

# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: Yost #3-28  
Location: 460' FNL & 1636' FWL, Sec. 28-T27S-R18W, Kiowa Co., KS.  
Licence Number: 15-097-21819-00-00 Region: Einsel  
Spud Date: 3/14/2015 Drilling Completed: 3/20/15  
Surface Coordinates: 460' FNL & 1636' FWL, Sec. 28-T27S-R18W

Bottom Hole Same as Above  
Coordinates:  
Ground Elevation (ft): 2210' K.B. Elevation (ft): 2223'  
Logged Interval (ft): 3900' To: 4860' Total Depth (ft): 4860'  
Formation: Kinderhook at Total Depth  
Type of Drilling Fluid: Freshwater/Gel to 3317'; Chemical Gel 3317' to 4860'

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### OPERATOR

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### GEOLOGIST

Name: Jon D. Christensen  
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### Cores

None Taken

### DSTs

DST #1(Conglomerate + Miss. Chert) 4759' - 4805'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Strong Blow, BOB/20 Sec., Gas to Surface in 5 Min., FFP Gauge Gas Throughout Max. Gauge 2.053 MMCFG(290# on a 0.5" Choke), Surface Blowback on FSI; REC: 6" GOCM in top of test tool, no water; IFP 494-515#, ISIP 1336#, FFP 476-470#, FSIP 1299#, IHP 2544#, FHP 2434#, BHT 120 Deg. F.

DST #2(Miss. Chert) 4805' - 4820'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair Blow built to 10", FFP Strong Blow BOB/20 Sec., no Gas to Surface, no Blowback on SI's; REC: 90' Gas in Pipe, 30' MCO(60%O, 40%M), no water; IFP 21-26#, ISIP 1316#, FFP 15-36#, FSIP 1350#, IHP 2497#, FHP 2433#, BHT 120 Deg. F.

## Comments

3/13/15 MIRU Sterling Drilling Co. Rig #5; 3/14/15 Spud at 6:00 AM., Drilling at 42'; 3/15/15 Drilling at 640'; 3/16/15 Drilling at 2920'; 3/17/15 Drilling at 4210'; 3/18/15 Drilling at 4618'; 3/19/15 TD. 4809' - DST #1; 3/20/15 RTD. 4860' - Reached TD. at 6:22 AM., CFS/CCH for Logs; 3/21/15 RTD. 4860' - Production Casing Set.

Set new 8 5/8"(24#) Surface Casing at 549' KB. with 400 sacks cement(Basic Energy Services). Cement did Circulate. PD. at 6:00 PM. on 3/14/15.

Set new 5 1/2"(15.5#) Production Casing at 4859' with 200 sacks of "Loeb Blend" cement(Basic Energy Services). PD. at 5:15 AM. on 3/21/15.

Surveys: 0.50 Deg. at 554'(Surface Casing); 0.75 Deg. at 4210'(Bit Trip); 0.50 Deg. at 4809'(DST #1).


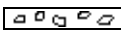


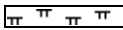

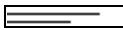


Pipe Strap at 4809'(DST #1): Strap 0.12' Long to the Board, no correction made to the Board.

After review of the Halliburton Logs, DST data and positive indications of commercially recoverable hydrocarbons, the operator elected to set new 5 1/2" Production Casing for completion in the Mississippian.







































































LOG TOPS: Chase 2454(-231), Stotler Lmst. 3408(-1185), Howard 3614(-1391), Heebner Shale 4053(-1830), Toronto 4070(-1847), Brown Lmst. 4208(-1985), Lansing 'A' 4218(-1995), Kansas City 'I' 4422(-2199), Stark Shale 4510(-2287), Hertha 4570(-2347), Base Kansas City 4608(-2385), Marmaton 4647(-2424), Cherokee Shale 4734(-2511), Reworked Miss/Conglomerate 4780(-2557), Miss. Chert 4788(-2565), Kinderhook Shale 4827(-2604), Kinderhook Sand 4849(-2626).

NOTE: This log was shifted upward by 2' to 4' for correlation purposes with the Halliburton 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  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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**OTHER SYMBOLS**

- POROSITY**  
 [E] Earthy  
 [F] Fenest  
 [X] Fracture  
 [I] Inter  
 [M] Moldic  
 [O] Organic  
 [P] Pinpoint

[V] Vuggy

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

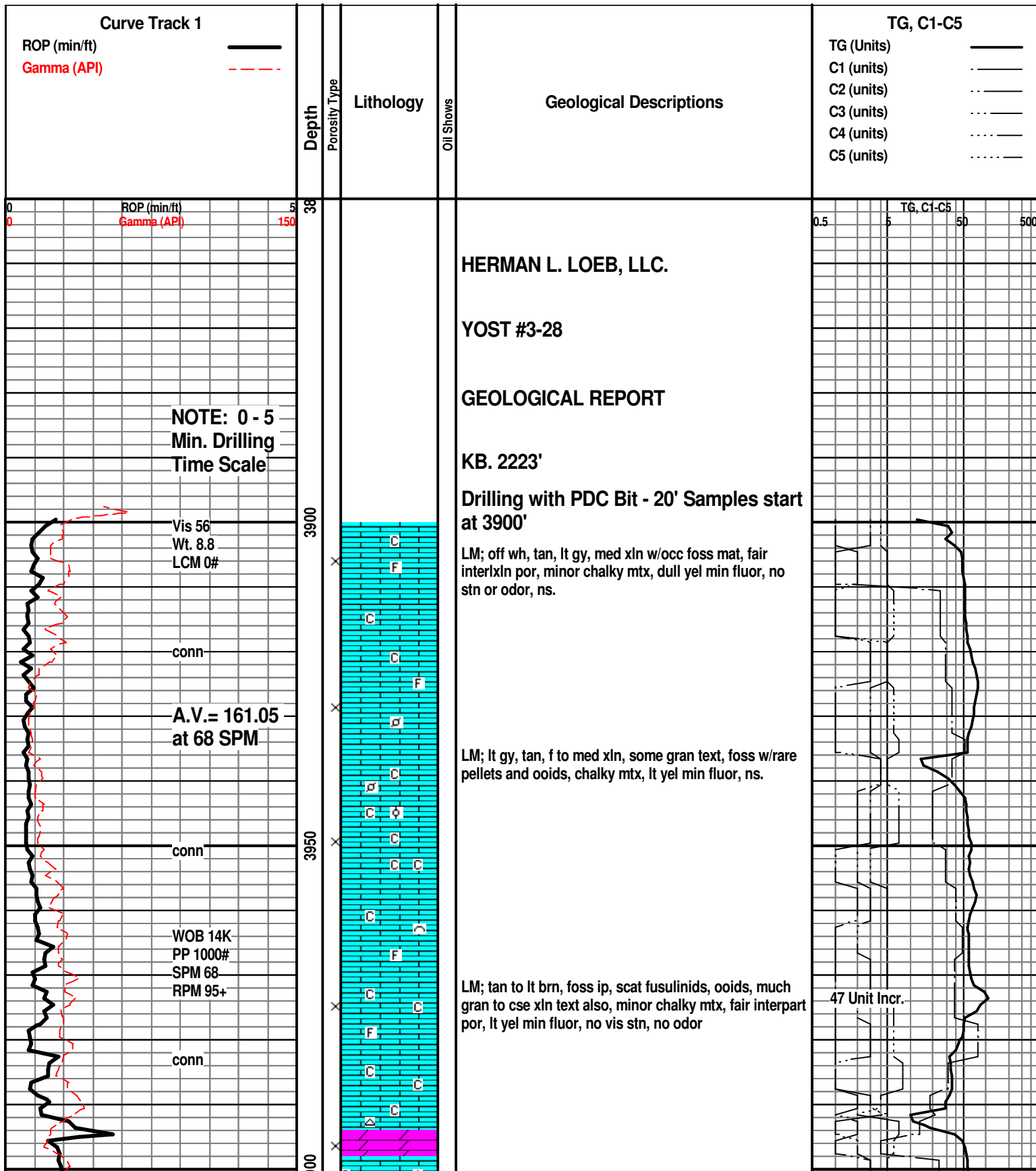
- ROUNDING**  
 [R] Rounded  
 [r] Subrnd  
 [a] Subang  
 [A] Angular

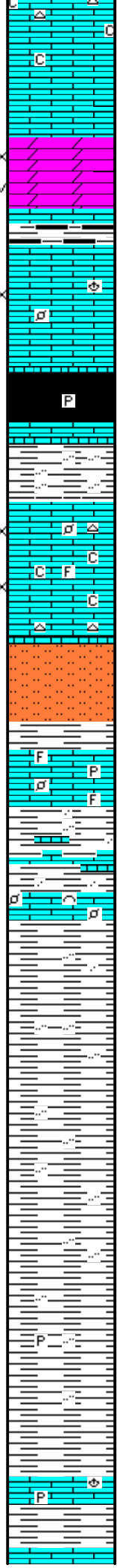
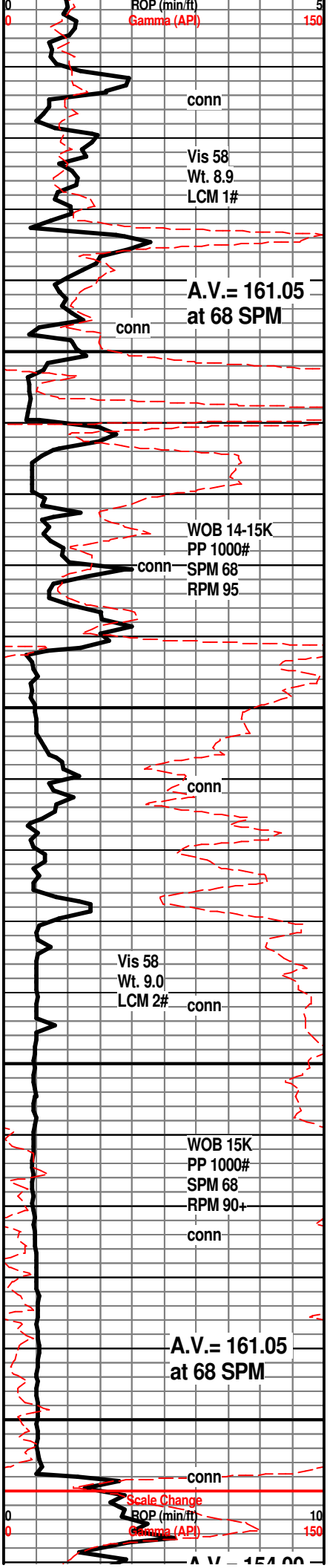
**OIL SHOW**  
 [●] Even

- [●] Spotted  
 [○] Ques  
 [D] Dead

- INTERVAL**  
 [■] Core  
 [□] Dst

- EVENT**  
 [▽] Rft  
 [▲] Sidewall





LM; tan to off wh, f to med xln, scat gy to lt brn cht, fair interxln por, chalky mtx, lt yel fluor, no stn or odor, ns.

DOL; tan to lt brn, sucrosic, fair interxln w/trc vug por, lt to med yel min fluor, no stn or odor, ns.

SH; med to dk gy, rare blk, platy

LM; tan to cream, lt brn, fxln, scat foss mat, poor interxln/interpart por, dull yel fluor, no stn or odor, ns.

**HEEBNER SHALE 4053(-1830)**  
SH; blk, carb ip, gassy, rare pyr

SH; grn, gy grn, silty, soft

**TORONTO 4070(-1847)**  
LM; off wh, cream, buff, fxln w/occ foss mat, rare off wh to wh cht, poor to fair interpart por, minor chalky mtx, lt yel to no fluor, no stn or odor, ns.

**DOUGLAS SHALE 4091(-1868)**  
SLTST; lt gy, mica, sandy w/interbdd vf gr qtz ss, soft

LM; tan to lt brn, foss ip, most dense, blocky, rare pyr, tite

SH; lt gy, sandy to silty, firm, occ mica, interbdd argil lmst strngs

LM; med brn, hd, foss ip, tite

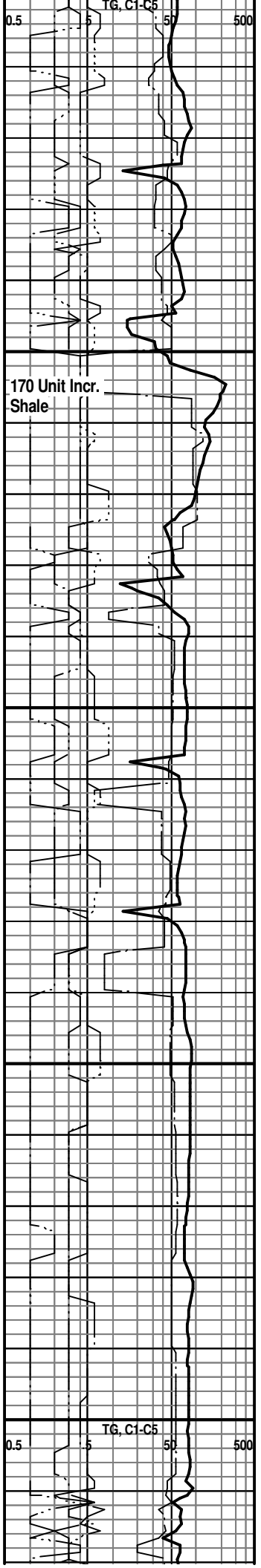
SH; lt gy, silty ip, platy

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

SH; lt to med gy, silty ip, smooth, occ pyr

**BIT TRIP at 4210' - resume drilling with Button Bit**  
**BROWN LMST. 4208(-1985)**  
LM; med brn, hd, foss ip, pyr, tite

**LANSING 'A' 4218(-1995)**



A.V.= 154.00  
at 58 SPM

MudCo. Mud  
Check at 4228'  
Vis 70 Wt. 9.1+  
WL 10.0 CI 6000  
PH 9.0 LCM 1#

WOB 42K  
PP 990#  
SPM 56  
RPM 71

Vis 65  
Wt. 9.2  
LCM 1#  
conn

A.V.= 153.00  
at 56 SPM

WOB 42K  
PP 975#  
SPM 56  
RPM 68

CFS. at 4432'

Vis 54

conn

conn

conn

conn

conn

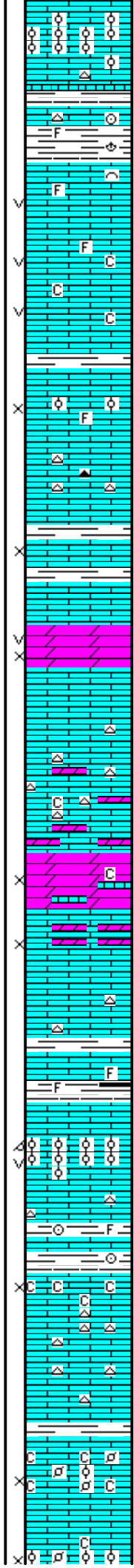
conn

4250

4300

4350

4400



LM; lt brn, tan, oolitic, most med to occ lrg molds, gd oomoldic por, scat vug por, rare chalky mtx, dull to lt yel fluor, no vis stn, no odor

SH; med gy, platy, foss ip.

**LANSING 'B' 4243(-2020)**

LM; off wh, buff, foss ip, most dense - well cem, scat small vug por, v. dull yel min fluor, no vis stn, no odor, no gas kick

LM; off wh, lt gy, med to occ cse xln, rare foss mat, minor chalky mtx, fair vug por, dull yel min fluor only, no stn, no gas kick, ns.

LM; lt brn, fxln, gd interxln por, soft, some foss mat w/rare oolites, dull yel fluor, no stn or odor, ns.

LM; lt to med brn, hd, scat med to dk gy & tan cht, no vis por, ns.

LM; med gy brn, hd, some fxln w/scat fair interxln por, most dense, dull yel fluor, ns.

DOL; tan to lt gy, sucrosic to med rhombic, scat gd vug w/interxln por, lt yel min fluor, no stn or odor, no gas kick, ns.

LM; tan to lt brn, most dense, micritic, scat gy to lt brn cht, tite

LM; off wh, tan, fxln to sucrosic text, interbdd dolomite and dolo. lmst, some soft chalky mtx, fair interxln por, no fluor, ns.

LM; off wh, tan, med to cse xln, partly dolomitic, abnt wh and gy fresh cht, fair interxln por, dull yel min fluor, no stn or odor, no gas kick

SH; med to dk gy, trc blk, foss ip.

**LANSING/K.C. 'H' 4375(-2152)**

LM; lt brn, oolitic, most w/med size molds, gd oomoldic por, rare vugs, brittle ip, dull yel to no fluor, no stn or odor, ns.

SH; med gy, gy grn, platy, foss ip.

LM; tan to buff, off wh, fxln, soft chalky mtx ip, fair interxln por, no fluor, no stn, ns.

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

**K.C. 'I' ZONE 4422(-2199)**

LM; tan to buff, finely pelletal, few small ooids, much soft chalky mtx, poor to fair interpart por, v. dull yel min fluor, no odor, trc dk dead oil stn, poor - no show

LM; lt gy, lt brn, tan, foss w/some oolitic lmst, scat

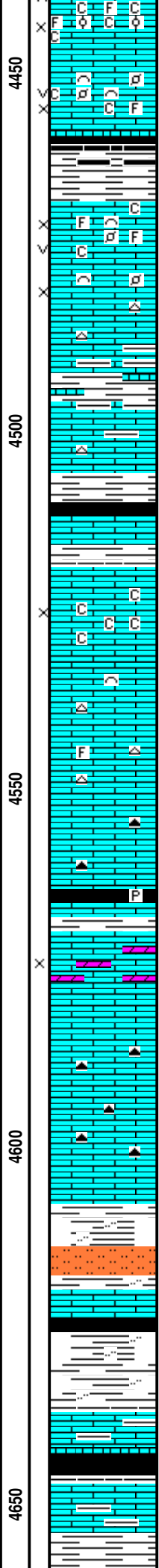
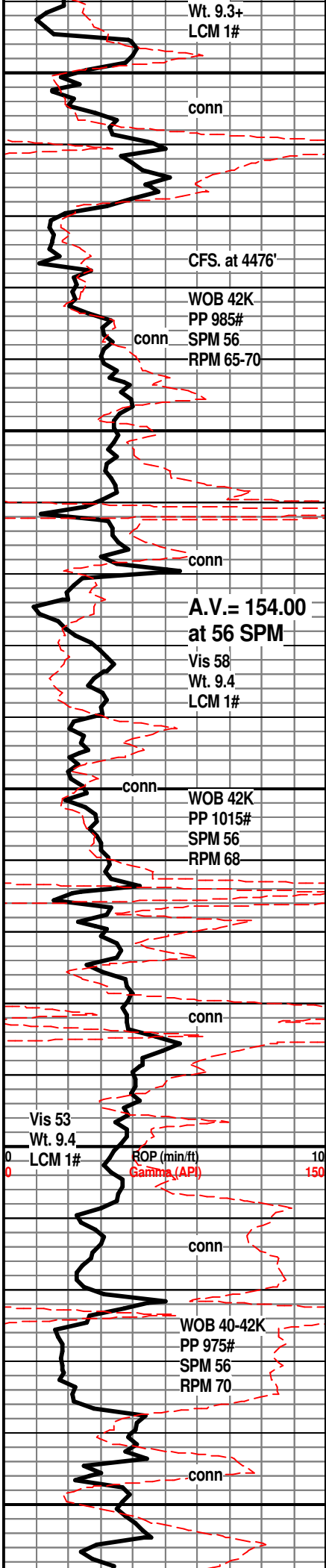
5 Unit Incr.

6 Unit Incr.

4 Unit Incr.

ROP (min/ft) 10  
Gamma (API) 150

TG. CI 50 500



pellets, fair interpart por, partly chalky, no fluor, no stn or odor, no gas kick

LM; tan to buff, foss ip, fair vug and interpart por, poss gas bubbles, minor chalky mtx, no vis oil stn, poss. faint odor, no fluor or cut

SH; med to dk gy, some blk, platy

**K.C. 'J' ZONE 4468(-2245)**  
 LM; tan to cream, foss to med xln, gd interxln w/occ vug por, minor chalky mtx, quest. odor, no fluor, no vis oil stn, no sample shows

LM; tan to lt gy brn, foss ip, scat med xln lmst w/fair interxln por, no fluor, no stn or odor, occ gy cht, ns.

SH; med gy, lmy, firm

LM; med gy brn, med gy, argil ip, hd, no vis por, blocky, ns.

**STARK SHALE 4510(-2287)**  
 SH; blk, carb ip, faint gas odor

**SWOPE 4519(-2296)**  
 LM; wh, off wh, tan, fxln, fair interxln por, much soft chalk and chalky mtx, dull yel min fluor, no stn or odor, ns.

LM; tan to lt gy, lt brn, foss ip, well cem, some dense micritic lmst, rare off wh foss cht, no vis por, no fluor, ns.

LM; lt to med brn, blocky, dense, scat smoky cht

SH; blk, carb ip, occ pyr

**HERTHA 4570(-2347)**  
 LM; tan to cream, buff, fxln w/trc sucrosic text, partly dolomitic, med yel min fluor, occ spar calc xtals, poor interxln por, no stn or odor, ns.

LM; med to dk brn, dense, litho, scat dk brn to occ smoky cht, no vis por, ns.

**BASE KANSAS CITY 4608(-2385)**  
 SH; med gy, grn, gy grn, rust red, interbdd grn sltst, platy

LM; med gy, hd, micritic, tite

SH; med gy, gy grn, trc blk, platy, occ silty

**PLEASANTON 4636(-2413)**  
 LM; lt gy, lt brn, occ pale grn tint, argil ip, hd

**MARMATON 4647(-2428)**  
 LM; tan to lt brn, rare pale grn tint, blocky, argil ip, tite

SH; med av. grn. platy. smooth

