

# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: J B Hare #1  
Location: 2210' FSL & 335' FWL, Sec. 1-T31S-R3W, Sumner Co., KS.  
Licence Number: 15-191-22780-00-00  
Spud Date: 8/24/2016  
Surface Coordinates: 2210' FSL & 335' FWL, Sec. 1-T31S-R3W  
Region: Moyer Northwest  
Drilling Completed: 8/28/16

Bottom Hole Same as Above  
Coordinates:  
Ground Elevation (ft): 1290' K.B. Elevation (ft): 1301'  
Logged Interval (ft): 2100' To: 3400' Total Depth (ft): 3400'  
Formation: Base Kansas City at Total Depth  
Type of Drilling Fluid: Freshwater/Gel to 2383'; Chemical Gel 2383' to 3400'

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### OPERATOR

Company: Herman L. Loeb, LLC.  
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### GEOLOGIST

Name: Jon D. Christensen  
Company: Consulting Petroleum Geologist  
Address: 277 S. Maple Dunes Court  
Wichita, KS. 67235-7500

### Cores

None Taken

### DSTs

DST #1(Kansas City Swope) 3294' - 3322'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair Blow built to 7.5", 0.5" Blowback on ISI, FFP Fair Blow built to 10", no Blowback on FSI; REC: 486' Gas in Pipe, 10' VSOCM(1%O, 99%M), no water; IFP 26-22#(Plugging action), ISIP 124#, FFP 30-35#, FSIP 183#, IHP 1693#, FHP 1608#, BHT 116 Deg. F.

## Comments

8/24/16 MIRU Sterling Drilling Co. Rig #4, Spud at 4:45 PM.; 8/25/16 TD. 290' - WOC; 8/26/16 Drilling at 1390'; 8/27/16 TD. 3196' - CFS; 8/28/16 RTD. 3400' - Logging; 8/29/16 RTD. 3400', LTD. 3400' - Production Casing set.

Set new 8 5/8"(23#) Surface Casing at 288' KB. with 250 sacks cement(Basic Energy Services). Cement did Circulate. PD. at 4:45 AM. 8/25/16.

Set new 5 1/2"(15.5#) Production Casing at 3398' KB. with 250 sacks of "Loeb Blend" cement(Basic Energy Services). PD. at 3:30 AM. on 8/29/16.

Surveys: 0.50 Deg. at 290'(Surface Casing); 0.75 Deg. at 3320'(DST #1).


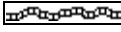
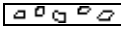
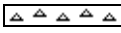
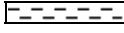







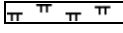

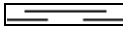
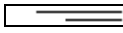
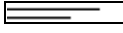



Pipe Strap at 3320'(DST #1): Strap 0.45' Long to the Board, no correction made to the Board.

After review of the ELI Wireline logs, structural position and indications of recoverable hydrocarbons, the operator elected to set new 5 1/2" Production Casing for completion in the Kansas City Swope zone.








































































LOG TOPS: Topeka 2128(-827), Heebner Shale 2543(-1242), Toronto 2558(-1257), Iatan Lmst. 2864(-1563), Stalnaker Sand 2902(-1601), Kansas City 3175(-1874), Stark Shale 3296(-1995), Swope 3313(-2012), Hertha 3344(-2043), Base Kansas City 3396(-2095).

NOTE: Portions of this log were shifted 2' for correlation purposes with the ELI Wireline logs.

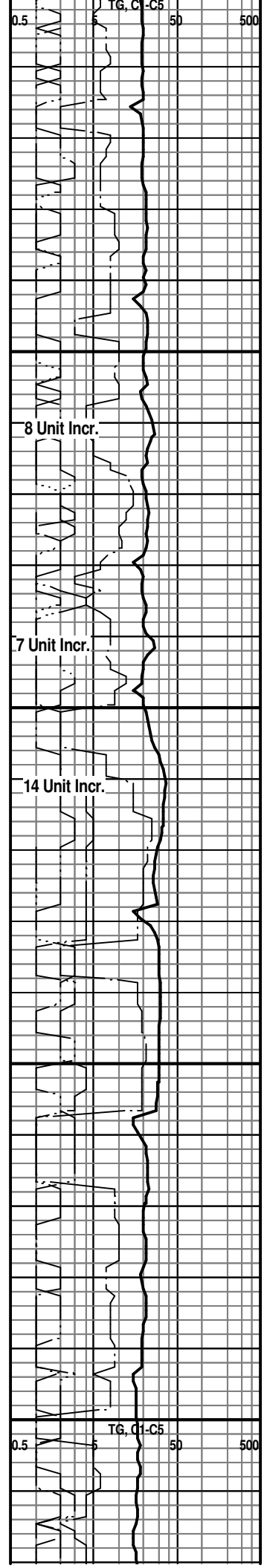
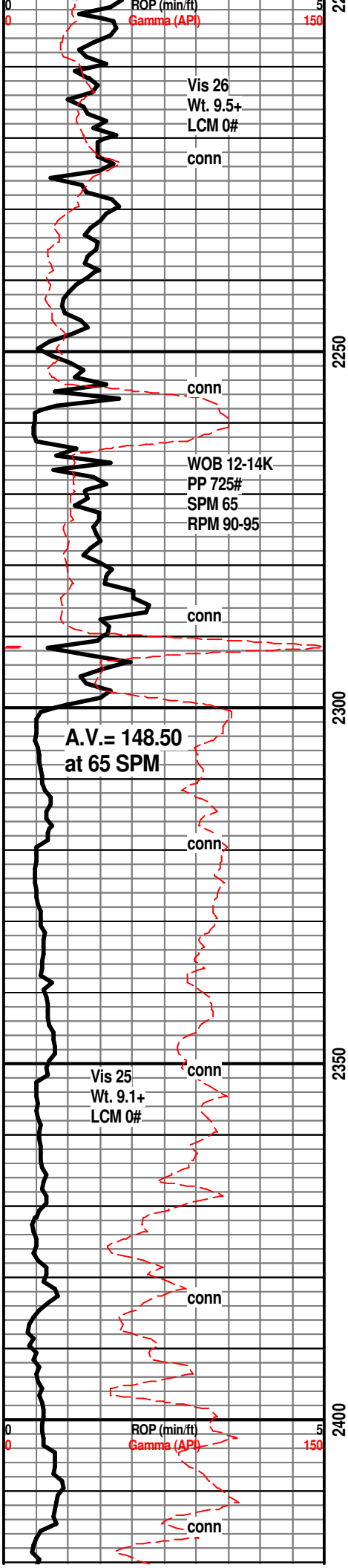
## ROCK TYPES

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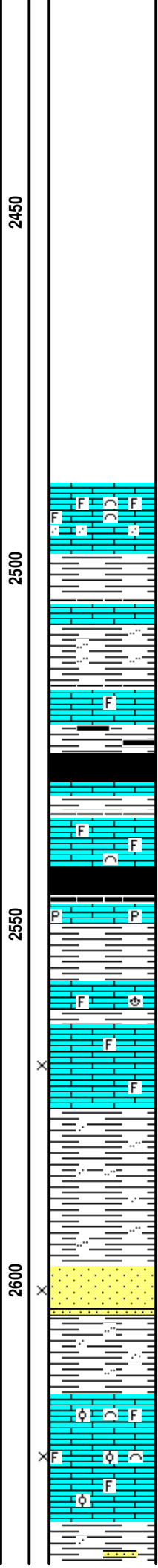
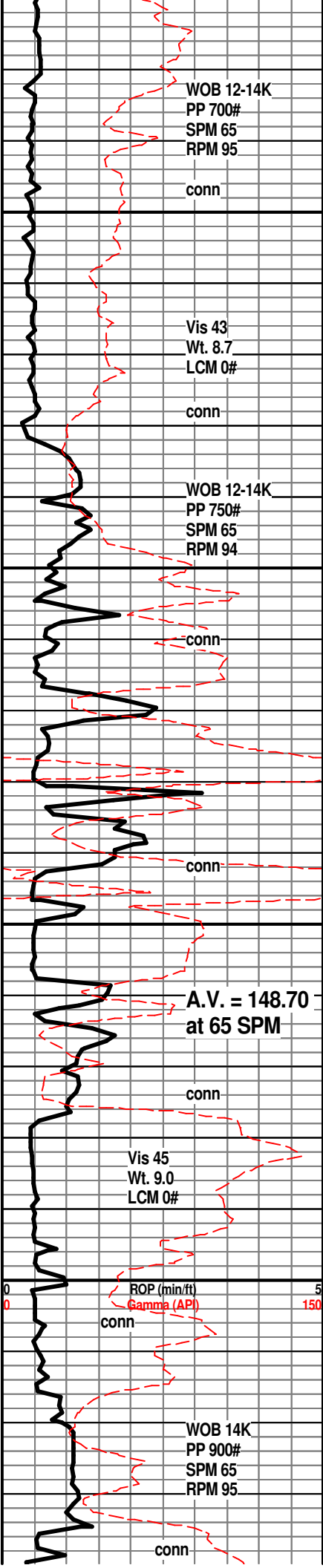
## ACCESSORIES

<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  Wackst
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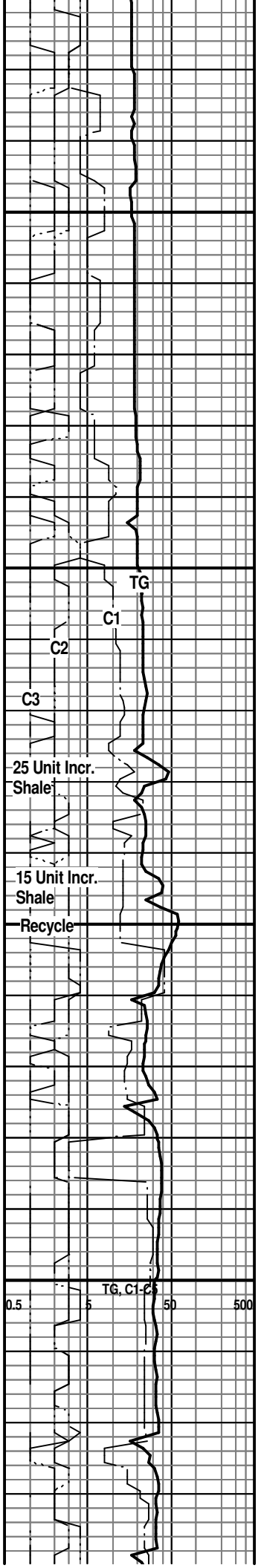


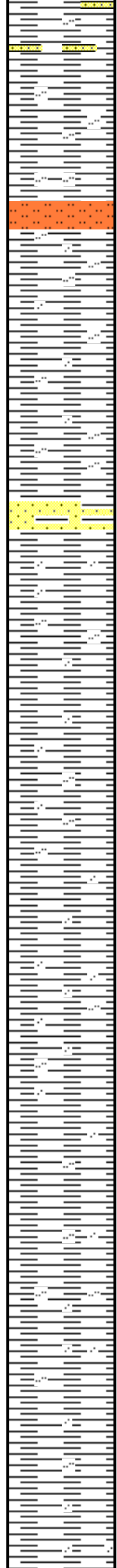
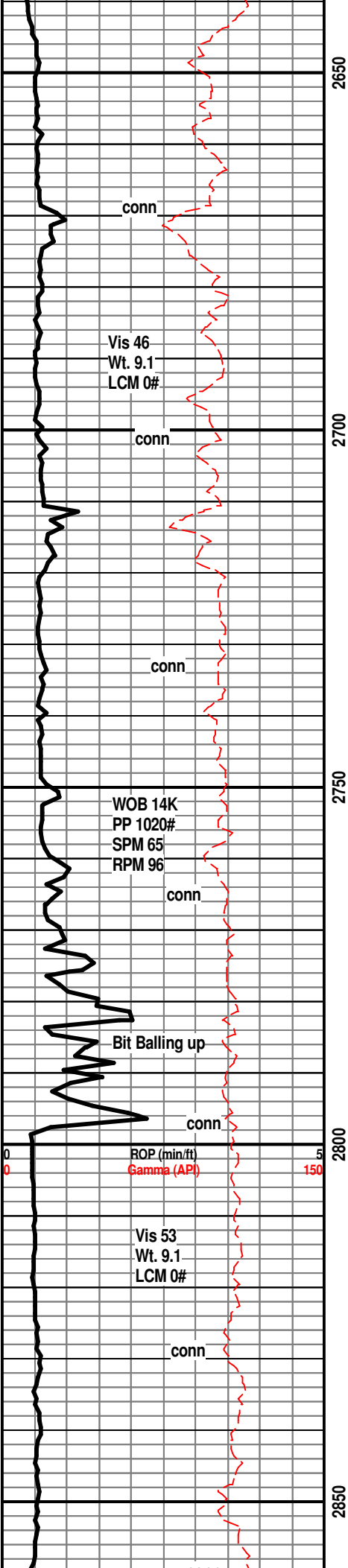


DISPLACE MUD SYSTEM AT 2383'



LM; med brn, v. foss ip, some sandy, hd  
**Start 20' Wet/Dry Samples at 2500'**  
SH; med gy, platy, smooth  
LM; med brn, blocky, tite  
SH; med gy, silty  
LM; tan to lt brn, dense, blocky, rare foss, tite  
SH; blk, carb ip, platy, trc gas  
LM; med brn, foss ip, well cem, blocky, tite  
**HEEBNER SHALE 2542(-1241)**  
SH; blk, carb ip, platy  
LM; med brn, dense, scat pyr  
**TORONTO 2558(-1257)**  
LM; lt brn, foss, blocky, tite  
LM; tan to off wh, rare buff, foss ip w/rare interpart por, scat lt yel fluor, no stn or odor, ns.  
SH; lt to med gy, platy, silty to sandy  
SS; lt gy, wh, vf to f gr qtz, clusters, poor to fair intergran por, no fluor, no stn or odor, ns.  
LM; tan to cream, lt brn, foss w/scat well cem hash and occ oolites, poor vis interpart por, lt yel min fluor, no stn or odor, ns.





SH; lt to med gy, silty to sandy, interbdd v gr mica ss

SLTST; lt gy, mica ip, platy, tite

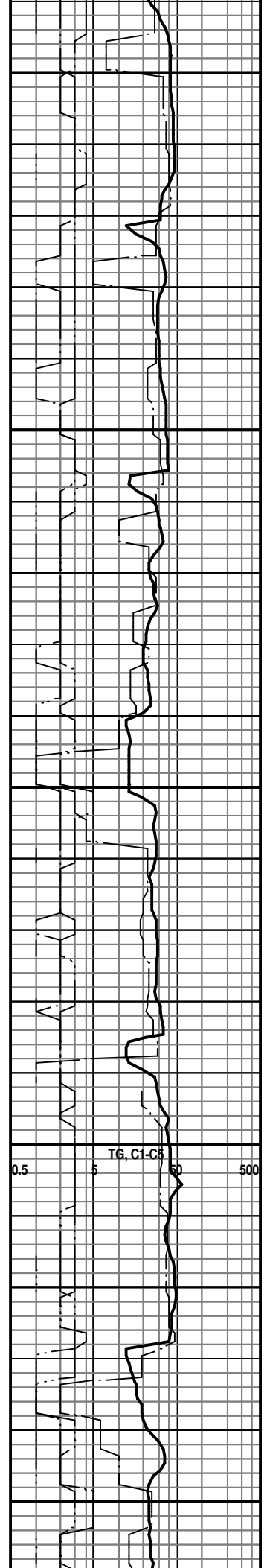
SH; lt to med gy, silty to sandy, platy

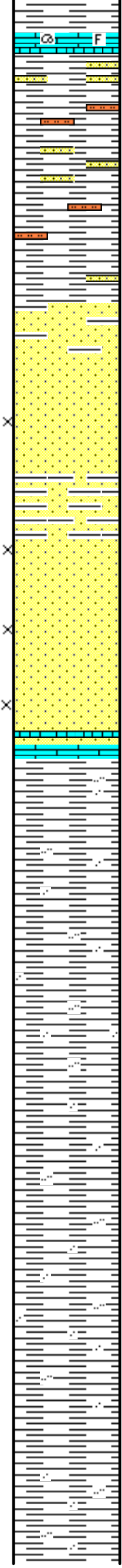
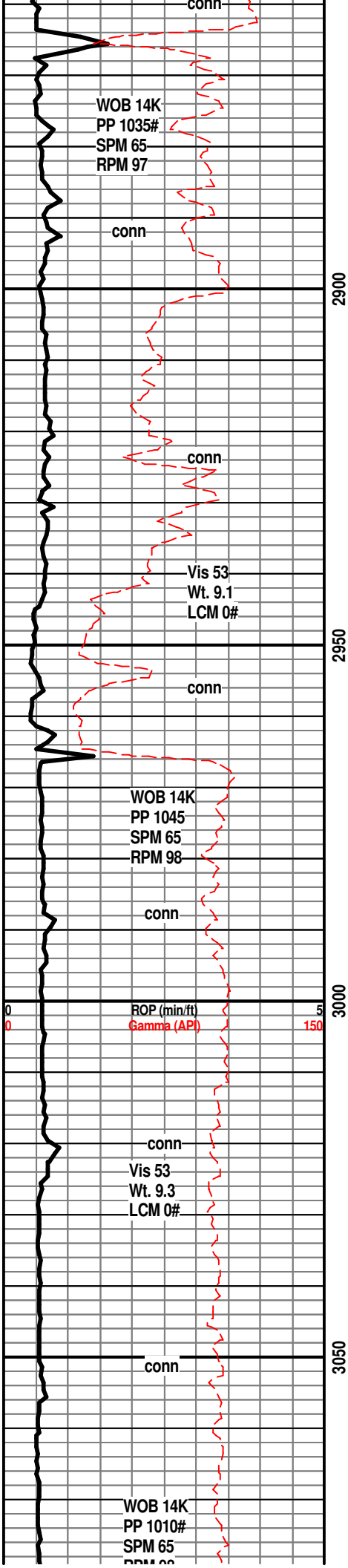
SS; lt gy, off wh, vf to rare f gr qtz, clusters, argil

SH; lt to med gy, platy, firm

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

SH; lt to med gy, silty to sandy, some smooth





**IATAN LMST. 2864(-1563)**

LM; med brn, foss ip, dense

SH; lt to med gy, silty to sandy, interbdd sltst and vf gr qtz ss strngs.

**STALNAKER SS. 2902(-1601)**

SS; lt gy, most vf to rare f gr qtz ss, clusters, mica ip, poor intergran por, no fluor, ns.

SS; lt gy, occ clr, most f gr qtz, cleaner ss, clusters, some "salt and pepper" sand w/dk grains interbdd, fair to occ gd intergran por, subrnd to subang gr, interbdd argil ss, no fluor, ns.

SS; lt gy, some clr/wh, f to occ med gr qtz, clusters, fri, clean, gd intergran por, barren, no stn or odor, ns.

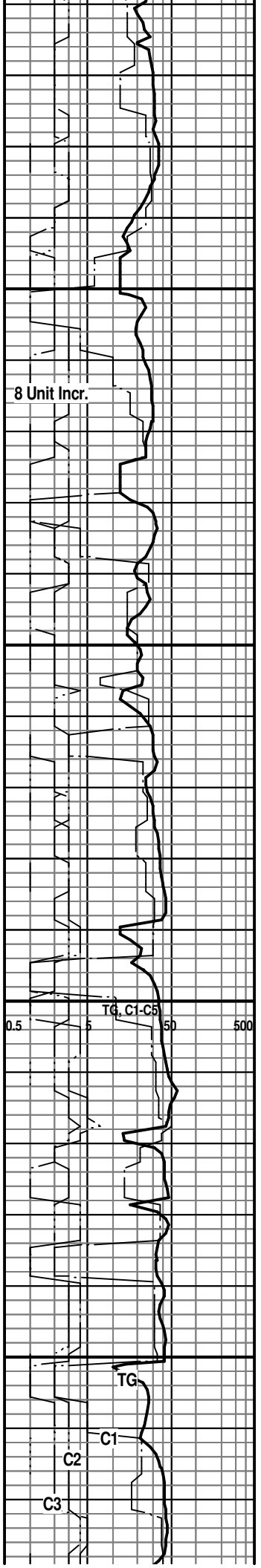
LM; med brn, cse xln, sandy, tite

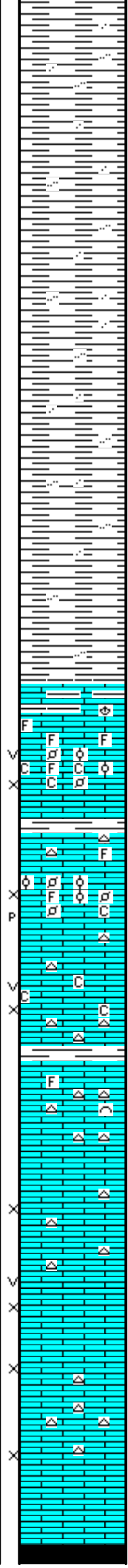
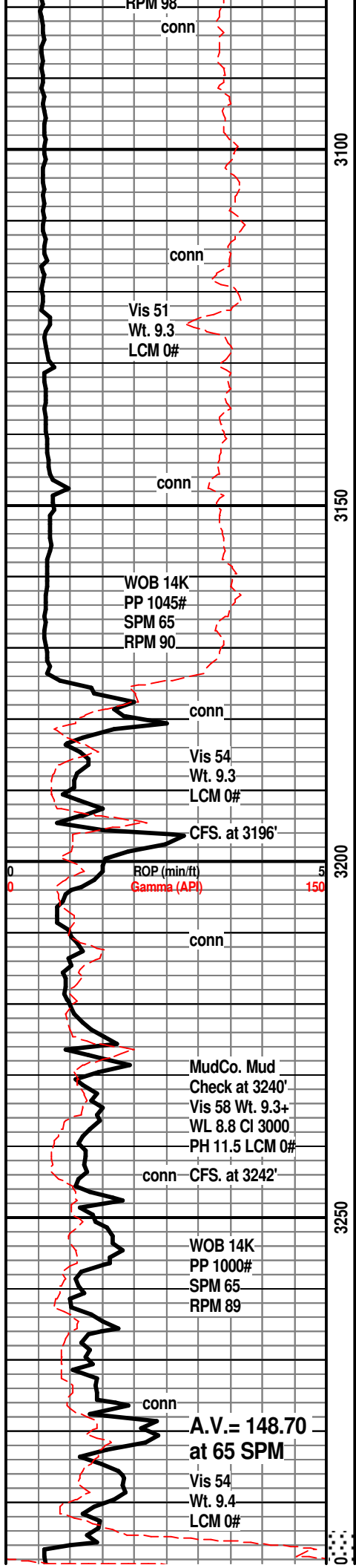
SH; lt to med gy, platy, most smooth, silty ip.

SH; lt to med gy, smooth, occ silty

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

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





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

SH; lt to med gy, smooth, silty to sandy

SH; most med gy, platy, occ silty

**KANSAS CITY 3175(-1874)**

LM; tan to lt brn, off wh, fxln, scat foss mat, well cem, some shaly lmst at top, dull yel fluor, ns.

LM; tan to cream, wh, foss, scat oolites and small pellets, fair interpart w/vug por, occ calc overgrowths, chalky ip, lt yel fluor, no stn or odor, no sample shows

LM; off wh, tan, wh, fxln w/scat foss mat, interbdd finely oolitic and pelletal lmst, fair to gd interpart w/scat p-p por, rarely chalky, lt yel min fluor, no stn or odor, no gas kick, ns.

LM; tan to buff, f to med xln, fair interxln w/occ vug por, scat soft chalky mtx, interbdd wh to tan cht, dull yel min fluor, no stn/odor, no gas kick

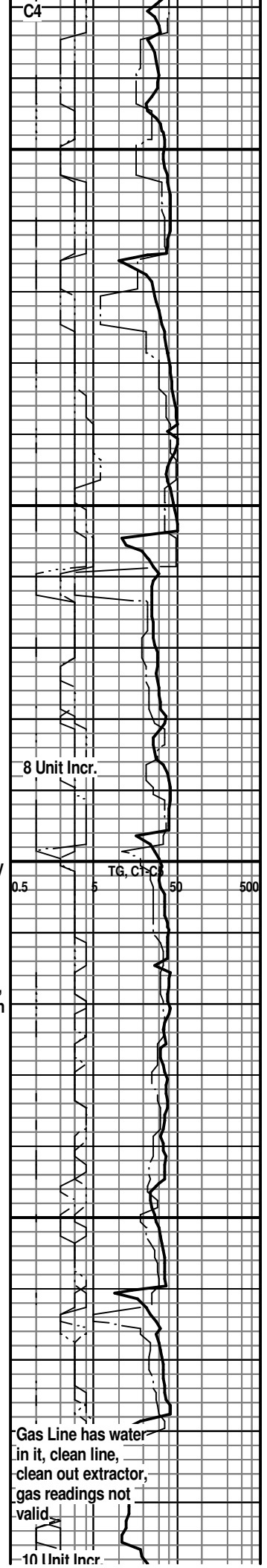
LM; tan to lt brn, foss ip, much tite lmst w/interbdd tan to off wh cht, no fluor, no stn or odor, ns.

**30 Stand Wiper Trip at 3242'**

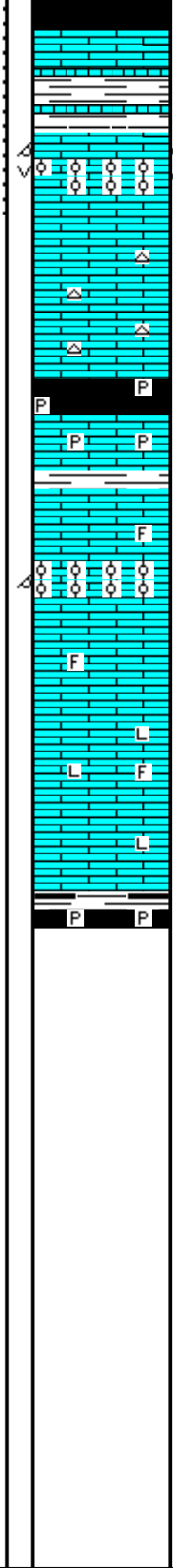
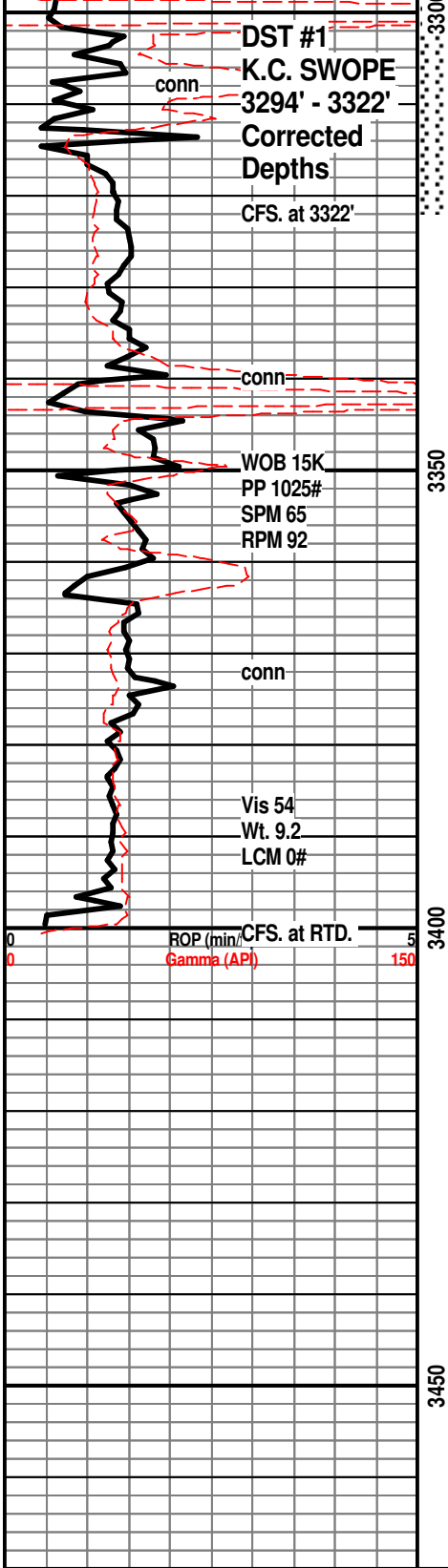
LM; lt brn, tan, med xln, most dense - blocky, rare poor interxln and vug por, scat tan cht, lt yel min fluor, no stn or odor, no gas kick, ns.

LM; tan to lt brn, foss ip, cherty, scat poor to fair interpart por, dull to lt yel fluor, no stn or odor, no gas kick, ns.

**STARK SHALE 3296(-1995)**







SH; blk, carb, trc gas  
 LM; med brn, hd, micritic  
 SH; med gy, some blk, interbdd lmst. strng.

**SWOPE 3313(-2012)**  
 LM; lt to med brn, oolitic, lt golden brn spotty to even oil stn, fair odor, SFO when crushed, trc gas bubbles, fair moldic w/rare vug por, med to occ brite yel fluor, some tite - bleeding oil/gas, fair to gd cut

**DST #1: K.C. Swope 3294' - 3322'**  
 LM; med brn, rare lt brn, most dense - micritic, scat brn to gy brn foss cht, no vis por, ns.  
 SH; blk, carb ip, gassy, occ pyr  
**HERTHA 3344(-2043)**  
 LM; med brn, dense, pyr ip, tite

LM; lt to med brn, oolitic, fair oomoldic por, small molds mainly, dull yel min fluor, no vis stn, no odor, no gas kick

LM; tan to med brn, rarely foss, interbdd hd litho lmst, no vis por, ns.

**BASE KANSAS CITY 3396(-2095)**  
 SH; blk, carb, pyr ip.

**RTD. 3400' at 3:05 AM. 8/28/16.**

**LTD. 3400'**

**ELI Wireline Services: DIL, NEU/DEN + PE, Microlog**

**NOTE: Portions of this log were shifted by 2' for correlation purposes with the ELI logs.**

