

# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: Joy Station #1-15  
Location: 660' FSL & 990' FWL, Sec. 15-T28S-R19W, Kiowa Co., KS.  
Licence Number: 15-097-218-00-00 Region: Wildcat  
Spud Date: 9/12/2014 Drilling Completed: 9/19/2014  
Surface Coordinates: 660' FSL & 990' FWL, Sec. 15-T28S-R19W

Bottom Hole Same as Above  
Coordinates:  
Ground Elevation (ft): 2274' K.B. Elevation (ft): 2287'  
Logged Interval (ft): 3950' To: 5000' Total Depth (ft): 5000'  
Formation: Mississippian at Total Depth  
Type of Drilling Fluid: Freshwater/Gel to 3486'; Chemical Gel 3486' to 5000'

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 'H' zone) 4457' - 4488'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Weak 0.25" Blow, FFP No Blow, no Blowback on SI's; REC: 15' Heavy Drlg. Mud w/good gas/oil odor; IFP 18-22#, ISIP 1411#, FFP 21-26#, FSIP 1358#, IHP 2171#, FHP 2135#, BHT 114 Deg. F.

DST #2(Cherokee Lmst.) 4838' - 4870'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Weak 0.5" Blow, FFP Weak 1" Blow, no Blowback on SI's; REC: 80' Gas in Pipe, 10' Drlg. Mud, no oil, no water; IFP 17-20#, ISIP 71#, FFP 18-19#, FSIP 61#, IHP 2299#, FHP 2206#, BHT 118 Deg. F.

DST #3(Miss. Chert) 4886' - 4930'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Strong Blow BOB/1 Min., Gas to Surface in 8 Min., FFP Gas to Surface Gauged Max. 232 MCFG(20# on 0.5" Choke), No Blowback on SI's; REC: 70' GCM(9%G, 91%M), 120' GCWM(16%G, 26%W, 58%M), 120' MW(55%W, 45%M), CI 19,000, Mud 5000; IFP 126-101#, ISIP 1419#, FFP 86-126#, FSIP 1410#, IHP 2391#, FHP 2364#, BHT 123 Deg. F.

## Comments

9/12/14 MIRU Sterling Drilling Co. Rig #5, Spud at 5:15 PM. , 9/13/14 TD. 650' - Running Surface Casing; 9/14/14 Drilling at 1890'; 9/15/14 Drilling at 3600'; 9/16/14 Drilling at 4392'; 9/17/14 TD. 4528' - CFS.; 9/18/14 Drilling at 4852'; 9/19/14 TD. 4932' - TIH for DST #3; 9/20/14 RTD. 5000', LTD. 4998' - Logging - P & A.

Set new 8 5/8"(23#) Surface Casing at 645' KB. with 400 sacks cement(Basic Energy Services). Cement did Circulate. PD. at 8:15 AM. on 9/13/14.

Surveys: 0.50 Deg. at 650'(Surface Casing); 0.50 Deg. at 4322'(Bit Trip); 0.75 Deg. at 4489'(DST #1); 1.25 Deg. at 4872'(DST #2); 1.25 Deg. at 5000' RTD.


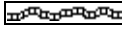
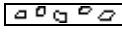
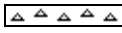
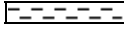







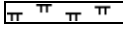

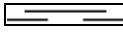
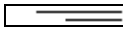
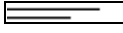



Pipe Strap at 4322'(Bit Trip): Strap 0.38' Short to the Board, no correction made to the Board.

After consideration of the Halliburton Logs, DST data and sample shows, the operator elected to Plug and Abandon the Joy Station #1-15 at RTD. 5000' on 9/20/2014.








































































LOG TOPS: Chase 2527(-240), Stotler Lmst. 3466(-1179), Heebner Shale 4130(-1843), Toronto 4155(-1868), Brown Lmst. 4297(-2010), Lansing 'A' 4310(-2023), Lansing/KC 'H' 4476(-2189), Stark Shale 4620(-2333), Hertha 4666(-2379), BKC 4702(-2415), Marmaton 4750(-2463), Cherokee Shale 4840(-2553), Conglomerate 4910(-2623), Miss. Chert 4920(-2633).

NOTE: This log was shifted upward by 1' to 2' 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  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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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

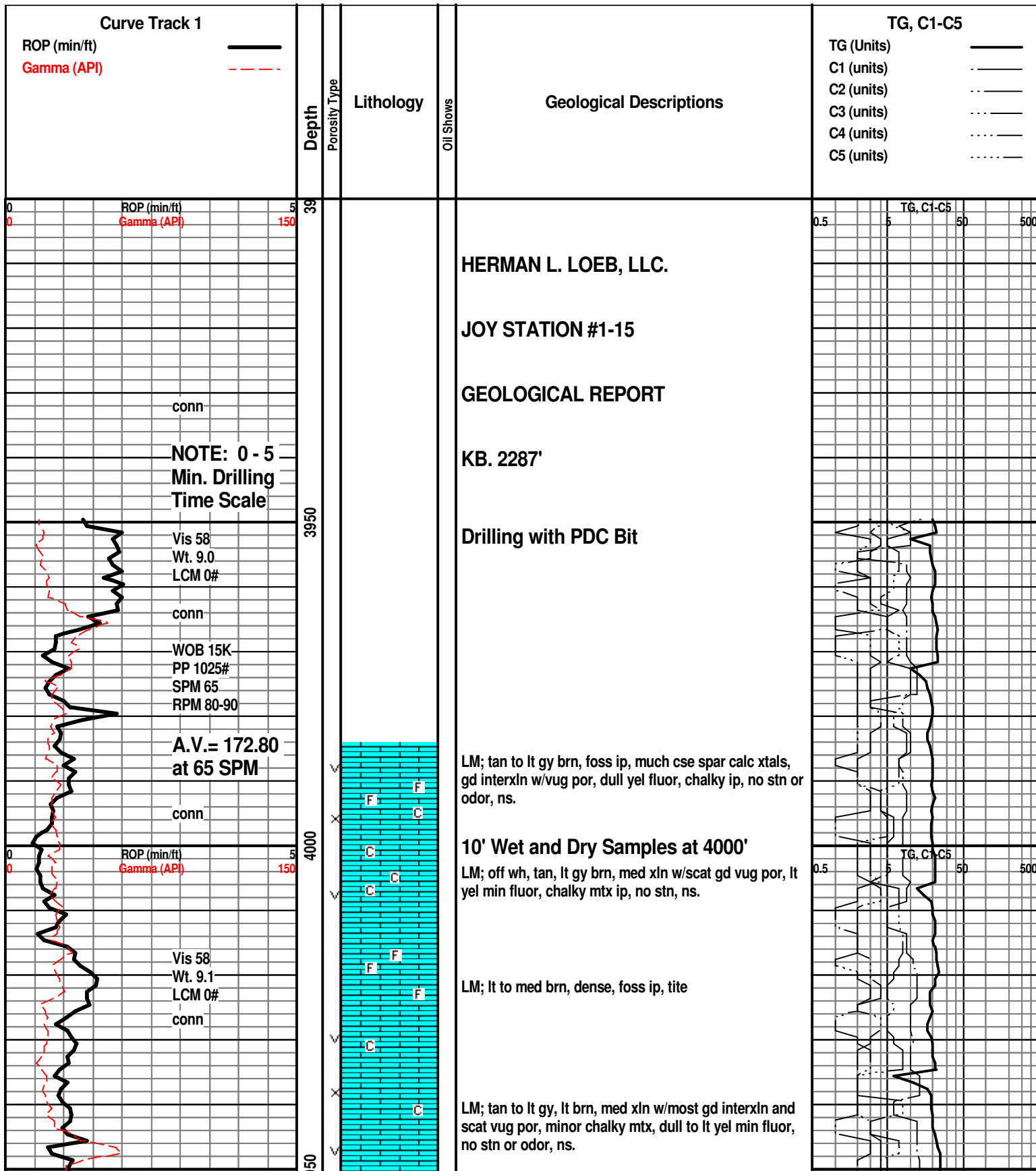
- ROUNDING**  
 [R] Rounded  
 [r] Subrnd  
 [a] Subang  
 [A] Angular

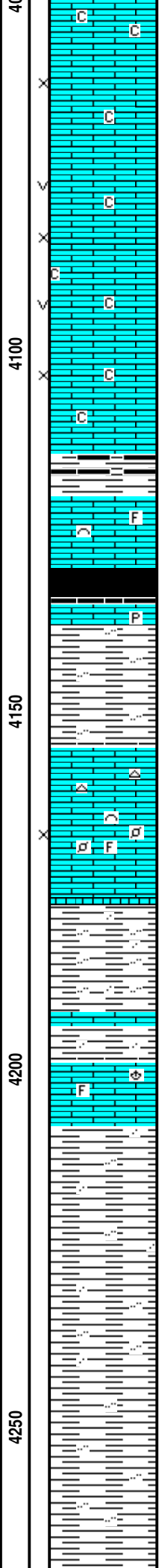
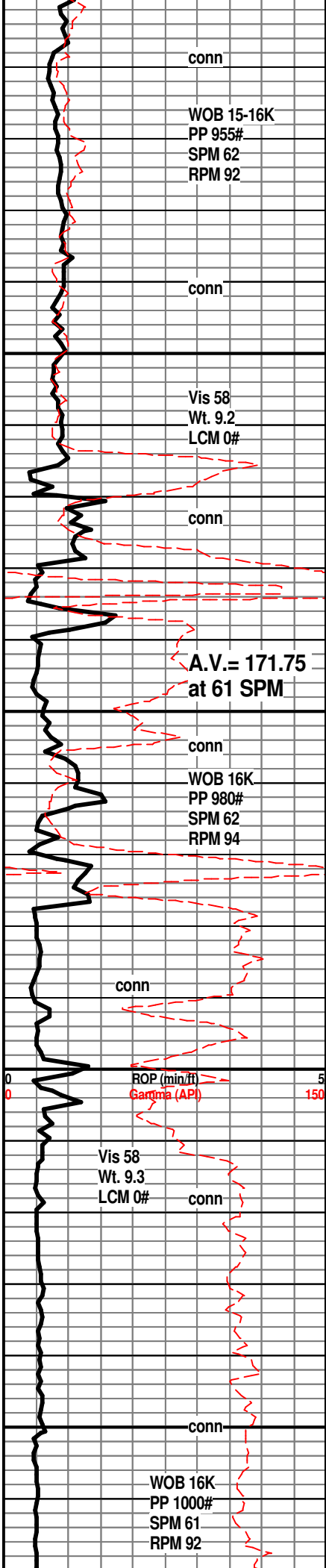
- [S] Spotted  
 [Q] Ques  
 [D] Dead

- EVENT**  
 [Rft] Rft  
 [Sd] Sidewall

- INTERVAL**  
 [C] Core  
 [D] Dst

- OIL SHOW**  
 [E] Even





LM; tan, lt brn, lt gy brn, med xln, gran, gd interxln w/scat vug por, minor chalky mtx, rare foss mat, dull yel fluor, ns.

LM; tan, buff, off wh, med xln, fair to gd interxln w/occ vug por, chalky w/incr. chalky mtx, scat opaque spar calc xtals, dull yel fluor, no stn, ns.

SH; dk gy, blk, platy

LM; med gy brn, med brn, blocky, rare foss, no vis por, no fluor, ns.

**HEEBNER SHALE 4130(-1843)**

SH; blk, carb ip, platy  
LM; med to dk brn, hd, pyr ip.

SH; lt gy, gy grn, silty ip.

**TORONTO 4155(-1868)**

LM; off wh, wh, fxln, some dense micrite, occ wh to off wh cht, no vis por, ns.

LM; off wh, buff, tan, foss w/scat pellets and hash, gd interpart por, minor chalky mtx, dull yel min fluor, no stn, ns.

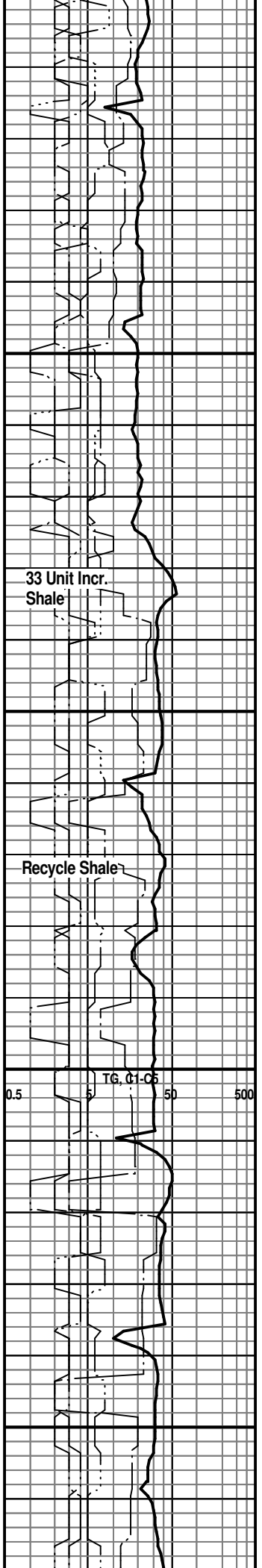
**DOUGLAS SHALE 4177(-1890)**

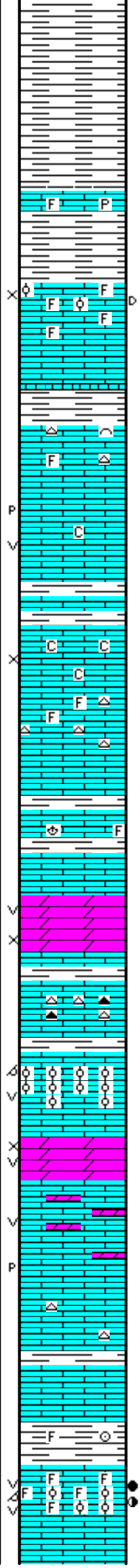
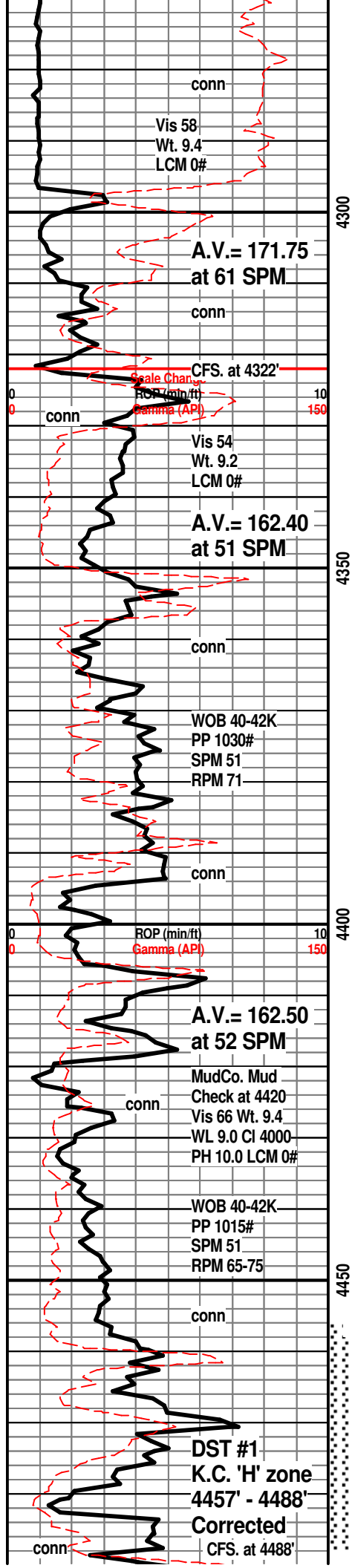
SH; grn, gy grn, silty to occ sandy

LM; med to dk brn, dense, micritic, rare foss, tite

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

SH; lt to med gy, platy, occ silty





SH; med gy, platy to flakey, smooth

**BROWN LMST. 4297(-2010)**  
LM; med brn, dense, rare foss, pyr ip, tite

**LANSING 'A' 4310(-2023)**  
LM; off wh, buff, tan, foss ip, scat poor to fair interpart por, trc oolitic lmst, lt yel min fluor, few pcs w/blk tar/gilsonite, no live oil shows, no apparent gas kick

**BIT TRIP AT 4322'**  
**Drilling with Button Bit**  
**LANSING 'B' 4330(-2043)**  
LM; off wh, tan, buff, dense, blocky, well cem foss, no vis por, dull yel min fluor, cherty, ns.  
LM: lt gy, off wh, buff, fxln, fairly well dev. p-p and vug por, rare lt yel fluor, minor chalky mtx, no vis stn, no odor, no gas kick, barren  
LM; med/dk brn, fxln, dense  
LM; tan to cream, off wh, fxln, minor soft chalky mtx, fair interxln por, spotty lt yel fluor, no vis oil stn, no odor, no sample shows  
LM; lt to med brn, foss ip, well cem, cherty ip, no vis por, dull yel min fluor, ns.  
LM; med gy brn, foss ip, most dense

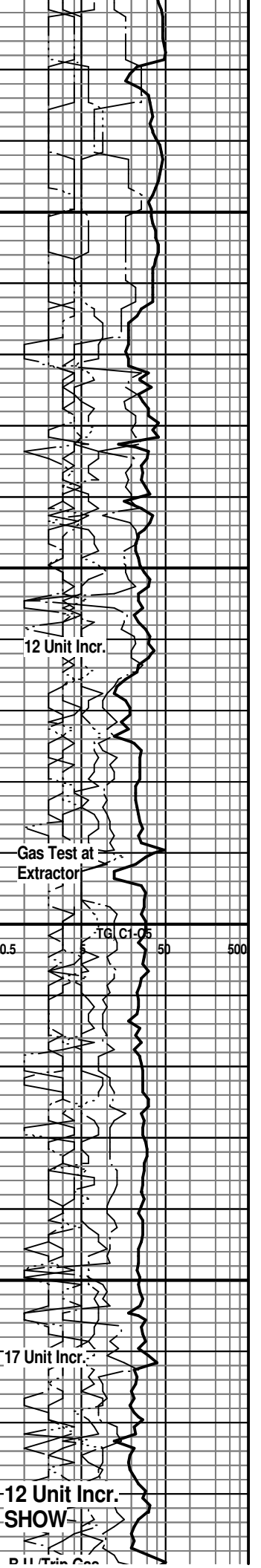
DOL; tan, buff, sucrosic, fair interxln w/trc vug por, lt yel min fluor, no stn or odor, ns.

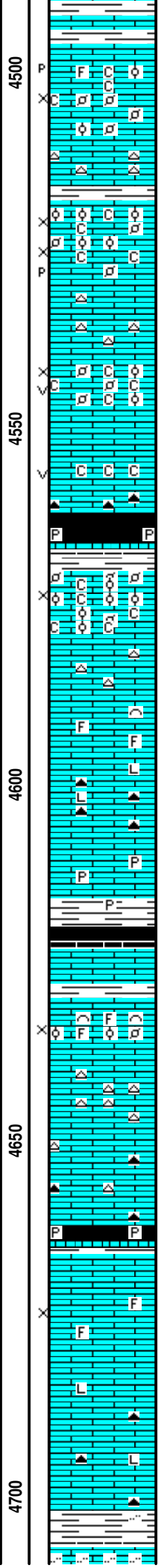
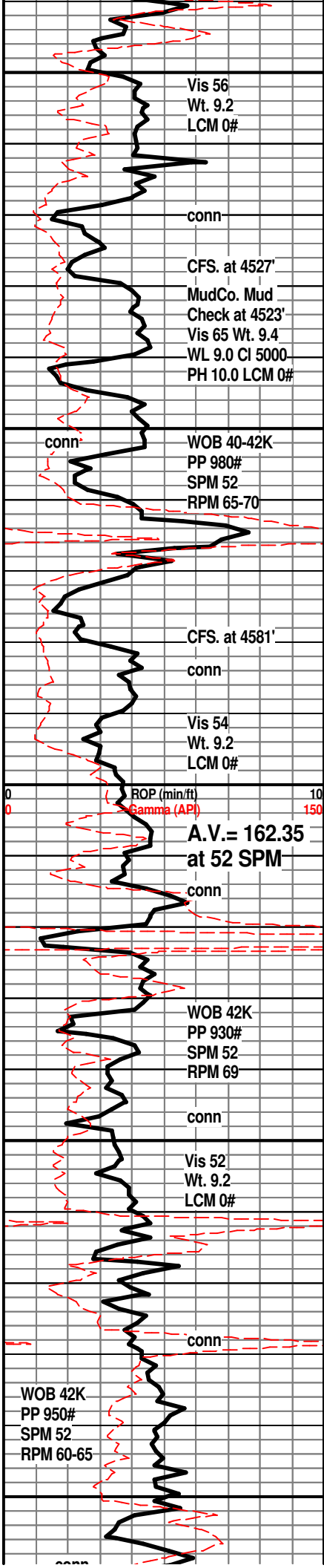
LM; lt to med brn, hd, cherty, no vis por, ns.

**LANSING 'G' POR. 4419(-2132)**  
LM; lt to med brn, oolitic, med to lrg molds - v. gd oomoldic w/vug por, med yel min fluor, no vis stn, brittle ip, no gas kick, barren  
DOL; lt brn, sucrosic, fair to gd interln por, rare small vug por, scat spar calc xtals, lt yel min fluor, no stn or odor, no gas kick, ns.  
LM; tan to lt brn, med xln, some gran text, scat fair p-p and vug por, interbdd sucrosic text dolomitic lmst, lt yel fluor, no stn, ns.  
LM; lt to med gy, hd, micritic, tite

SH; med gy, platy, foss ip.

**LANSING/K.C. 'H' 4476(-2189)**  
LM; lt brn, foss - partly oolitic, scat well dev. vug por w/SFO, spotted to even lt/med brn oil stn, few gas bubbles, faint/fair odor, med yel fluor, some barren tan oomoldic lmst, gd cut, approx. 15% - 20% of zone with oil stn





**DST #1: K.C. 'H' zone 4457' - 4488'**  
Corrected Depths to Log  
LM; tan to buff, off wh, foss w/abnt rnd pellets and ooids, some dk pellets, minor chalky mtx, trc poor interpart/ p-p por, lt yel min fluor, no vis stn, quest. odor, no gas kick  
LM; lt brn, blocky - micritic, scat gy/tan cht, tite

**KANSAS CITY 'I' 4518(-2231)**  
LM; lt brn, tan, foss - partly oolitic, scat pellets/ooids, fair interpart w/scat p-p por, chalky mtx, lt yel fluor, no vis stn, no odor, no gas kick, barren  
LM; lt brn, micritic, dense, occ gy/tan cht  
LM; tan to cream, off wh, foss w/scat pellets/small ooids, chalky mtx, fair interpart w/occ vug por, lt yel min fluor, no stn, ns.  
LM; tan, lt brn, fxln w/some well dev. vup por, minor soft chalky mtx, dull yel min fluor, no stn or odor, no gas kick  
SH; dk gy - blk, platy, occ pyr

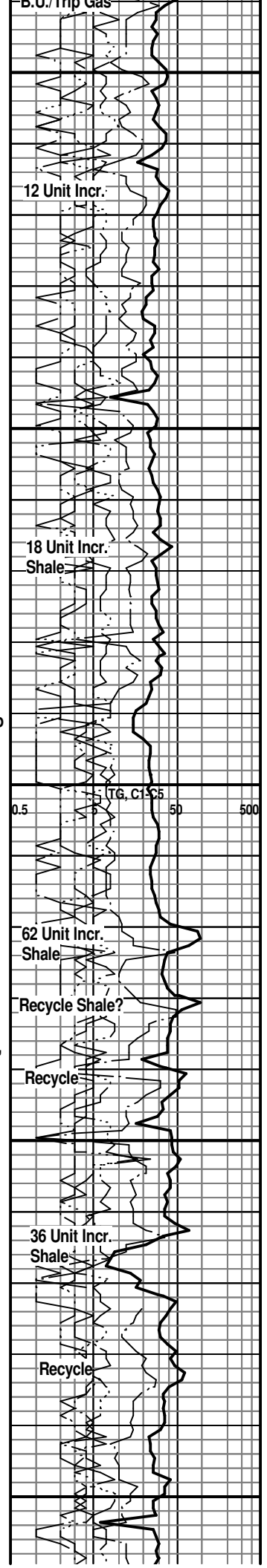
**KANSAS CITY 'J' 4570(-2283)**  
LM; tan to lt brn, foss - oolitic ip, fair interpart por, much soft chalk and chalky mtx, scat lt yel fluor, no stn or odor, no gas kick, barren  
LM; tan to lt brn, fxln, scat well cem foss, occ cherty, no fluor, no stn or odor, ns.  
LM; med brn, hd, litho, interbdd brn to smoky cht, tite  
LM; med brn, hd, blocky, scat pyr, tite

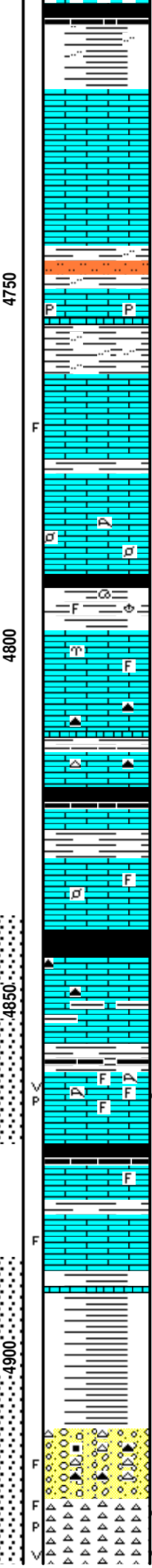
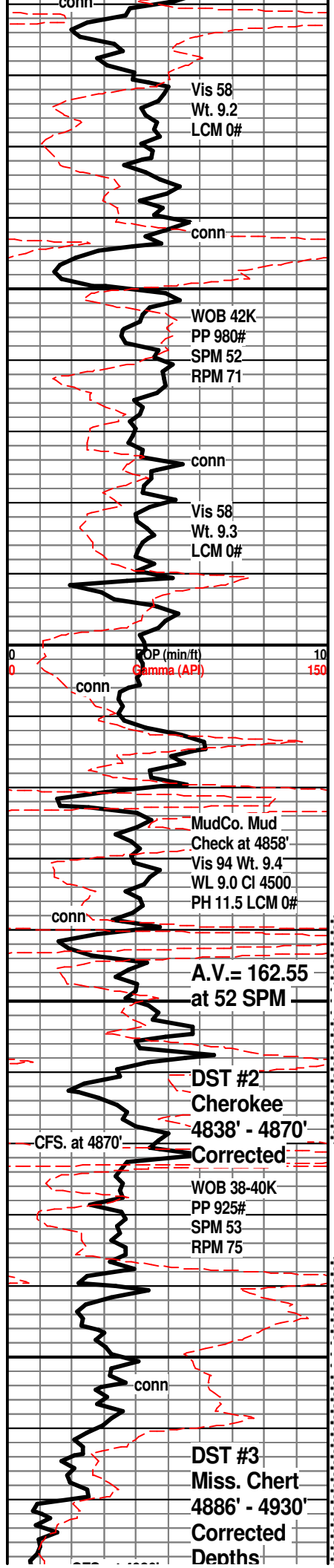
**STARK SHALE 4620(-2333)**  
SH; blk, carb, blocky, trc gas

**SWOPE 4630(-2343)**  
LM; tan to buff, cream, foss to med xln, soft, scat gd interpart/interxln por, med yel fluor, no vis stn, no odor, no vis gas bubbles, ns.  
LM; lt to med brn, blocky, hd, abnt gy/dove gy to occ smoky cht, no vis por, ns.  
SH; blk, platy, carb ip, scat pyr

**HERTHA 4666(-2379)**  
LM; tan to lt brn, buff, fxln w/scat foss mat, trc poor interxln/interpart por, scat lt yel fluor, no vis stn, no odor, ns.  
LM; med to dk brn, hd, litho, occ brn to smoky cht, tite

**BASE KANSAS CITY 4702(-2415)**  
LM; lt to med brn, gritty text, tite





LM; lt to med brn, gritty text, tile

SH; varic, grn, rust red/brn, dk gy - blk, silty ip

**PLEASANTON 4722(-2435)**

LM; lt gy, tan, hd, blocky, most micritic, no vis por, no fluor, ns.

LM; off wh, buff, rare tan, most dense - blocky, no vis por, no fluor, ns.

SH; grn, silty, interbdd sltst.

**MARMATON 4750(-2463)**

LM; lt brn, dense, scat pyr, tite

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

LM; tan to cream, buff, fxln w/scat opaque spar calc xtals, poss frags, lt yel min fluor, no stn or odor, no gas kick

LM; off wh, tan, cream, foss w/scat coral, occ small pellets, well cem, spar calc, lt/med yel min fluor, no stn or odor, ns.

SH; varic, blk, grn, rust red, brn, foss ip.

**PAWNEE 4798(-2511)**

LM; lt brn, tan, foss ip - well cem, most dense micrite, no vis por, no fluor, occ amber to gy foss cht, ns.

LM; lt brn, hd, cherty ip, tite

SH; blk, carb ip, trc gas

LM; lt to dk brn, scat foss mat, most well cem, blocky, no vis por, no fluor, ns.

**CHEROKEE SHALE 4840(-2553)**

SH; blk, carb, blocky, trc gas

LM; lt to med brn, most dense, blocky, scat amber cht, no vis por, argil lmst interbdd, ns.

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

LM; lt/med brn, foss w/scat corals/foss hash, much even med brn oil stn, med/brite yel fluor, poor to fair p-p w/scat vug por, gd odor, SSFO, few gas bubbles, fair to gd cut

**DST #2: Cherokee Lm. 4838' - 4870'**

LM; off wh, buff, foss-well cem, no vis por, ns.

LM; off wh, tan, fxln w/scat spar calc, poss frags, no vis por, lt yel min fluor, few pcs w/blk tar/gils, no live shows

SH; varic, maroon, grn, yel, platy, interbdd strngs. of hd lmy sh

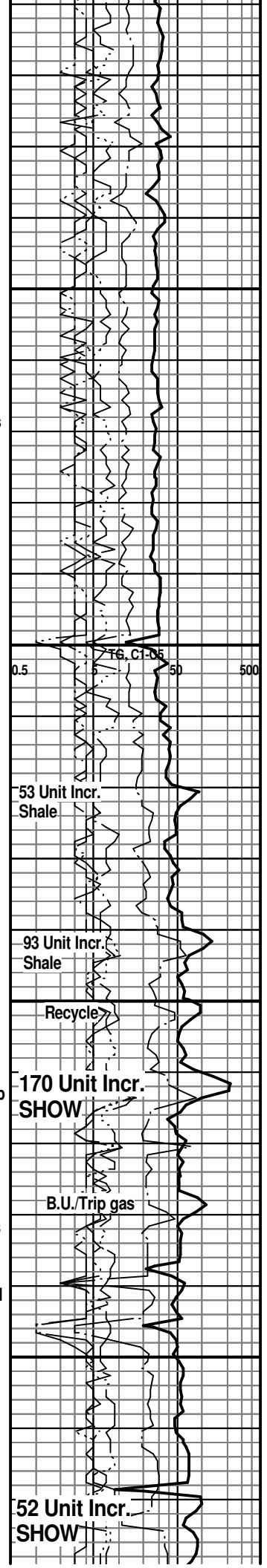
SH; varic, platy to flakey

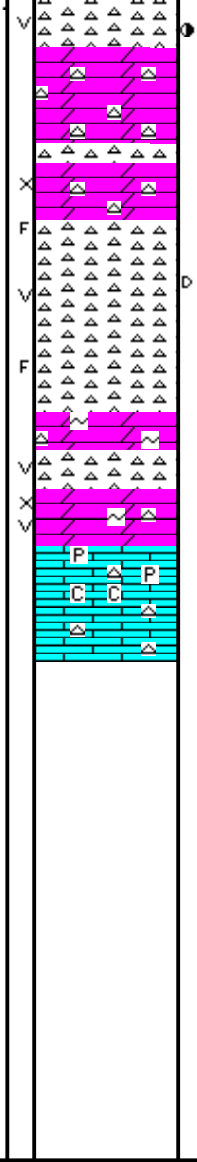
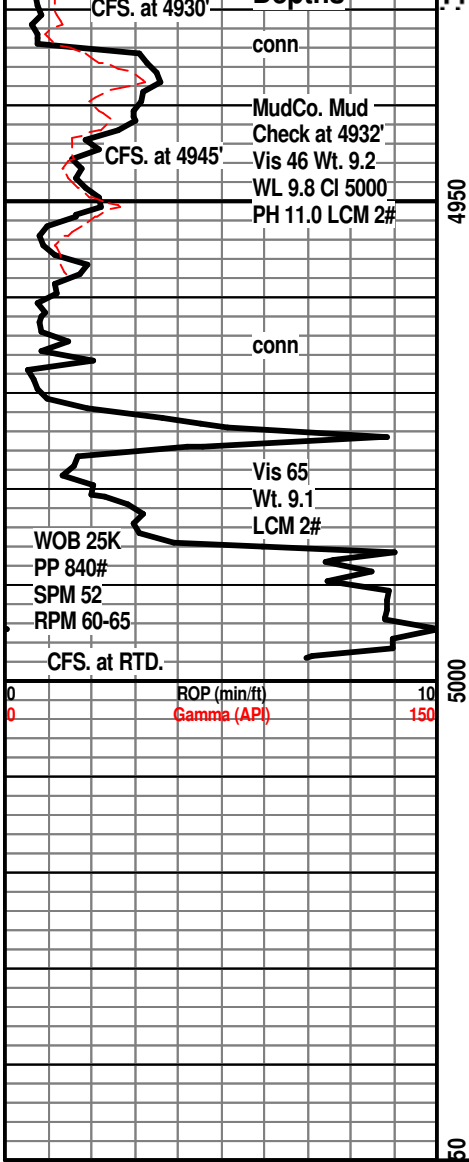
**CONGLOMERATE 4910(-2623)**

CONGL. CHT; varic, brn, org, yel, wh, most fresh - sharp, lt yel fluor, frags

**MISS. CHERT 4920(-2633)**

CHT; wh, opaque, fresh and tripolite, gd p-p and vug por, gd gas odor/strong odor in 40" sample, 40%+ w/brite yel fluor, gas bubbles, spotted/rare even lt brn





stn, Trc. FO., fair/gd cut

**DST #3: Miss. Chert 4886' - 4930'**  
 DOL; lt gy, off wh, pale grn, sucrosic, hd, cherty, dull yel min fluor, no stn or odor, tite

CHT/CHTY DOL; wh, off wh, poor interxn por, lt yel min fluor, no stn or odor, ns.

CHT; lt gy, off wh, porc, most fresh, occ pyr, frags w/rare vug por, dull yel to no fluor, rare pcs w/dk edge stn on frags, no odor, no gas kick

DOL; lt brn, dense, sucrosic, glau ip, tite, brite yel min fluor, no stn

DOL; tan, buff, sucrosic, gd interxn w/vug por, med/brite yel min fluor, no stn or odor, ns.

LM; off wh, buff, cream, med xln, partly chalky, most dense, scat pyr, interbdd wh porc cht, no vis por, no fluor, ns.

**RTD. 5000' at 10:15 PM. 9/19/14**

**LTD. 4998'**

**Halliburton "Triple Combo" ACRT, NEU/DEN + PE, Microlog**

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

