por Grad Wht OOL Por w/ Med OOL in pl "Sandy-Salt & Pepper" OOL Por Friable w/Pyr Includ Fair-Med Inter OOL Por (2 Pcs) w/ SG & SFO (Under Heat) Med Brn Sat Stn Cht Smoky Gry-Amber-Tsn w/OOL in pl Translu-Op Shp Vit Chalk Wht Soft V Abd Sh Gry-Aqua-Char Fissil Good Odor Tr Scat Flor (Lt Grn) Scat Stn SG & SO

TG, C1-C5 100

SH GAS KICK = 43 UNITS

DST # 5 5124'-5166'. Times: 5"- 90"- 90"- 180"; Blow: IF: Weak Surface Blow. FF: Weak Surface Blow Slowly Building From 2" to 7". Recovery: 285' GIP; 20' VSOCM (4% O; 96% M). Tool Spl. 14% G; 17% O & 69% M.

Pressures: IH= 2439#; FH= 2435#; IF= 6-9#; FF= 19-29#; ISIP= 1307#; FSIP= 822#; Temp= 123 Degrees F.

DST # 6 5164'-5235'. Times: 5"- 90"- 60"- 90"; Blow: IF: Weak Surface Blow= 3/4". FF: Weak Surface Blow Slowly Building to 1.5". Recovery: 70' HWCM w/Tr Oil: (46% Wtr; 54% M). Tool Spl.: Tr Oil; 49% Wtr; 51% M. Chl.= 29000; Ph= 6; RW= .18 @ 79 degrees F.

GAS KICK = 32 UNITS

Pressures: IH= 2459#; FH= 2458#; IF= 8-17#; FF= 21-56#; ISIP= 1422#; FSIP= 1358#; Temp= 119 Degrees F.

GAS KICK = 31 UNITS

Scale Change TG, C1-C5 200

TRIP GAS KICK= 171 Units

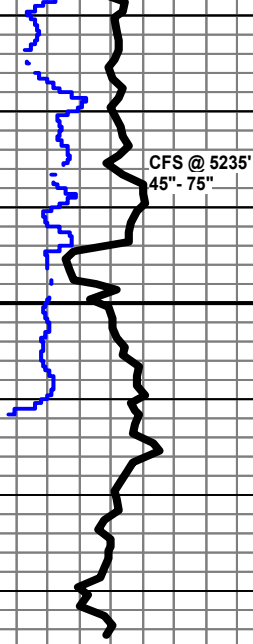
RECYCLE TRIP GAS KICK= 137 Units

Mud Co Mud Ck @ 5235' @ 11:05 AM 3/22/12 Vis 62; (Wt 9.1#; Pv 20; Yp 20; WL = 8.0; Cake 1; Chl 2100; Cal 20; Sol 5.6;

GAS KICK = 110 UNITS

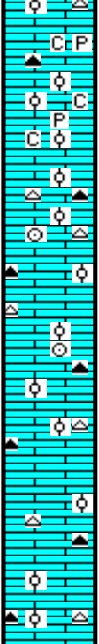
RECYCLE GAS KICK =

5235



CFS @ 5235'
45"- 75"

5250



R.T.D. = 5285' (- 2477)
L.T.D. = 5082' (- 2474)

5300

5250

45" CFS @ 5235' Ls Crm-Wht Fxln-MicroIn Dns Poor Ixln Por Grad Fair OOL Por (Med Ooids) w/Pyr Inklus V Chalky Poor Develop Poor Dissolu Barren Cht Wht-Smoky Gry-Tan Transl-Op Shp Vit Sh Aqua-Char-Red Fissil Faint Odor No Flor No Stn NS

75" CFS @ 5235' Ls Crm-Wht Fxln-MicroIn Dns Poor Ixln Por Grad Fair OOL Por (Med Ooids) w/Pyr Inklus V Chalky Poor Develop Poor Dissolu Barren Cht Wht-Smoky Gry-Tan Transl-Op Shp Vit Sh Aqua-Char-Red Fissil Faint Dec Odor No Flor No Stn NS

Ls Crm-Wht -Gry Fxln-MicroIn Dns Poor Ixln Por Grad Fair OOL Por (Small Ooids) Grad Micritic Dns Chalky Cht Amber-Tan Transl-Op Shp Vit Fos (Crin) Sh Aqua-Char-Red Fissil No Odor No Flor No Stn NS

Sh Aqua-Char-Red Fissil Ls Crm-Wht -Gry Fxln-MicroIn Dns Poor Ixln Por Grad Fair OOL Por (Small Ooids) Grad Micritic Dns Chalky Cht Amber-Tan Transl-Op Shp Vit Fos (Crin) No Odor No Flor No Stn NS

30" CFS @ 5285' Ls Crm-Wht -Gry Fxln-MicroIn Dns Poor Ixln Por Grad Fair OOL Por (Small Ooids) Grad Micritic Dns Chalky Cht Amber-Tan Transl-Op Shp Vit Sh Aqua-Char-Red Fissil No Odor No Flor No Stn NS

60" CFS @ 5285' Ls Crm-Wht -Gry Fxln-MicroIn Dns Poor Ixln Por Grad Fair OOL Por (Small Ooids) Grad Micritic Dns Chalky Cht Amber-Tan Transl-Op Shp Vit Sh Aqua-Char-Red Fissil No Odor No Flor No Stn NS

ELECTRIC LOGS By LOGTECH, INC.: DUAL COMP. POROSITY; DUAL INDUCTION; BOREHOLE COMPENSATED SONIC; MICRORESISTIVITY;
GEOLOGIST LEFT LOCATION AT: 7:00 P.M. on 3/23/12

LCM 3#
DMC= \$ 281.55
CMC=\$
18,569.60

96 UNITS
RECYCLE GAS
KICK = 101
UNITS

Mud Co Mud Ck
@ 5285' @ 9:05
AM 3/23/12
Vis 64;
Wt 9.0#; Pv
20; Yp 22;
WL = 9.2#;
Cake 1;
Chl 3500;
Cal 20;
Sol 4.8;
LCM 3#
DMC= \$
<-150.20>;
CMC=\$
18,419.40