

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: Kroutwurst #21
Location: 860' FSL & 955' FEL, Sec. 34-T16S-R11W, Barton County, KS.
Licence Number: 15-009-26138-00-00 Region: Kraft-Prusa Field
Spud Date: 3/7/2016 Drilling Completed: 3/13/16
Surface Coordinates: 860' FSL & 955' FEL, Sec. 34-T16S-R11W

Bottom Hole Same as above
Coordinates:
Ground Elevation (ft): 1941' K.B. Elevation (ft): 1952'
Logged Interval (ft): 2600' To: 3410' Total Depth (ft): 3470'
Formation: Arbuckle at Total Depth
Type of Drilling Fluid: Freshwater/Gel to 2513'; Chemical Gel 2513' to 3470'
Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Herman L. Loeb, LLC.
Address: P.O. Box 838
Lawrenceville, IL. 62439-0838

GEOLOGIST

Name: Jon D. Christensen
Company: Consulting Petroleum Geologist
Address: 9002 W. Silver Hollow St.
Wichita, KS. 67205-8856

Cores

None Taken

DSTs

DST #1(Kansas City 'I' zone) 3270' - 3294'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Weak Blow built to 1.75", FFP Weak Blow built to 3.25", no Blowback on SI's; REC: 90' Gas in Pipe, 30' OCM(5%O, 95%M), 60' OCMW(5%O, 40%M, 55%W), CI 75,000, Mud 4200; IFP 20-56#, ISIP 758#, FFP 44-62#, FSIP 720#, IHP 1562#, FHP 1545#, BHT 109 Deg. F.

DST #2(Arbuckle) 3377' - 3409'(Corrected Depths to Log) Test Times 15"-45"-15"-45" IFP Strong Blow BOB/3 Min., FFP Strong Blow BOB/5 Min, Weak Surface Blowback on FSI; REC: 2' Clean Oil, 92' OCWM(10%O, 65%M, 25%W), 124' OCWM(10%O, 50%M, 40%W), 124' OCMW(5%O, 10%M, 85%W), 310' SW, CI 24,000, Mud 4200; IFP 86-220#, ISIP 1098#, FFP 226-312#, FSIP 1094#, IHP 1642#, FHP 1622#, BHT 114 Deg. F.

Comments

3/7/16 MIRU Sterling Drilling Co. Rig #4, Spud at 5:30 PM; 3/8/16 Drilling at 580'; 3/9/16 Drilling at 950'; 3/10/16 Drilling at 2750'; 3/11/16 Drilling at 3230'; 3/12/16 TD. 3410' -Short Trip for DST #2; 3/13/16 DDTD. 3470' - LDDP for setting 5 1/2" Production Casing.

Set New 8 5/8"(23#) Surface Casing at 786' with 345 sacks of cement(Basic Energy Services). PD. at 4:15 PM. on 3/8/16. Cement did circulate to cellar.

Set new 5 1/2"(15.5#) Production Casing at 3466' with 120 sacks of "Loeb Blend" cement(Basic Energy Services). PD. at 1:00 PM. on 3/13/16.

Surveys: 0.50 Deg. at 790'(Surface Casing); 0.75 Deg. at 2895'(Bit Trip); 0.75 Deg. at 3296'(DST #1); 1.0 Deg. at 3470'(DDTD).

Pipe Strap at 2895'(Bit Trip): Strap 0.72' Short to the Board, no correction made to the Board.


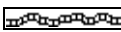
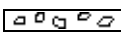
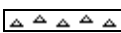
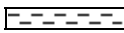







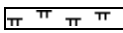
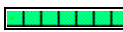
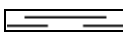
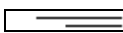
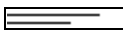



NOTE: The well was drilled deeper after Logs to DDTD. 3470'. No drilling log or samples were saved of the interval from 3410' to 3470'.

After review of the Cased Hole Solutions logs, DST data and Structural position, the operator elected to set new 5 1/2" Production Casing for completion in the Arbuckle. The Kansas City 'I' zone should be perforated and tested prior to abandonment of the well.








































































LOG TOPS: Anhydrite 767(+1185), Base Anhydrite 792(+1160), Topeka 2709(-757), Queen Hill Shale 2918(-966), Heebner Shale 3004(-1052), Toronto 3023(-1071), Brown Lmst. 3105(-1153), Lansing 'A' 3119(-1167), Muncie Creek Shale 3255(-1303), Kansas City 'I' 3278(-1326), Base Kansas City 3382(-1430), Arbuckle 3397(-1445).

NOTE: This log was shifted upward by 1' to 3' for correlation purposes with the Cased Hole Solutions Logs.

ROCK TYPES

 Anhy  Bent  Brec  Cht	 Clyst  Coal  Congl  Dol	 Gyp  Igne  Lmst  Meta	 Mrlst  Salt  Shale  Shcol	 Shgy  Sltst  Ss  Till
---	---	---	---	---

ACCESSORIES

MINERAL  Anhy  Arggrn  Arg  Bent  Bit  Brecfrag  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  Gastro  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**
- E Earthy
 - F Fenest
 - X Fracture
 - Inter
 - Moldic
 - Organic
 - Pinpoint

V Vuggy

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

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

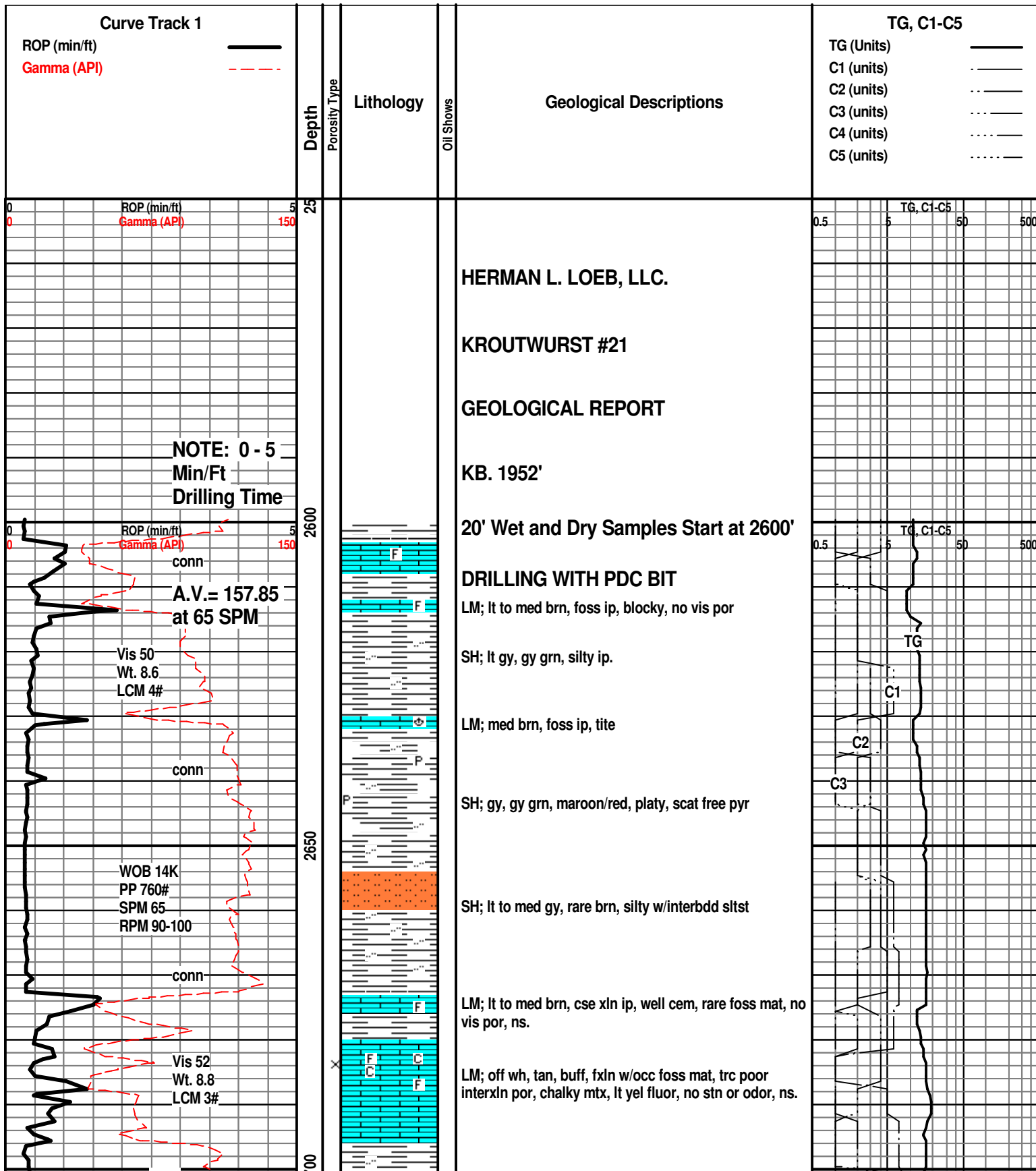
OIL SHOW

- Even

- Spotted
- Ques
- Dead

- INTERVAL**
- Core
 - Dst

- EVENT**
- Rft
 - Sidewall



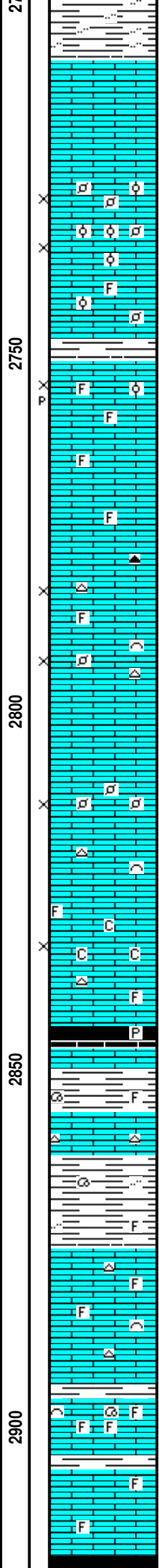
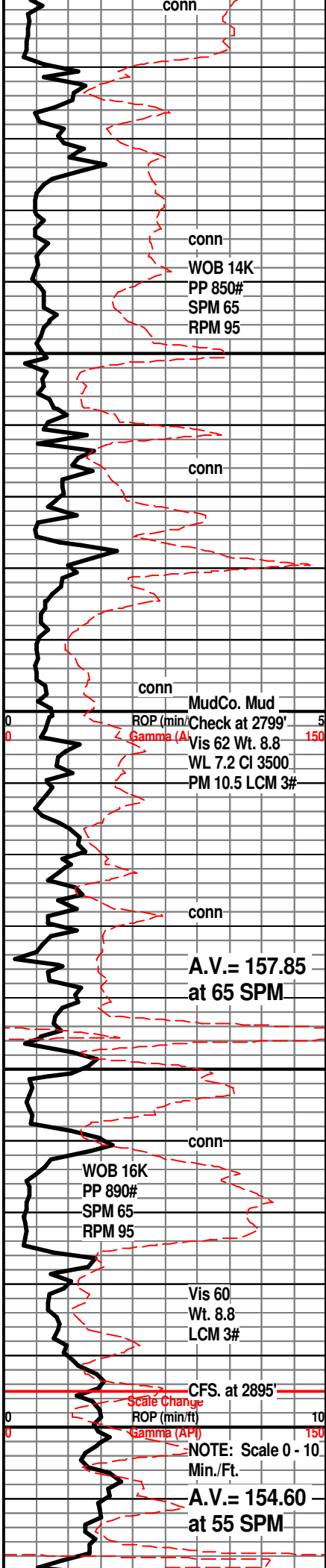
NOTE: 0 - 5
Min/Ft
Drilling Time

A.V. = 157.85
at 65 SPM

Vis 50
Wt. 8.6
LCM 4#

WOB 14K
PP 760#
SPM 65
RPM 90-100

Vis 52
Wt. 8.8
LCM 3#



SH; lt to med gy, platy, silty

TOPEKA 2709(-757)

LM; tan to lt brn, fxln to micritic, blocky, no vis por, ns.

LM; tan to lt brn, buff, foss - finely pelletal/partly oolitic, fair to gd interpart por, v. dull yel to no fluor, no stn or odor, no gas kick

LM; tan to off wh, buff, fxln w/scat foss mat, fair interxln/interpart w/occ p-p por, lt yel fluor, no stn or odor, ns.

LM; tan to lt gy, fxln w/scat foss mat, fair interxln por, interbdd gy occ foss cht, dull to lt yel min fluor, no stn or odor, ns.

LM; tan to lt brn, buff, finely pelletal ip, interbdd dense micrite, poor interpart por, no fluor, ns.

LM; tan to cream, off wh, f to med xln, scat gd interxln por, minor soft chalky mtx. occ foss mat, dull yel min fluor, no stn or odor, ns.

SH; blk, thinly bdd, rare pyr

SH; med gy, foss ip, platy

LM; med brn, hd, scat tan foss cht, tite

SH; med gy, gy grn, platy, foss ip, rarely silty

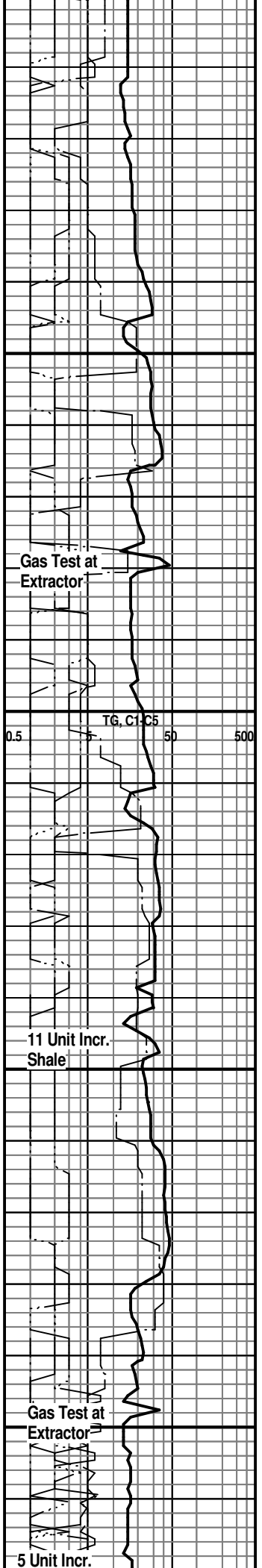
LM; tan to lt brn, fxln to micritic, some dense, rare well cem foss mat, dull yel fluor, trc tan/gy cht, no stn or odor, ns.

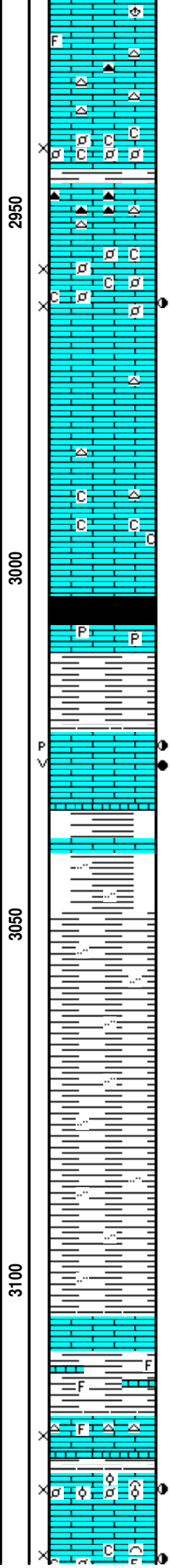
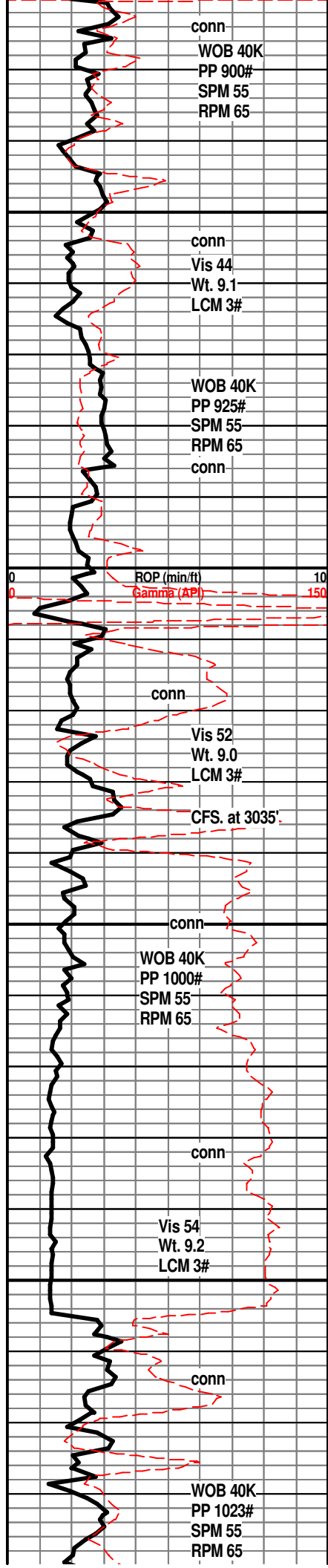
BIT TRIP AT 2895'
TRIP IN HOLE WITH BUTTON BIT

LM; lt brn gy brn, scat foss(fusulinids) mat, most well cem, no vis por, no fluor, ns.

LM; tan to buff, cream, most dense - blocky, rare well cem foss, no vis por, no fluor, ns.

QUEEN HILL SHALE 2918(-966)





SH; blk, carb ip, platy, no vis gas bubb.

LM; tan to cream, off wh, hd, micritic, interbdd wh, gy to dk gy cht, no vis por, ns.

LM; tan to cream, foss - finely pelletal, gd interpart por, occ chalky mtx, lt yel fluor, ns.

LM; lt to med brn, hd, abnt brn, dk gy/blk cht, no vis por, ns.

LM; off wh, tan - cream, finely pelletal to gran, fair interpart por, minor chalky mtx, few pcs w/dk brn spotted oil stn, faint odor, no live shows, spotty dull to lt yel fluor, no gas kick

LM; tan to lt brn, rare med brn, most dense, rare lt to med gy cht, no vis por, no fluor, ns.

LM; tan to off wh, fxln, chalky - soft ip, interbdd cse xln lmst, no fluor, no stn or odor, ns.

HEEBNER SHALE 3004(-1052)
 SH; blk, carb ip, platy, trc gas
 LM; med brn, v. hd, micritic, pyr ip.

SH; lt gy grn, pale grn, sticky ip, some gumbo

TORONTO 3023(-1071)
 LM; off wh, wh, foss to cse xln, fair p-p and scat vug por, lt golden yel fluor, SSFO, fair to faint odor, instant streaming cut, trc gas bubbles, few pcs bleeding oil droplets and rainbow

DOUGLAS SHALE 3035(-1083)
 SH; rust red, red/brn, sticky ip, platy

SH; red/brn, gy, silty ip, firm

SH; lt gy, silty w/interbdd sltst.

SH; lt to med gy, platy, silty ip.

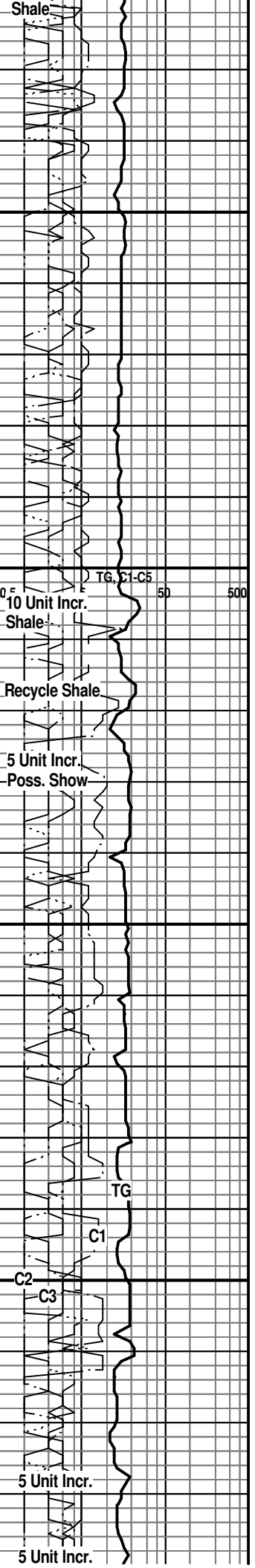
BROWN LMST. 3105(-1153)
 LM; med brn, hd, some cse xln, tite

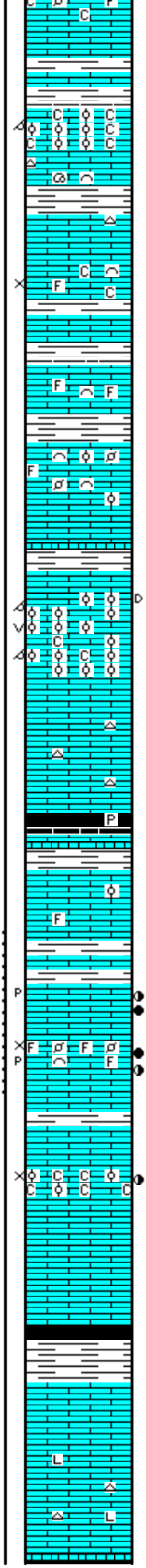
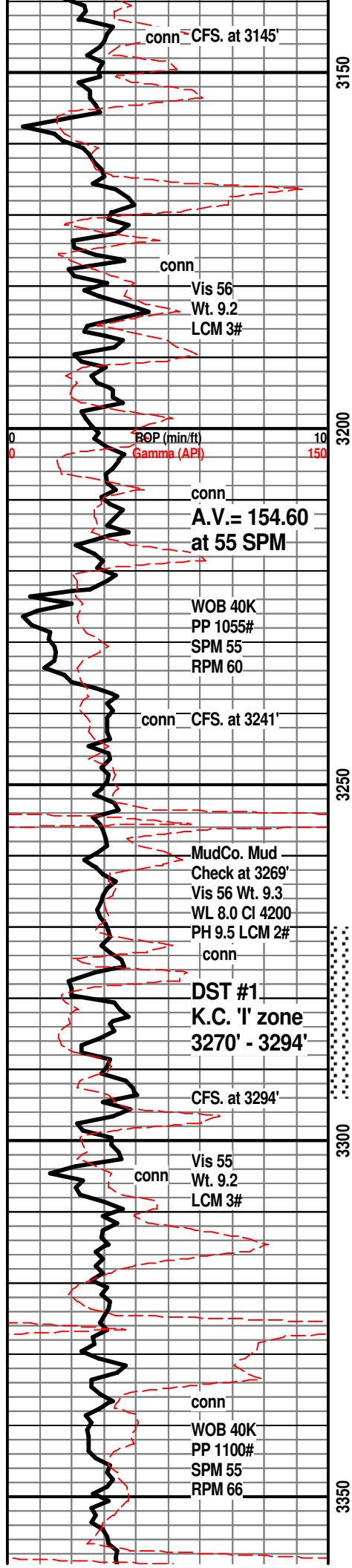
SH; med gy, foss ip, firm, some lmy

LANSING 'A' 3119(-1167)
 LM; lt gy, lt brn, some rose red, dense, occ tan and gy cht, no fluor, no stn or odor, ns.

LM; tan to off wh, finely pelletal/oolitic, fair interpart por, rare pcs w/spotted lt brn oil stn, no odor, trc FO, brite yel fluor, some barren por.

LM; off wh, wh, med xln w/occ foss mat, chalky mtx, trc





dk brn stn, no odor, lt yel flour, most barren

SH; grn, gy grn, platy

LM; off wh, tan, foss - oolitic, poor to fair oomoldic por, chalky mtx, no fluor, no stn or odor, no gas kick

LM; tan to lt brn, well cem foss mat, occ cherty, tite

LM; tan to buff, off wh, foss to med xln, fair interxln por, minor chalky mtx, no fluor, ns.

LM; lt gy brn, lt brn, most dense, some hd micrite, occ well cem foss mat, no fluor, no stn or odor, ns.

LM; lt to med brn, v. foss, ooids w/foss hash, all well cem, spotted lt yel min fluor, no stn, no gas kick, ns.

LANSING 'G' 3220(-1268)

LM; lt brn, oolitic, well dev. oomoldic w/scat vug por, v. faint to no odor, few pcs w/dk brn oil stn at top, most barren, lt to med yel min fluor, no live shows, bcm chalky

LM; lt to med brn, most dense - micritic, blocky, scat tan to gy cht, no vis por, ns.

SH; blk, platy, trc pyr

KANSAS CITY 'H' 3262(-1310)

LM; lt gy, lt gy brn, rarely foss, most dense - micritic, blocky, no vis por, spotty lt yel flour, no stn or odor, ns.

KANSAS CITY 'I' 3278(-1326)

LM; lt brn, fxl, scat fair p-p por, lt brn spotted to even oil stn, brite yel fluor, SSFO, few gas bubbles, gd cut

LM; tan to cream, foss, lrg foss frags, fair interpart w/p-p por, live gassy oil, most w/even lt brn stn, fair odor, brite yel fluor, gd cut

DST #1: K.C. 'I' Zone 3270' - 3294'

Corrected Depths to Log

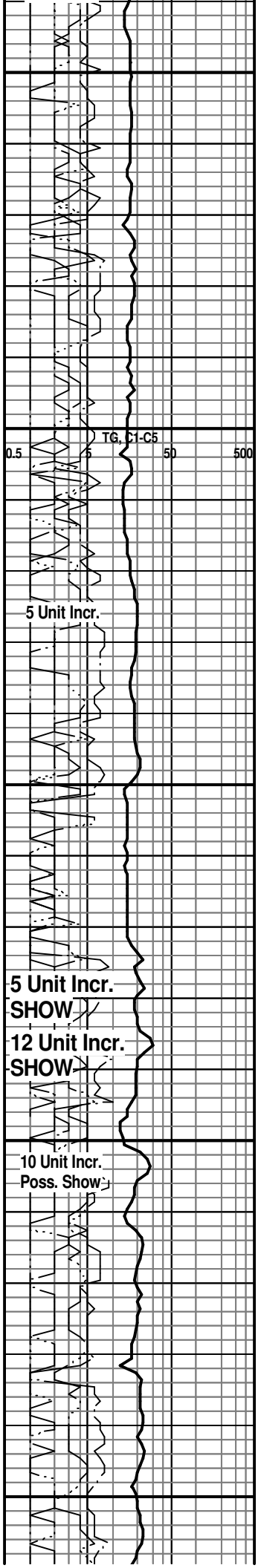
LM; wh, off wh, foss - partly oolitic, very chalky w/much pure chalk, poor to fair interpart por, few pcs w/med brn spotted oil stn, scat brite yel fluor, faint odor, most barren

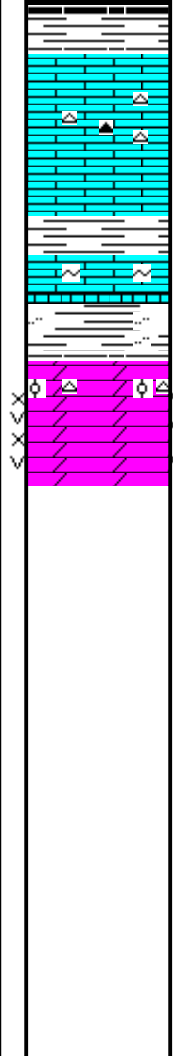
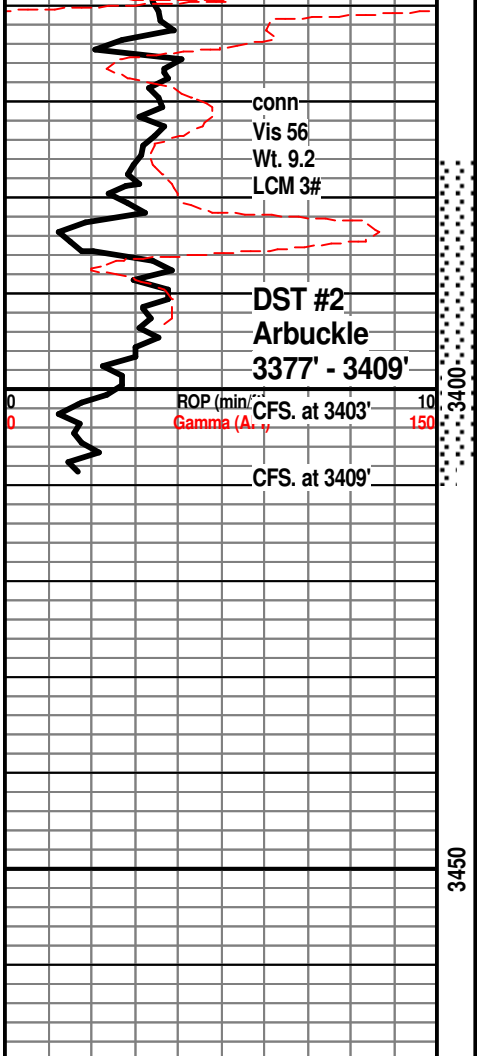
LM; tan to lt brn, some gy brn, most dense, micritic, blocky, tite

SH; med gy, occ gy grn, blk, firm

LM; med gy, gy brn, most micritic, blocky, no vis por, no fluor, ns.

LM; med brn, hd, micritic, some litho, tite, rare lt brn to tan cht





SH; blk, v. dk gy, platy

LM; tan to off wh, buff, fxl n, most well cem, hd, no vis por, no fluor, occ tan/pale org cht, no stn or odor, ns.

LM; med brn, hd, blocky, micritic, tite

BASE KANSAS CITY 3382(-1430)

LM; lt to med brn, hd, some grn clay incl(glau), no vis por, tite, fair odor

SH; grn, sea grn, silty ip

ARBUCKLE 3397(-1445)

DOL; lt gy, tan, sucrosic to med rhombic, tite cap, gd/strong odor, SSFO, occ fair interxln por

DOL; tan/off wh, med rhombic, fair vug por, SFO, gd to strong odor, brite yel fluor, most w/even lt/med brn oil stn, exc. cut

DST #2: Arbuckle 3377' - 3409'
Corrected Depths to Log

RTD. 3410' at 6:06 AM. 3/12/16, DDTD. of 3470' on 3/13/16 after Logs.

LTD. 3402'

Cased Hole Solutions DIL, NEU/DEN with PE, Microlog

NOTE: This log was shifted upward by 1' to 3' for correlation purposes with the Cased Hole Solutions Logs.

