

# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: #19 Kroutwurst  
Location: 1692' FSL & 1119' FEL, Sec. 34-T16S-R11W, Barton Co., KS.  
Licence Number: 15-009-25630-0000 Region: Kraft-Prusa Field  
Spud Date: 11/3/2011 Drilling Completed: 11/9/2011  
Surface Coordinates: 1692' FSL & 1119' FEL, Sec. 34-T16S-R11W

Bottom Hole Same as Above  
Coordinates:  
Ground Elevation (ft): 1942' K.B. Elevation (ft): 1953'  
Logged Interval (ft): 2600' To: 3475' Total Depth (ft): 3475'  
Formation: Arbuckle at TD.  
Type of Drilling Fluid: Freshwater/Gel to 2600'; Chemical Gel 2600' to 3475'  
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(Arbuckle) 3379' - 3414'(Corrected Depths to Log) Test Times 30"-60"-30"-60" IFP No Blow at all - Flush tool - hammer union loose, reset tool - Weak Blow building to 3.25", FFP Weak Blow built to 3.25", no blowback on SI's; REC: 94' Gas in Pipe, 33' CGO(10%G, 90%O) 41 Deg. API, 31' HOCM(40%O, 60%M), 63' OCM(25%O, 75%M), no Water; IFP 32-54#, ISIP 1105#, FFP 57-77#, FSIP 1103#, IHP 1664#, FHP 1609#, BHT 102 Deg. F.

## Comments

11/2/11 MIRU Sterling Drilling Rig #1; 11/3/11 Finish Rig up and Spud at 2:00 PM.; 11/4/11 TD. 443' - WOC; 11/5/11 Drilling at 1200'; 11/6/11 Drilling at 2354'; 11/7/11 Drilling at 3000'; 11/8/11 Drilling at 3380'; 11/9/11 Drilling at 3440' - Reach TD. 3475' at 8:30 AM.; 11/10/11 RTD. 3475' - LTD. 3474' Cementing 5 1/2" Production Casing - PD. 7:30 AM.

Set new 8 5/8" (24#) Surface Casing at 442' w/ 300 sx. Cement Did Circulate(Basic Energy Services). PD. at 5:15 AM. 11/4/11.

Set new 5 1/2"(15.5#) Production Casing at 3473' w/120 sx. cement(Basic Energy Services). Port Collar at 1001'. PD. 7:30 AM. 11/10/11.

Surveys: 0.5 Deg. at 443'(Surface Casing); 0.5 Deg. at 3415'(DST #1).


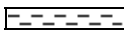

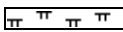
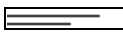




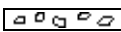

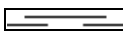

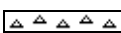


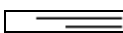

After evaluation of the Superior Logs, DST data, and shows of commercial amounts of hydrocarbons, the operator elected to set new 5 1/2" Production casing for completion in the Arbuckle. (See notes for additional recommended perforation zones prior to abandonment of the well).

NOTE: Prior to Abandonment of the #19 Kroutwurst, the Lansing 'A' zone should be perforated and tested from 3122' - 3124'. In addition, the Toronto should be perforated and tested from 3028' - 3032'(Superior Well Service Log Depths).








































































This log was shifted upward by 1' to 2' for correlation purposes with the Superior Well Service openhole logs.

LOG TOPS: Anhydrite 773(+1180), Base Anhydrite 799(+1154), Topeka 2713(-760), Queen Hill Shale 2922(-969), Heebner Shale 3008(-1055), Toronto 3026(-1073), Douglas Shale 3038(-1085), Brown Lmst. 3109(-1156), Lansing 'A' 3123(-1170), Lans/KC. 'H' 3266(-1313), Base Kansas City 3385(-1432), Arbuckle 3402(-1449).

### ROCK TYPES

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

### ACCESSORIES

<b>MINERAL</b>		<b>FOSSIL</b>	
 Anhy	 Gyp	 Algae	 Ostra
 Arggrn	 Hvymin	 Amph	 Pelec
 Arg	 Kaol	 Belm	 Pellet
 Bent	 Marl	 Bioclst	 Pisolite
 Bit	 Minxl	 Brach	 Plant
 Brecfrag	 Nodule	 Bryozoa	 Strom
 Calc	 Phos	 Cephal	
 Carb	 Pyr	 Coral	<b>STRINGER</b>
 Chtdk	 Salt	 Crin	 Anhy
 Chtlt	 Sandy	 Echin	 Arg
 Dol	 Silt	 Fish	 Bent
 Feldspar	 Sil	 Foram	 Coal
 Ferrpel	 Sulphur	 Fossil	 Dol
 Ferr	 Tuff	 Gastro	 Gyp
 Glau		 Oolite	 Ls
			 Mrst
			<b>TEXTURE</b>
			 Sltstrg
			 Ssstrg
			 Boundst
			 Chalky
			 Cryxln
			 Earthy
			 Finexln
			 Grainst
			 Lithogr
			 Microxln
			 Mudst
			 Packst
			 Wackest

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

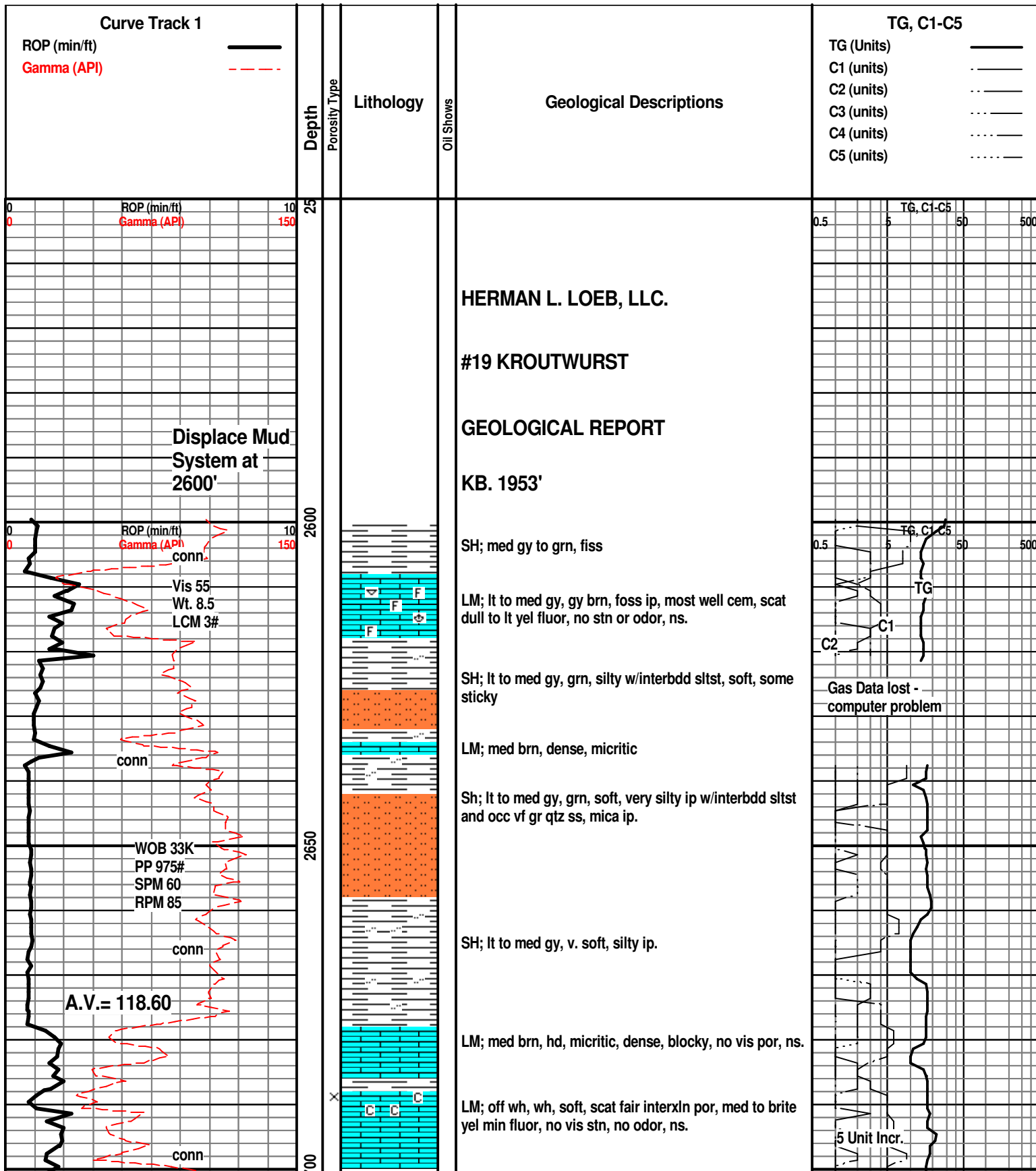
- ROUNDING**  
 [R] Rounded  
 [r] Subrnd  
 [a] Subang  
 [A] Angular

**OIL SHOW**  
 [●] Even

- [●] Spotted  
 [○] Ques  
 [D] Dead

- INTERVAL**  
 [■] Core  
 [□] Dst

- EVENT**  
 [▽] Rft  
 [▲] Sidewall

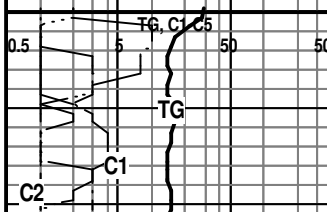


Displace Mud System at 2600'

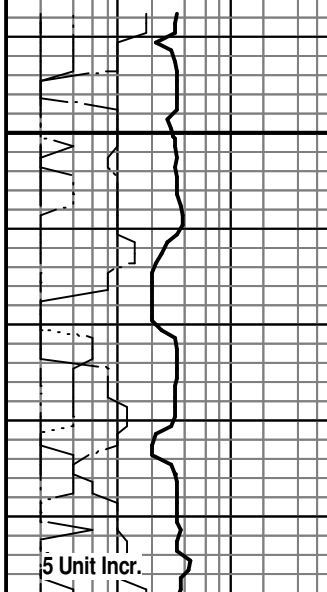
conn.  
 Vis 55  
 Wt. 8.5  
 LCM 3#

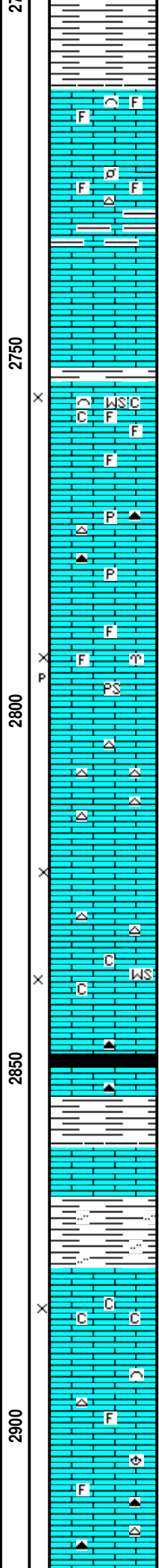
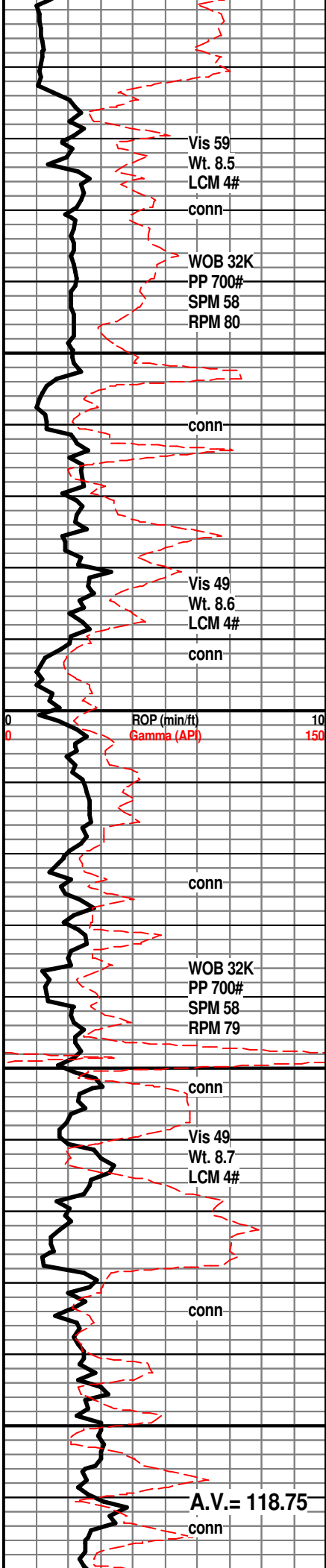
WOB 33K  
 PP 975#  
 SPM 60  
 RPM 85

A.V.= 118.60



Gas Data lost - computer problem





SH; lt to med gy, grn, rare maroon, fiss, occ silty

**TOPEKA 2713(-760)**

LM; tan to cream, buff, foss ip, most well cem, scat med yel min fluor, no stn or odor, ns.

LM; lt to med brn, med gy brn, foss, most well cem, interbdd argil tite lmst, no vis por, rare lt gy cht, lt yel min fluor only, no stn or odor, ns.

LM; lt to med brn, hd, scat well cem foss, most dense, blocky, no fluor, no stn or odor, ns.

**TOPEKA POROSITY 2754(-801)**

LM; off wh, lt brn, v. foss, gd interpart por, minor soft chalky mtx, lt yel min fluor only, no stn or odor, no sample shows

LM; tan to lt brn, buff, most dense, blocky, no vis por, micritic, occ pyr, scat amber cht, no fluor, ns.

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

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

LM; off wh, tan, fxln w/scat foss mat, fair interpart por, minor soft chalky mtx, dull yel min fluor, ns.

SH; blk, v. dk gy, platy

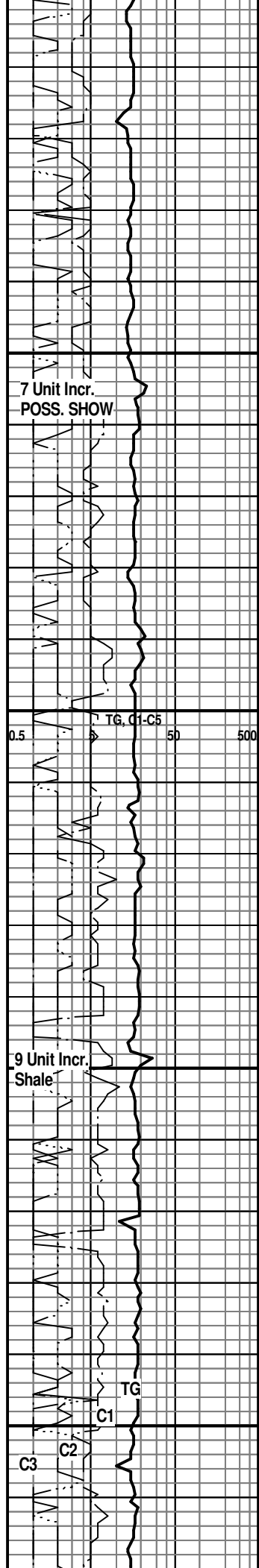
LM; dk brn, hd, blocky, scat dk gy foss cht

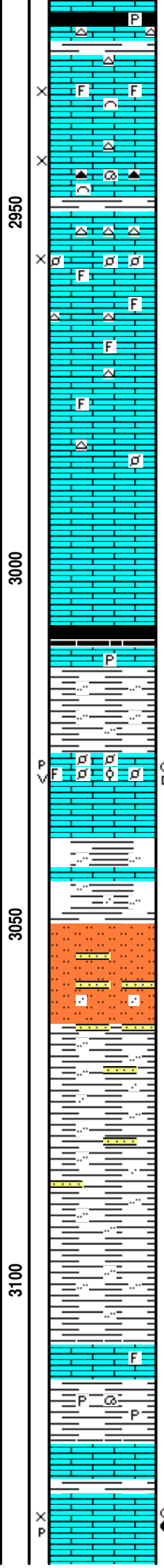
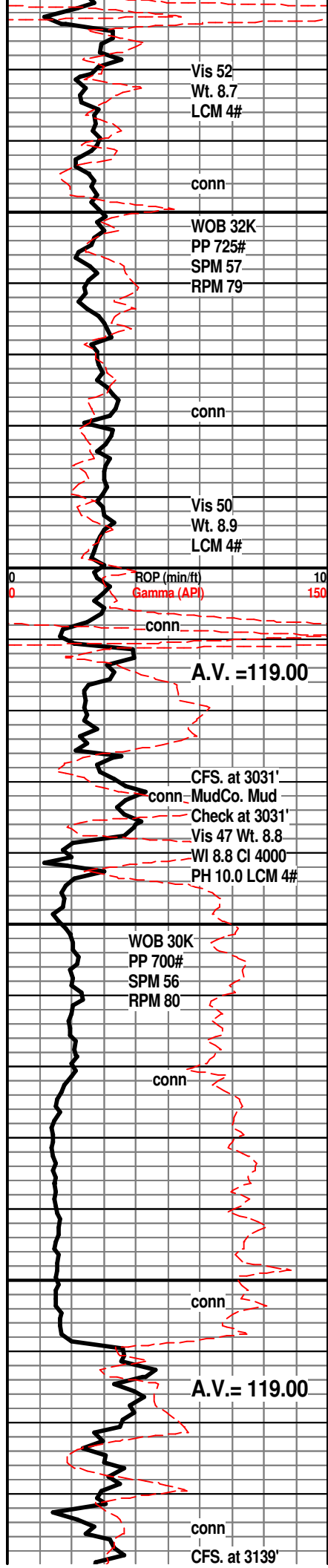
LM; off wh, wh, v. hd, micritic, tite

SH; med gy, soft, silty ip.

LM; tan to off wh, buff, f to med xln, scat fair interxln por, occ soft chalky mtx, spotted lt yel min fluor, no stn or odor, ns.

LM; tan to lt brn, buff, scat foss mat, most well cem, blocky ip, rare gy to amber occ foss cht, no vis por, ns.





**QUEEN HILL SHALE 2922(-969)**  
SH; blk, platy, carb ip, rare pyr  
LM; lt brn, v. foss, fair to gd interpart por, minor soft chalky mtx, dull to lt yel min fluor, no stn or odor, ns.

LM; tan to lt brn, off wh, fxln, scat foss mat, interbdd dk gy to blk/smoky cht, poor interpart por, scat pyr, no fluor, ns.

LM; tan to lt brn, foss - finely pelletal ip, poor interpart por, no fluor, cherty, ns.

LM; tan to cream, off wh, fxln, scat well cem foss mat, no vis por, occ gy to off wh cht, no fluor, ns.

LM; tan to cream, buff, fxln, rare poor interxln por, most dense, occ soft chalky mtx, no fluor, ns.

**HEEBNER SHALE 3008(-1055)**  
SH; blk, carb ip, platy, trc gas  
LM; med brn, hd, micritic, trc pyr  
SH; lt gy, grn, silty ip, v. soft - sticky

**TORONTO 3026(-1073)**  
LM; tan to buff, foss, occ finely pelletal, scat fair p-p and occ vug por, spotted med brn live oil stn, faint odor, med yel fluor, fair cut, occ pcs. bleeding oil/dead oil residue, most looks tite

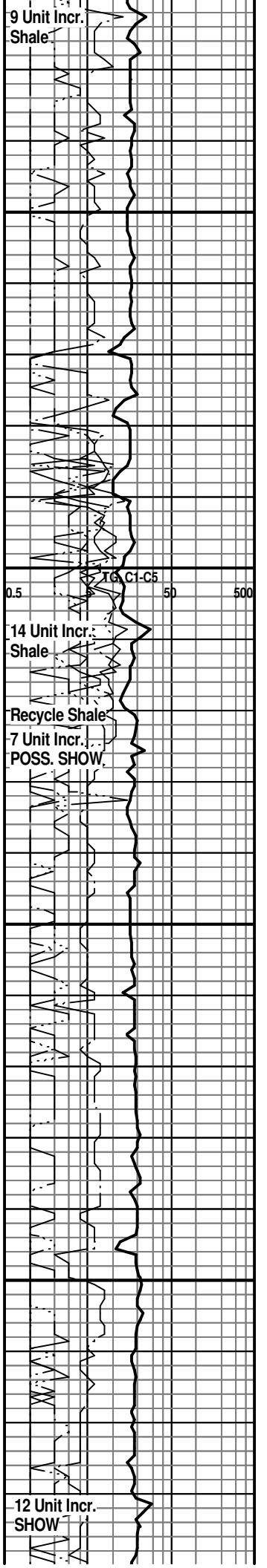
**DOUGLAS SHALE 3038(-1085)**  
SH; varic, rust red, red/brn, maroon, grn, silty w/interbdd sltst.  
SLTST; lt gy, firm, mica, rare vf gr qtz ss strngs interbdd, no clean ss dev.

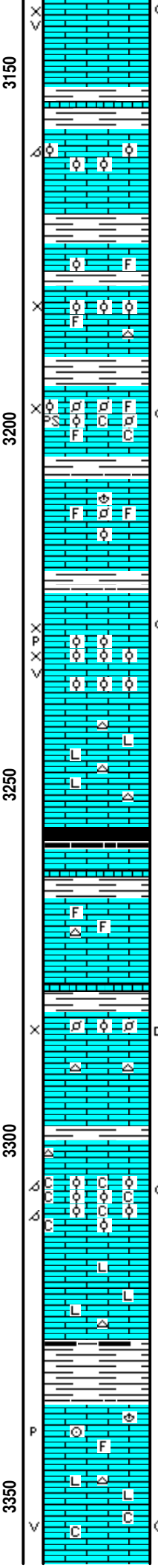
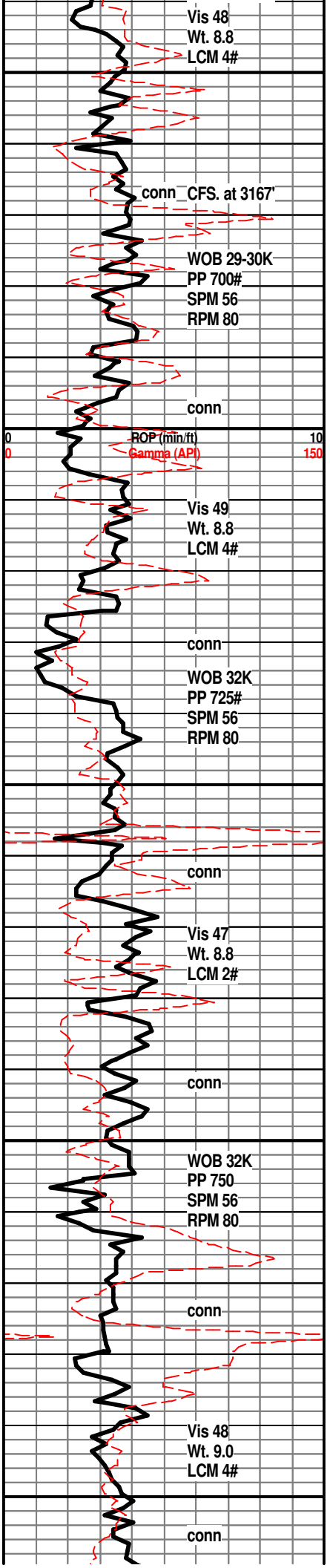
SH; lt gy, silty to sandy, mica ip, platy, interbdd vf to rarely f gr qtz ss, no stn or odor, mostly 'dirty' shaly ss dev.

SH; lt gy, silty, much gumbo - very soft/sticky

**BROWN LMST. 3109(-1156)**  
LM; med brn, dense, scat foss, hd

**LANSING 'A' 3123(-1170)**  
LM; tan to lt brn, foss ip, argil ip, well cem, no vis por, no fluor, ns.  
LM; off wh, buff, foss to med xln, some finely pelletal/partly oomoldic, fair interxln and p-p por, most w/spotted to rarely even lt brn stn, fair odor, trc gassy FC med/brite yel fluor, fair cut





FC; med/brite yel fluor, fair cut

LM; lt gy, tan, fxln, minor soft chalky mtx, w/gy vuggy lmst, trc dk brn oil stn in vuggy lmst, lt yel fluor, no odor, some barren por.

SH; med gy, grn, platy, firm

LM; wh, off wh, tan, foss to oolitic, most well cem, trc poor oomoldic por, no fluor, no stn or odor, no gas kick, ns.

SH; med gy to grn, platy

LM; tan to lt brn, foss ip, well cem, no vis por, trc dk brn dead oil stn, no fluor

LM; lt to med brn, foss - oolitic, most well cem, poor interpart por, dull yel fluor, no vis stn, ns.

LM; off wh, tan, foss, abnt med/lrg pellets and ooids, soft chalky mtx ip, trc lt brn live oil stn, poor vis interpart por, lt yel fluor, no odor

LM; tan to lt brn, scat well cem foss, occ oolites/pellets, most dense, no vis por, dull yel fluor, ns.

**LANSING 'G' 3223(-1270)**

LM; tan to cream, buff, fxln, scat poor p-p and interxln por, spotted med brn oil stn, v. faint odor, lt to rarely med yel, fluor, looks tite

LM; tan to buff, lt brn, oolitic to oolitic, fair moldic por, some rextalized, rare vug por, no vis stn, v. spotted med yel fluor, quest. odor, no cut

LM; med brn, hd, micritic to litho, scat gy to brn cht, tite

SH; blk, platy, carb ip.

SH; med gy to gy grn, firm

**LANS/KC 'H' 3266(-1313)**

LM; off wh, tan, wh, hd, rarely foss, most micritic, hd, no vis por, no stn, ns.

LM; off wh, wh, foss - finely pelletal/oolitic, fair to poor interpart por, chalky soft mtx, few pcs. w/dk brn hvy oil stn/some gils, no live shows

SH; med gy, fiss

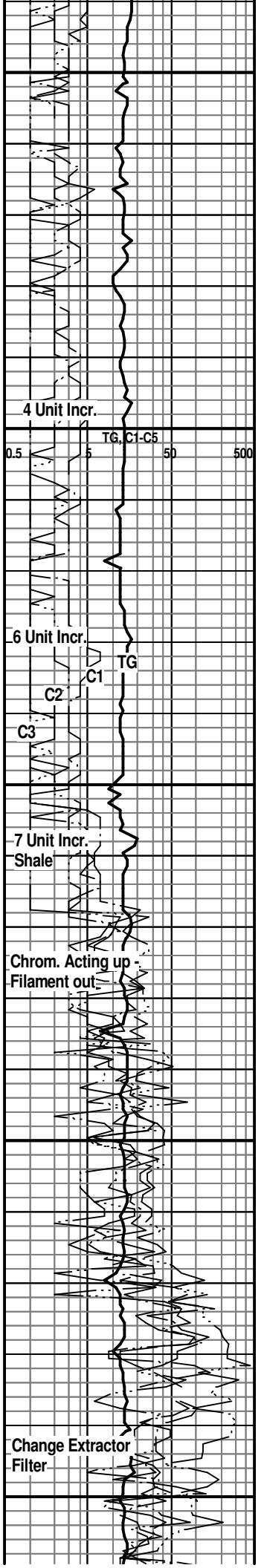
LM; wh, off wh, oolitic, small to med size molds, fair oomoldic por, much soft chalky mtx, rare spotted lt brn live oil stn - 98% barren of show, strong sulfur odor, v. dull to no fluor, most w/no cut

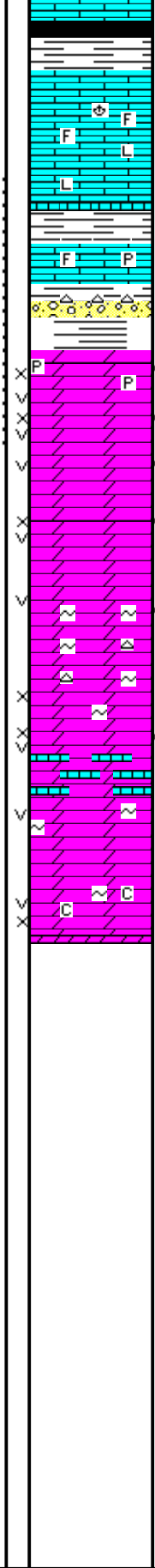
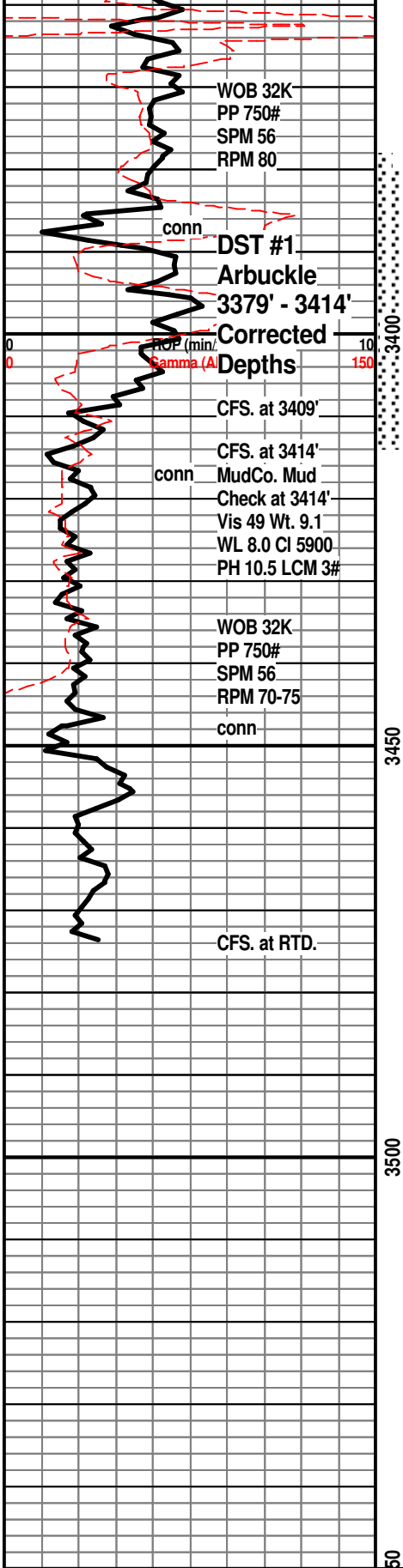
LM; lt to med brn, bcm dk brn, most dense, micritic to litho, hd, rare gy cht

SH; blk, dk gy, platy, smooth

LM; lt brn, tan, fxln, scat foss mat, most well cem, poor p-p por, trc med/dk brn stn, rare cse spar calc xtals, no fluor, no odor, looks tite

LM; lt brn, off wh, fxln, scat spar calc xtals, small vug por, fair oil odor, med yel fluor, fair cut, some chalky lmst w/brite fluor





SH; dk gy, rare blk, fiss

LM; tan to lt brn, rarely foss, most dense, some litho, no vis por, no fluor, no stn or odor, ns.

**BASE KANSAS CITY 3385(-1432)**  
 SH; rust red, sandy, v. soft, silty ip.  
 LM; med brn, hd, blocky, foss ip, occ pyr, tite  
 CHT; varic, wh, org, fresh, trc dead oil/gils

**ARBUCKLE 3402(-1449)**  
 DOL; tan to lt gy, finely rhombic, poor interxln with rare vug por, occ pyr, rare spotted stn  
 DOL; off wh, tan, med rhombic, well dev. interxln w/vug por, GSFO, much even lt brn to golden brn stn, v. gd odor, med to brite yel fluor, gd cut

**DST #1: Arbuckle 3379' - 3414'**  
 DOL; tan/lt brn, oil stained, v. gd odor, GSFO, most w/well dev. vug and interxln por, brite yel fluor, gd streaming cut  
 DOL; wh, off wh, med rhombic, spotted lt brn oil stn, SSFO, decr. shows, v. strong odor - poss sulfur, lt to med yel fluor, fair cut, interbdd grn clay/glau incl, minor off wh/tan cht  
 DOL; wh, tan, med rhombic, lt brn spotted oil stn, SSFO, well dev. vug and interxln por, med yel fluor, strong odor - poss. sulfur, fair cut  
 DOL; wh, lmy, well cem, scat wh cht, little/no vis por, occ glau, no stn, looks tite, trc grn to turquoise grn shale  
 DOL; wh to lt gy, med to csely rhombic, gd interxln w/vug por, soft chalky mtx ip, trc glau, lt yel min fluor only, barren, no stn or odor, ns.

RTD. 3475' at 8:30 AM. 11/9/11

LTD. 3474'

Superior Well Services DIL, NEU/DEN  
 w/PE, Microlog

**NOTE: This log was shifted upward by 1' to 2' for correlation purposes with the Superior LOGS.**

