

# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: Becker "B" #4  
Location: 335' FSL & 1500' FEL, Sec. 2-T31S-R3W, Sumner Co., KS.  
Licence Number: 15-191-22777  
Spud Date: 8/1/2016  
Surface Coordinates: 335' FSL & 1500' FEL, Sec. 2-T31S-R3W  
Region: Moyer Northwest  
Drilling Completed: 8/5/2016

Bottom Hole Same as Above  
Coordinates:  
Ground Elevation (ft): 1308' K.B. Elevation (ft): 1319'  
Logged Interval (ft): 2150' To: 3400' Total Depth (ft): 3400'  
Formation: Kansas City at Total Depth  
Type of Drilling Fluid: Freshwater/Gel to 2300'; Chemical Gel 2300' to 3400'

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### 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: 277 S. Maple Dunes Court  
Wichita, KS. 67235-7500

### Cores

None Taken

### DSTs

None Taken

## Comments

8/1/16 MIRU Sterling Drilling Co. Rig #4, Spud at 12:00 AM.(Midnight), 8/2/16 Drilling at 85'; 8/3/16 Drilling at 575'; 8/4/16 Drilling at 2385'; 8/5/16 RTD. 3400' - Logging(ELI Wireline) LTD. 3404' - Set 5 1/2" Production Casing.

Set new 8 5/8"(23#) Surface Casing at 285' KB. with 250 sacks cement(Basic Energy Services). Cement did Circulate. PD. at 1:15 PM. on 8/2/16.

Set new 5 1/2"(15.5#) Production Casing at 3393' with 250 Sacks of cement(Basic Energy Services). PD. at 10:15 PM. on 8/5/15.


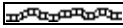
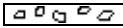










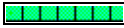

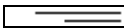
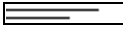



Surveys: 0.50 Deg. at 290'(Surface Casing); 0.75 Deg. at 3400' RTD.

After review of the ELI Wireline logs, sample shows and positive indications that the Kansas City Swope oil reservoir will be productive, the operator elected to set new 5 1/2" Production Casing for completion in the Swope zone.








































































FORMATION TOPS: Topeka 2156(-837), Heebner Shale 2571(-1252), Toronto 2586(-1267), Iatan Lmst. 2892(-1573), Stalnaker Sand 2928(-1609), Kansas City 3199(-1880), Stark Shale 3319(-2000), Swope 3334(-2015), Hertha 3371(-2052).

NOTE: Due to the fact that Production Casing tagged bottom at 3398', the Drilling Depth Formation Tops are considered correct. LTD. reached to 3404'. The Gamma Ray was not imported due to the depth discrepancy.

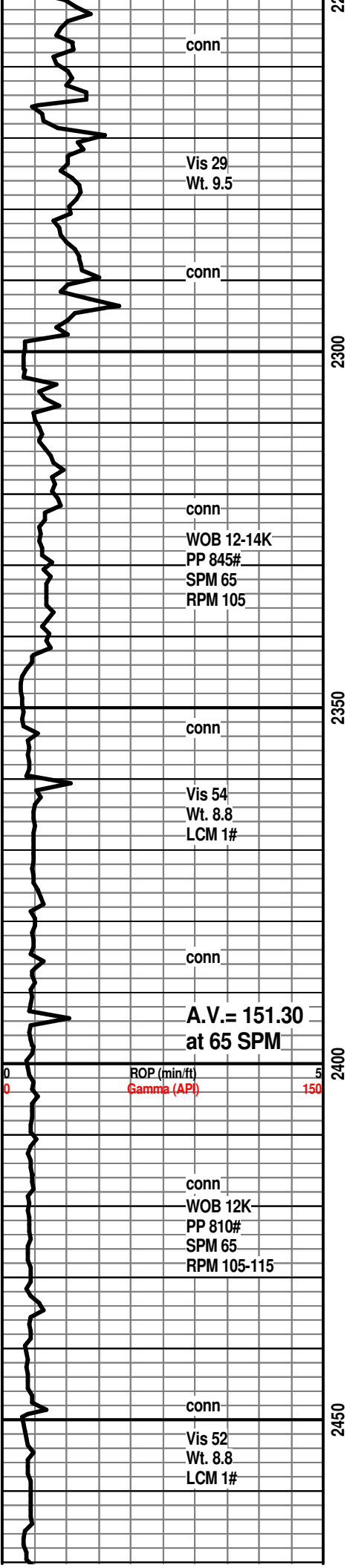
## ROCK TYPES

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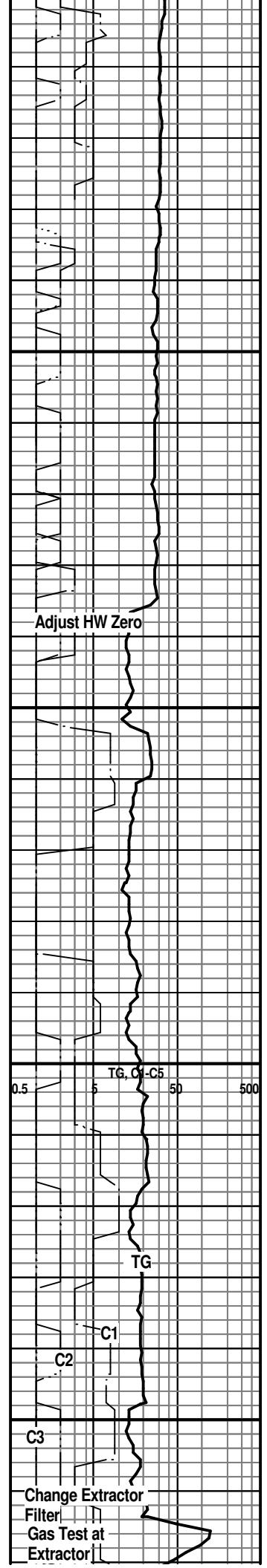
## ACCESSORIES

<b>MINERAL</b>  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	<b>FOSSIL</b>  Algae  Amph  Belm  Bioclst  Brach  Bryozoa  Cephal  Coral  Crin  Echin  Fish  Foram  Fossil  Gastro  Oolite	 Ostra  Pelec  Pellet  Pisolite  Plant  Strom  <b>STRINGER</b>  Anhy  Arg  Bent  Coal  Dol  Gyp  Ls  Mrst	 Sltstrg  Ssstrg  <b>TEXTURE</b>  Boundst  Chalky  Cryxln  Earthy  Finexln  Grainst  Lithogr  Microxln  Mudst  Packst  Wackest
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Displace Mud System at 2300'



conn

WOB 10-12K  
PP 810#  
SPM 65  
RPM 95

conn

A.V.= 151.20  
at 65 SPM

conn

conn

MudCo. Mud  
Check at 2567'  
Vis 56 Wt. 8.9  
WL 8.8 CI 2000  
PH 12.0 LCM 2#

ROP (min/ft)  
Gamma (API)

conn

WOB 11K  
PP 820#  
SPM 65  
RPM 93

conn

conn

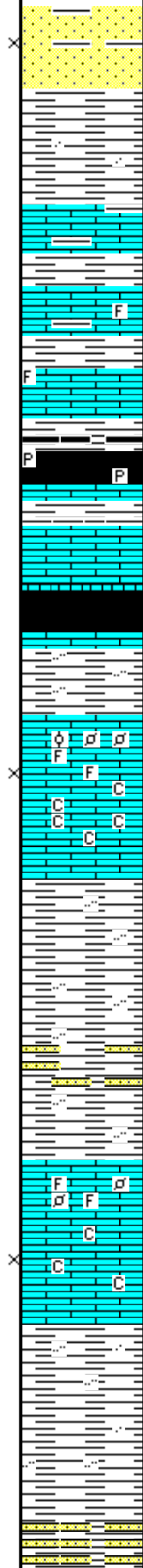
Vis 54  
Wt. 9.0  
LCM 1#

2500

2550

2600

2650



### Start 20' Wet and Dry Samples

SS; lt gy, f to occ med gr, mica, fair intergran por ip, some very shaly, no fluor, no gas kick

SH; med to dk gy, platy

LM; med to dk brn, blocky, some argil dirty lmst.

LM; med brn, occ dk brn, rare foss, most tite, scat rare lt yel min fluor

SH; dk gy-blk, platy, occ pyr, no vis gas bubbles

LM; med to dk brn, dense, blocky, tite

### HEEBNER SHALE 2571(-1252)

SH; blk, carb ip, trc pyr, no vis gas

SH; med gy, occ maroon, rare grn, platy, occ silty

### TORONTO 2586(-1267)

LM; tan to off wh, buff, cream, highly foss w/scat small pellets, rare ooids, poor to fair interpart por, dull yel fluor, bcm chalky w/much soft chalk and chalky mtz, no stn or odor, ns.

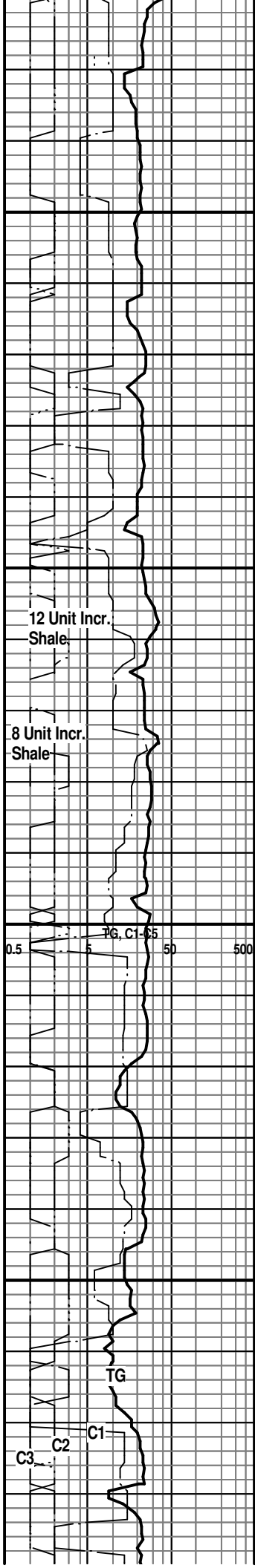
SH; lt to med gy, silty ip.

SH; lt gy, silty w/interbdd vf gr qtz ss, no vis stn, no gas kick

LM; tan to lt brn, foss w/scat pellets and foss mat, most well cem, v. dull blue/yel min fluor, no vis stn, no odor, no gas kick, interbdd med to cse xln occ chalky lm w/scat fair interxln por

SH; lt to med gy, platy, occ silty to sandy

SH; lt gy, silty to sandy, interbdd vf gr tite qtz ss strngs.

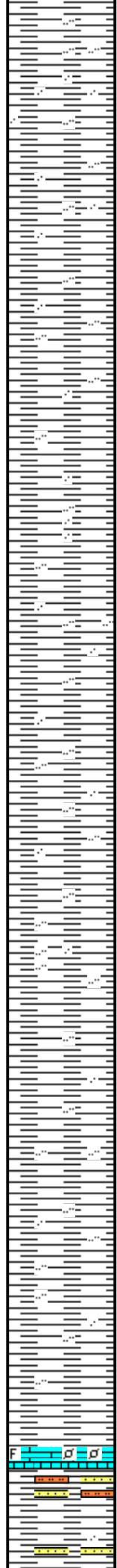
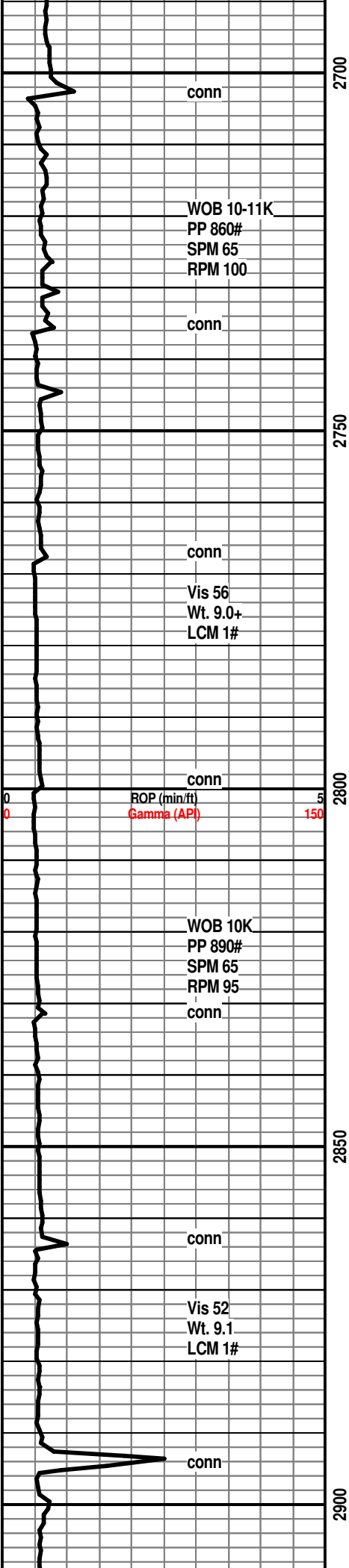


12 Unit Incr. Shale

8 Unit Incr. Shale

PG, C1-C5

TG  
C3 C2 C1



SH; It to med gy, platy, silty to occ sandy, mica ip.

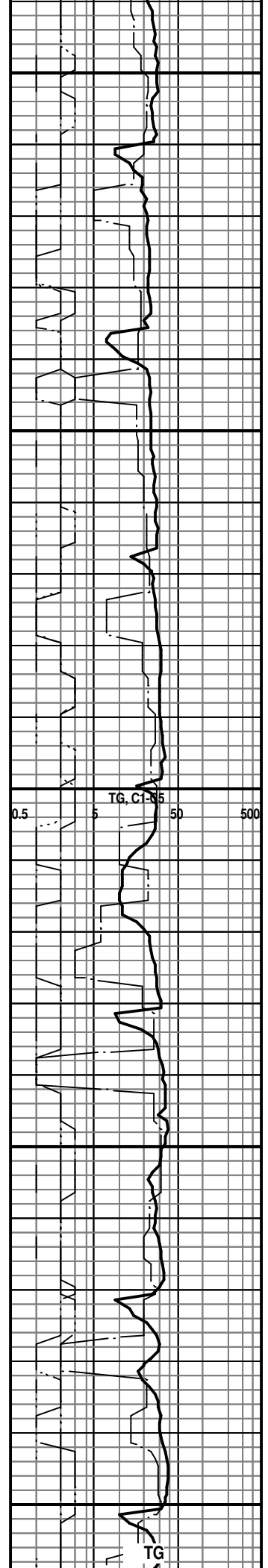
SH; It to med gy, silty to sandy, occ mica, platy

SH; mostly med gy, silty to rarely sandy, platy

SH; most med gy, silty to occ sandy, rarely mica, most smooth

SH; It to med gy, silty to sandy, platy

**IATAN LMST. 2892(-1573)**  
 LM; med brn, hd, foss ip w/scat well cem pellets  
 SH; It to med gy, platy, interbdd thin vf gr ss and some siltst, tite



WOB 12K  
PP 900#  
SPM 65  
RPM 95

conn

Vis 52  
Wt. 9.3  
LCM 1#

conn

conn

ROP (min/ft)  
Gamma (API)

WOB 12K  
PP 920#  
SPM 65  
RPM 95

conn

conn

Vis 48  
Wt. 9.3+  
LCM 1#

conn

conn

2950

3000

3050

3100

SH; lt gy, platy, interbdd thin ss strngs., most tite

### STALNAKER SAND 2928(-1609)

SS; lt gy - wh, some clr, pred f gr qtz, most clean clusters w/fair to occ gd intergran por, scat lt yel fluor, few gas bubbles vis, subrng to subang gr, no odor, calc cmt.

SS; lt gy, most f gr qtz, clusters, well srt, rarely mica, most w/gd intergran por, no fluor, no stn, no vis gas bubbles, calc, some interbdd argil ss

SS; lt gy, some tan, f to occ med gr, clusters, clean ss, fri, fair to gd intergran por, no fluor, ns.

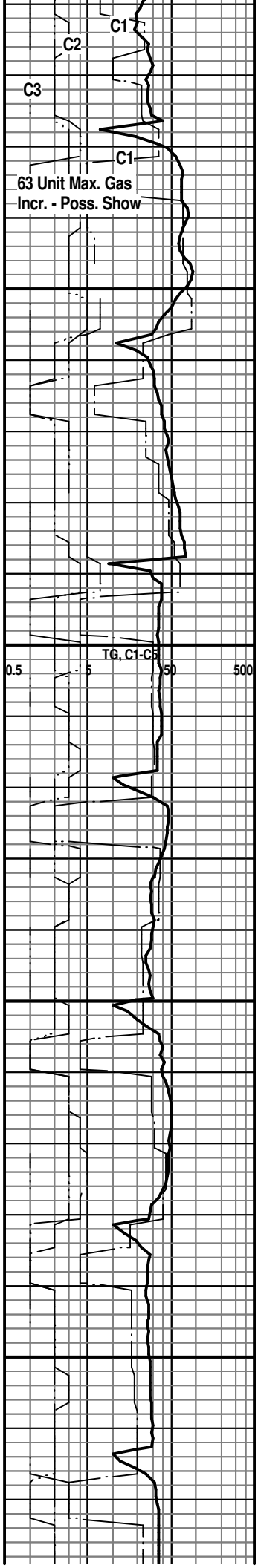
SH; lt to med gy, platy, most smooth, rarely silty

SH; lt to med gy, platy, interbdd silty sh and sltst.

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

SH; med gy, platy, rarely silty, smooth

SH; med gy, smooth, platy, rarely silty



WOB 12K  
PP 920#  
SPM 65  
RPM 92

conn

3150

conn

Vis 56  
Wt. 9.2+  
LCM 1#

3200

ROP (min/ft)  
Gamma (API)

conn

A.V.= 151.95  
at 65 SPM

WOB 12K  
PP 950#  
SPM 65  
RPM 92

conn

3250

Vis 50  
Wt. 9.5  
LCM 1#

conn

WOB 15K  
PP 930#  
SPM 65  
RPM 92

A.V.= 152.00  
at 65 SPM

conn

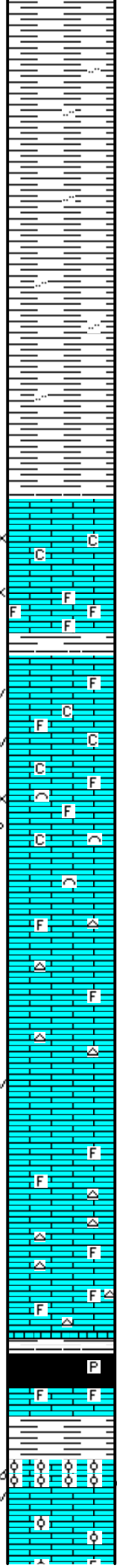
3300

Vis 50  
Wt. 9.5  
LCM 1#

conn

CFS. at 3346'

0



SH; med gy, silty ip, most smooth, platy

SH; med to dk gy, rarely silty, platy, firm

**KANSAS CITY 3199(-1880)**

LM; tan to cream, buff, f to occ med xln, fair interxln por in some, minor chalky mtz, dull yel min fluor, no stn or odor, no sample shows

LM; dk brn, highly foss, hd, blocky

LM; tan to cream, lt brn, foss ip, scat fair vug por, minor chalky mtz, dull yel fluor, no vis stn, no odor, ns.

LM; tan to cream, buff, foss w/scat fair interpart and p-p por, minor chalky mtz, no fluor, no stn or odor, ns.

LM; tan to cream, lt brn, f to med xln ip, interbdd dense micrite, rare foss, no fluor, no stn or odor, interbdd wh cht, ns.

**SHORT TRIP/WIPER TRIP AT 3276'**

LM; tan to cream, buff, fxln, scat fair vug por, dull yel fluor, trc sucrosic text, no stn or odor, ns.

LM; tan to lt brn, fxln w/occ foss mat, most well cem, interbdd lt brn to off wh occ foss cht, v. dull yel to no fluor, no stn or odor, ns.

LM; tan to med brn, foss ip, scat sponge spics, most well cem, v. dull yel flour, no vis por, occ off wh fresh cht, ns.

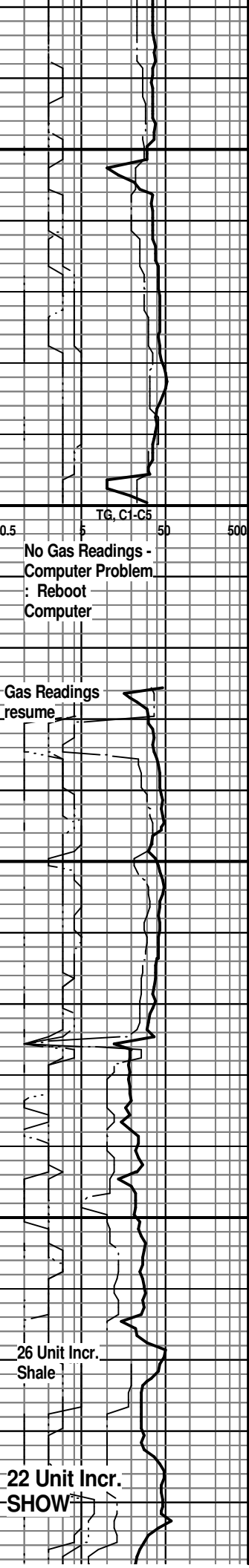
**STARK SHALE 3319(-2000)**

SH; blk, carb ip, trc gas, rare pyr

LM; lt brn, foss ip, tite

**SWOPE 3334(-2015)**

LM; lt brn, oolitic to oolitic, fairly well dev. moldic por, occ vug por, most w/even lt brn stn, fair odor, SFO - some gassy oil, gd cut, scat brite yel fluor



TG, C1-C5

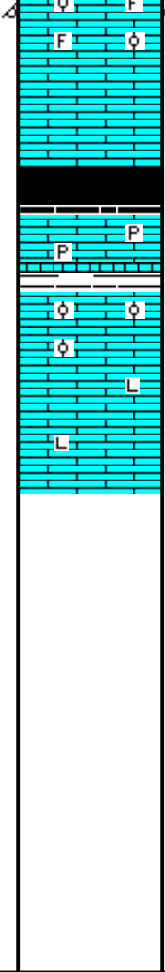
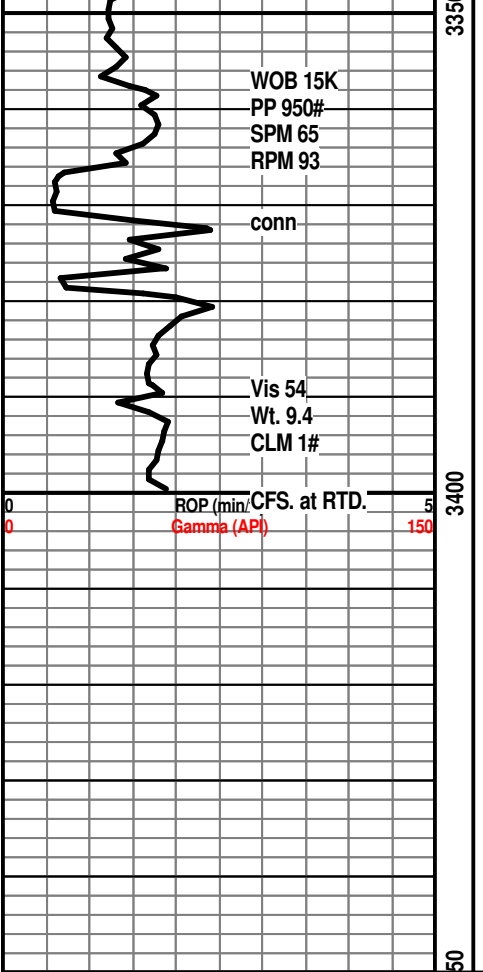
No Gas Readings -  
Computer Problem  
: Reboot  
Computer

Gas Readings  
resume

26 Unit Incr.  
Shale

22 Unit Incr.  
SHOW





LM; med brn, foss - partly oolitic, tighter rock w/spotted med brn oil strn, v. faint odor, scat lt yel fluor

SH; blk, carb ip, platy

**HERTHA 3371(-2052)**

LM; tan to med brn, hd, blocky, scat pyr, no vis por, tite

LM; lt to med brn, rare foss mat w/scat well cem oolites, most dense - partly litho, no vis por, ns.

LM; med brn, blocky, micritic, tite

RTD. 3400' at 3:00 AM. 8/5/16

LTD. 3404'

ELI Wireline Services - DIL, NEU/DEN with PE, Microlog

**NOTE: Due to log depth issues, Drilling Depth tops will be used for this well.**

