

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: Farmer #1-13
Location: 1177' FSL & 2141' FEL, Sec. 13-T27S-R19W, Kiowa Co., KS.
Licence Number: 15-097-21753-0000 Region: Wildcat
Spud Date: 4/30/2013 Drilling Completed: 5/9/2013
Surface Coordinates: 1177' FSL & 2141' FEL, Sec. 13-T27S-R19W

Bottom Hole Same as above
Coordinates:
Ground Elevation (ft): 2235' K.B. Elevation (ft): 2246'
Logged Interval (ft): 3350' To: 4950' Total Depth (ft): 4950'
Formation: Kinderhook at Total Depth
Type of Drilling Fluid: Native Mud/Gel to 3095'; Chemical Gel 3095' to 4950'

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OPERATOR

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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(Lansing "A") 4224' - 4240'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Weak Surface Blow, FFP Weak 0.75" Blow, no Blowback on SI's; REC: 60' Gas in Pipe, 10' SOCM(1%O, 99%M), Free oil in Test tool, no Water; IFP 15-20#, ISIP 893#, FFP 15-20#, FSIP 301#, IHP 2283#, FHP 2051#, BHT 113 Deg. F.

DST #2(Cherokee Sandstone & Upper Miss. Chert) 4764' - 4812'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair to Good 9" Blow, FFP Good 10" Blow, no Blowback on SI's; REC: 350' Gas in Pipe, 10' Drlg. Mud, no shows; IFP 21-22#, ISIP 100#, FFP 13-21#, FSIP 151#, IHP 2403#, FHP 2366#, BHT 122 Deg. F.

DST #3(Miss. Chert) 4812' - 4835'(Corrected Depths to Log) Test Times 15"-45"-60"-120" IFP Strong Blow BOB/15 Sec. Gas to Surface 1 Min. into ISI(= GTS. in 16 Min.), FFP GTS Throughout Gauged 64.9 MCFG/60" of FFP, no Blowback on SI's; REC: 15' VSOCM(1%O, 99 %M), Free Oil spots in Tool, trc Filtrate water; IFP 22-39#, ISIP 1435#, FFP 17-51#, FSIP 1392#, IHP 2461#, FHP 2370#, BHT 121 Deg. F.

DST #4(Miss. Chert) 4835' - 4850'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair 5" Blow, FFP Fair to Good 9" Blow, Weak Surface Blowback on FSI; REC: 63' Gas in Pipe, 64' OCWM(5%O, 45%W, 50%M), 193' MW(Trc. Oil, 95%W, 5%M) CI 92,000, Mud 5,400; IFP 21-59#, ISIP 1515#, FFP 66-126#, FSIP 1516#, IHP 2507#, FHP 2381#, BHT 129 Deg. F.

Comments

4/29/13 MIRU Sterling Drilling Co. Rig #2, Spud at 10:15 PM.; 4/30/13 TD. 579' - Wiper Trip; 5/1/13 Drilling at 1182'; 5/2/13 Drilling at 2460'; 5/3/13 Drilling at 3160'; 5/4/13 Drilling at 3780'; 5/5/13 TD. 4242' - Survey prior to DST #1; 5/6/13 Drilling at 4445'; 5/7/13 Drilling at 4750'; 5/8/13 TD. 4838' - CFS/CCH for DST #3; 5/9/13 TD. 4853' - DST #4, Reached Total Depth of 4950' at 6:15 PM.; 5/10/13 RTD. 4950', LTD. 4950' - Logging; 5/11/13 Rig Down after setting Production Casing.

Set new 8 5/8"(24#) Surface Casing at 574' with 350 sx. of Cement(Basic Energy Services). Cement did Circulate. PD. 9:45 AM. on 4/30/13.

Set new 5 1/2"(15.5#) Production Casing at 4942' with 200 sx. "Loeb Blend" cement(Basic Energy Services). PD. 1:30 AM. 5/11/13.


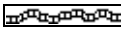
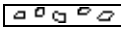
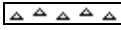
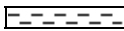






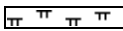

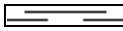
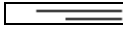
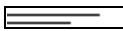



Surveys: 0.75 Deg. at 579'(Surface Casing); 1.50 Deg. at 4242'(DST #1); 1.0 Deg. at 4815'(DST #2); 1 Deg. at 4950' RTD.

After evaluation of the Halliburton Logs, DST data, structural position and positive shows of commercial amounts of hydrocarbons, the operator elected to set 5 1/2" Production Casing for completion in the Mississippian Chert.








































































LOG TOPS: Chase 2480(-234), Stotler Lmst. 3432(-1186), Howard 3630(-1384), Queen Hill Shale 3928(-1682), Heebner Shale 4061(-1815), Toronto 4077(-1831), Brown Lmst. 4213(-1967), Lansing "A" 4219(-1973), Lans/K.C. "H" 4386(-2140), K.C. "I" 4438(-2192), Stark Shale 4526(-2280), Hertha 4572(-2326), Base Kansas City 4605(-2359), Marmaton 4654(-2408), Pawnee 4698(-2452), Cherokee Shale 4736(-2490), Cherokee Sand 4798(-2552), Miss. Chert 4806(-2560), Kinderhook Shale 4890(-2644), Kinderhook Sand 4919(-2673).

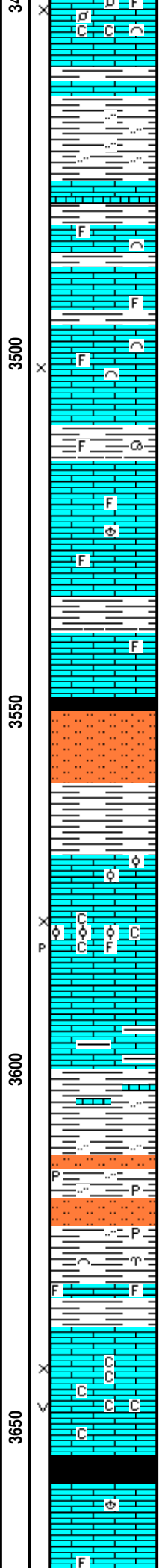
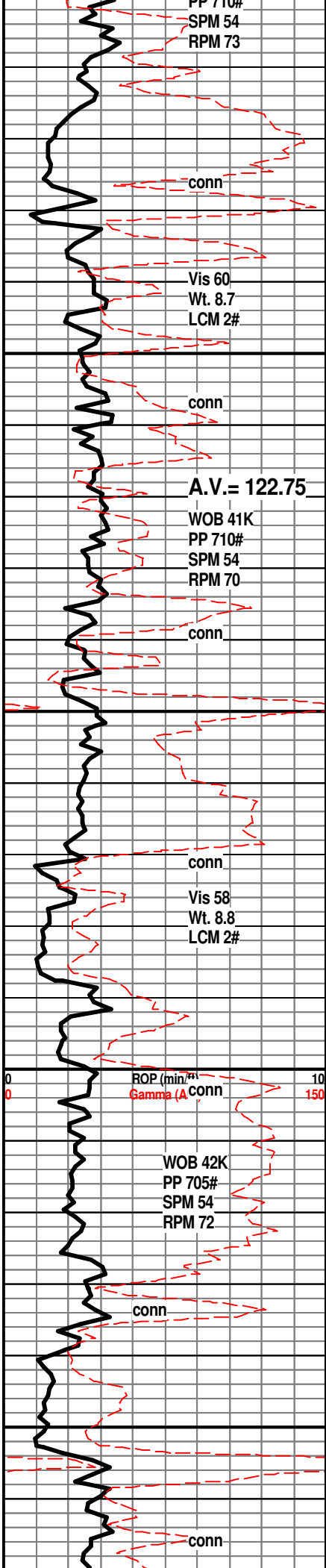
NOTE: This log was shifted upward by 2' to 3' for correlation purposes with the Halliburton Logs.

ROCK TYPES

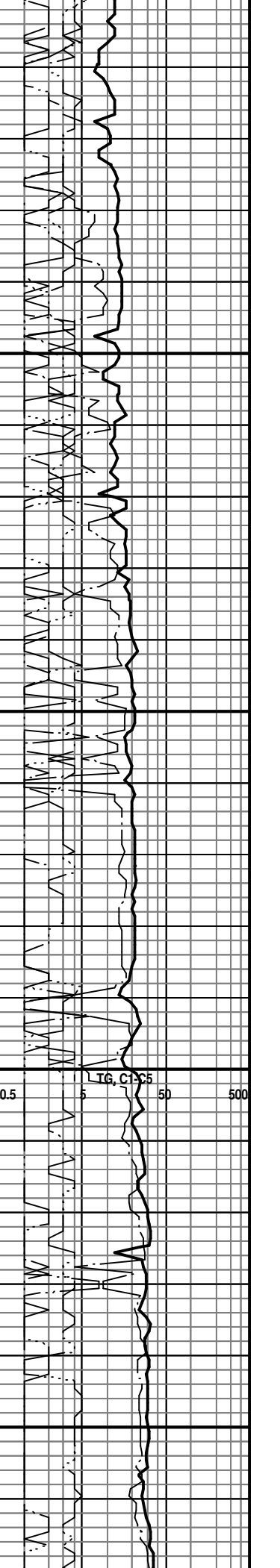
 Anhy  Bent  Brec  Cht	 Clyst  Coal  Congl  Dol	 Gyp  Igne  Lmst  Meta	 Mrlst  Salt  Shale  Shcol	 Shgy  Sltst  Ss  Till
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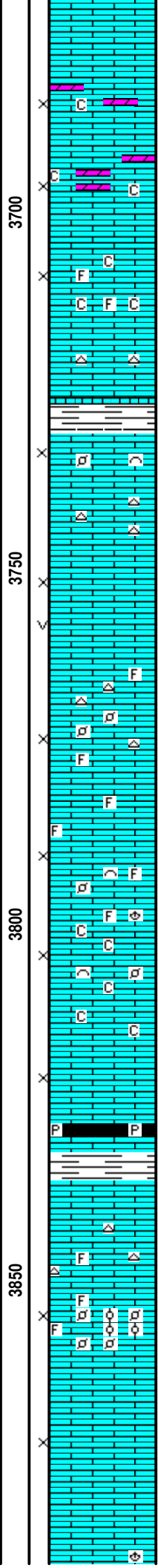
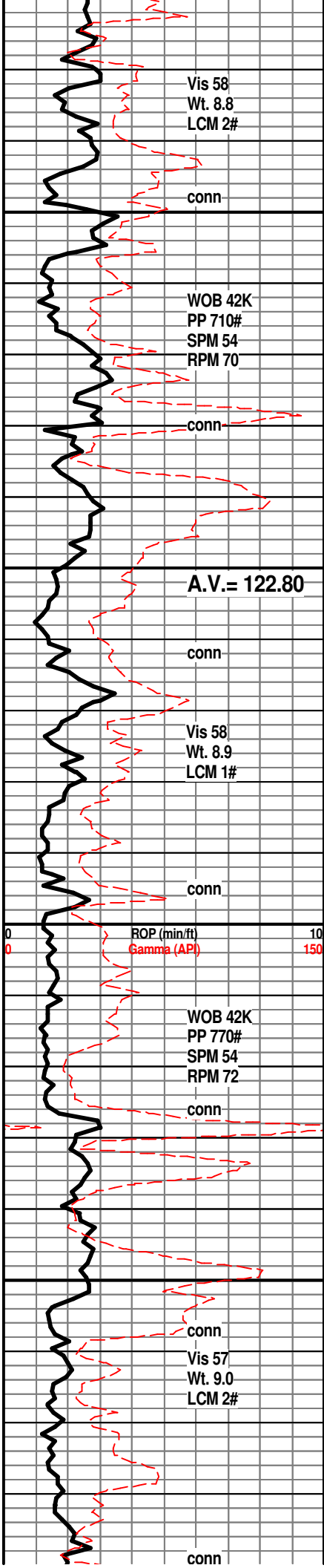
ACCESSORIES

MINERAL  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	FOSSIL  Algae  Amph  Belm  Bioclst  Brach  Bryozoa  Cephal  Coral  Crin  Echin  Fish  Foram  Fossil  Gastro  Oolite	 Ostra  Pelec  Pellet  Pisolite  Plant  Strom STRINGER  Anhy  Arg  Bent  Coal  Dol  Gyp  Ls  Mrst	 Sltstrg  Ssstrg TEXTURE  Boundst  Chalky  Cryxln  Earthy  Finexln  Grainst  Lithogr  Microxln  Mudst  Packst  Wackest
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LM; off wh, buff, foss ip, most f to med xln w/occ soft chalky mtx, trc poor interxln por, lt yel fluor, ns.
 SH; med gy, gy grn, silty ip, firm, interbdd shaly lmst
 LM; med gy brn, med gy, hd, micritic, tite
 LM; off wh, wh, buff, foss ip, minor soft chalky mtx, lt yel fluor, no vis por, ns.
 LM; med gy brn, med brn, micritic, rarely foss, no vis por, ns.
 LM; tan to lt brn, foss, scat poor interpart por, spotted lt yel fluor, no stn or odor, ns.
 SH; med gy, firm, foss ip.
 LM; lt to med brn, hd, blocky, scat well cem foss mat, no vis por, no fluor, ns.
 LM; lt gy to lt brn, fxl n w/occ foss mat, dull to lt yel min fluor, no stn, ns.
 SLTST; lt gy, calc, platy
 SH; med gy, rare gy grn, platy, lmy ip.
 LM; off wh, buff, f to med xln, foss - partly oolitic, fair interxln w/scat p-p por, minor soft chalky mtx, lt yel min fluor, no stn, no gas kick, ns.
 LM; lt to med gy, dense, argil ip, tite
 SH; lt to med gy, firm, lmy ip, silty
 SH; lt to med gy, grn, rare dk gy, pyr ip, silty w/interbdd sltst.
HOWARD 3630(-1384)
 LM; med to dk brn, dense, foss, tite
 LM; off wh, buff, med xln w/fair to gd interxln por, scat small vug por, chalky ip, lt to occ med yel min fluor, no stn or odor, no gas kick, barren, ns.
 SH; dk gy, blk, platy
 LM; tan to lt brn, dense, scat foss mat, most well cem, micritic, no fluor, ns.





LM; lt gy, lt brn, fxln ip, most dense, blocky, tite

LM; off wh, wh, fxln to sucrosic text, dolomitic ip, minor chalky mtx, fair interxln por, lt yel min fluor, ns.

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

LM; med brn, hd, blocky, scat gy cht

SH; med to dk gy, trc blk, platy

LM; tan to buff, fxln w/poor vis interxln por, minor foss mat, dull yel min fluor, no stn or odor, interbdd off wh cht, ns.

LM; tan to buff, tan, f to med xln, fair interxln w/rare unconnected vug por, spotted lt yel fluor, no stn, ns.

LM; tan to lt brn, buff, foss w/scat foss hash and small pellets, rare off wh to lt gy cht, poor to fair interxln por, dull yel fluor, no stn, ns.

LM; tan to buff, off wh, f to med xln, scat foss mat, chalky mtx ip, fair interxln/interpart por, dull yel fluor, ns.

LM; tan to cream, buff, fxln w/scat sucrosic text, soft, fair interxln por, lt yel min fluor, ns.

SH; dk brn/blk, carb ip, occ pyr

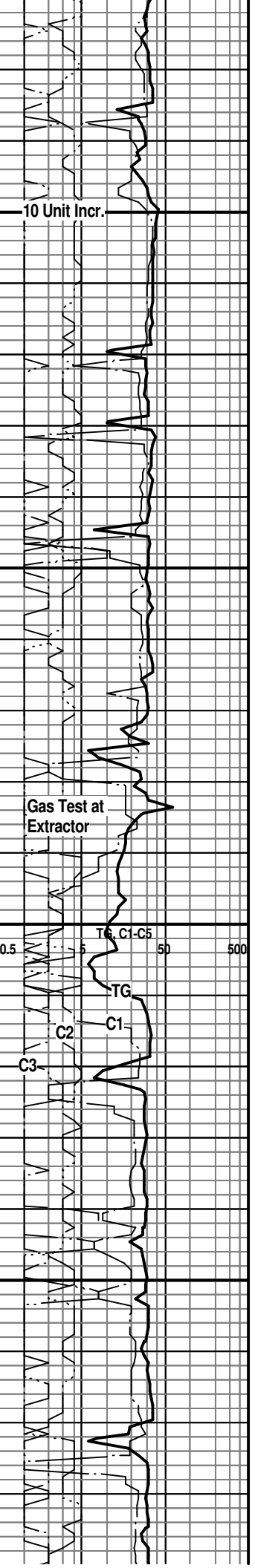
SH; dk gy, gy grn, firm, flakey

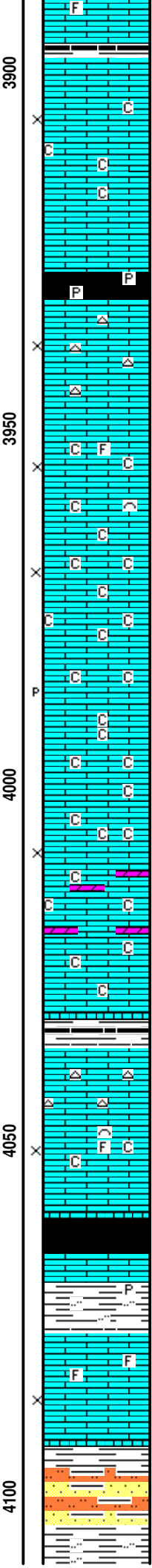
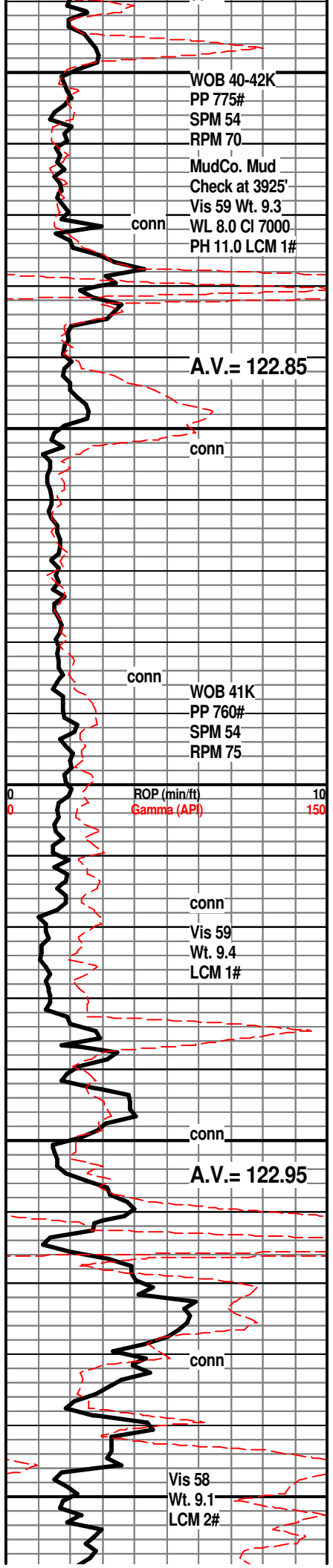
LM; lt to med brn, occ gy brn, dense, rare well cem foss mat, no vis por, scat gy cht, tite

LM; lt gy brn, finely pelletal/oolitic, fair interpart por, dull yel fluor, no stn or odor, ns.

LM; tan to lt brn, f to med xln, some gran text, poor to fair interxln por, scat off wh/gy cht, dull yel fluor, no stn, no gas kick, ns.

LM; tan to lt brn, buff, most dense, micritic, scat well





cem foss(fusulinids), tite

SH; med to dk gy, trc blk, platy

LM; tan to lt brn, buff, fxln, poor to fair interxln por, some chalky-soft mtz, dull yel min fluor, no stn or odor, ns.

LM; med brn, gy brn, dense, hd, ns.

QUEEN HILL SHALE 3928(-1682)
SH; blk, platy, occ pyr

LM; tan to off wh, cream, fxln w/fair interxln por, interbdd off wh/gy fresh cht, dull yel fluor, no stn or odor, no gas kick, ns.

LM; off wh, tan, wh, f to occ med xln, rarely foss, poor vis interxln por, interbdd soft chalky lmst, spotted lt yel min fluor, no stn, ns.

LM; off wh, tan, fxln, abnt soft chalky and chalky lmst, rare poor p-p por, lt yel min fluor, no stn, no gas kick, ns.

LM; off wh, wh, buff, fxln ip, much soft wh chalk and chalky lmst, trc sucrosic text, lt yel min fluor, ns.

LM; off wh, tan, med to cse xln, scat cse spar calc xtals, chalky ip, lt yel fluor, ns.

SH; dk gy, some blk, platy

LM; tan to off wh, buff, dense, off wh cht, tite

LM; tan to cream, foss to fxln, poor vis interxln por, minor soft chalky mtz, dull yel fluor, no stn or odor, ns.

HEEBNER SHALE 4061(-1815)
SH; blk, carb, platy
LM; med brn, dense, pyr ip, hd

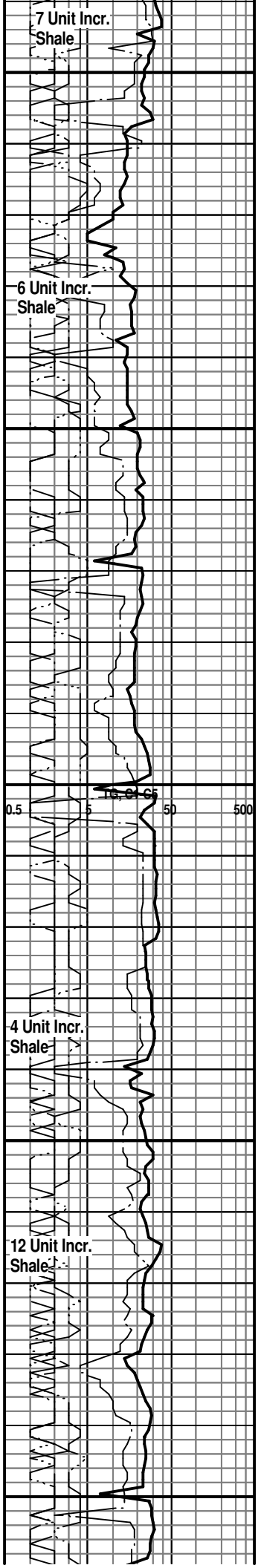
SH; grn, gy grn, silty, occ mica

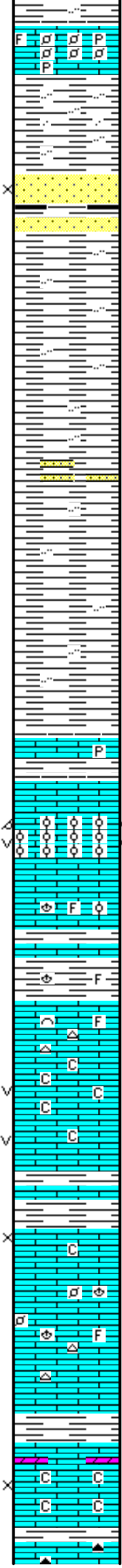
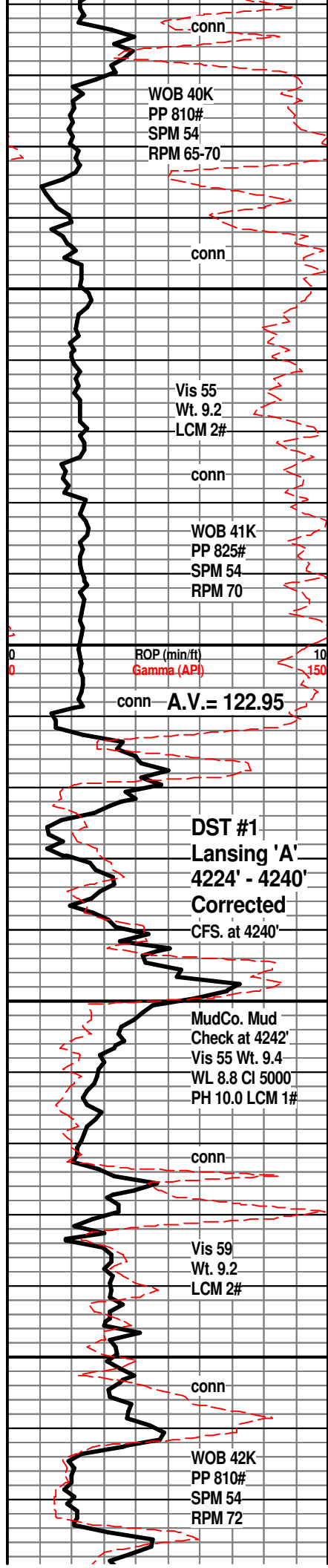
TORONTO 4077(-1831)
LM; lt gy, gy brn, hd, foss ip, tite

LM; wh, off wh, f to med xln, fair interxln por, some sucrosic text, lt yel fluor, no stn or odor, no gas kick, ns.

DOUGLAS SHALE 4093(-1847)
SS; lt gy, silty, vf gr qtz, soft, occ mica, argil w/grn shale interbdd

SH; lt gy, grn, platy, silty ip.





LM; med brn, gy brn, foss w/scat pellets and hash, well cem, pyr ip, tite, ns.

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

SS; lt gy, some clr, most f gr qtz, clusters, mica ip, fair intergran por, scat blk carb/coaly strks, no fluor, no stn or odor, ns.

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

SH; lt to med gy, most smooth, flakey ip, occ interbdd ss strngs

SH; med gy, fiss to flakey, rarely silty

BROWN LMST. 4213(-1967)
LM; med brn, hd, micritic, rare pyr

LANSING "A" 4219(-1973)
LM; lt brn, rare med brn, oolitic, med to occ lrg moldic por, gd oomoldic w/scat vug por, med to occ brite yel fluor, spotted/occ even lt brn oil stn, gas bubbles, Trc. FO., fair/gd odor, fair cut

DST #1: Lansing "A" 4224' - 4240'
Corrected Depths to Log

SH; med gy, firm, occ foss

LANSING "B" 4250(-2004)
LM; tan to lt brn, buff, foss ip, most well cem, interbdd off wh cht, no vis por, ns.

LM; tan to lt gy, fxln w/scat soft chalky mtX, fair vug por in some, dull yel min fluor, no stn or odor, no gas kick, ns.

SH; lt to med gy, gy grn, fiss

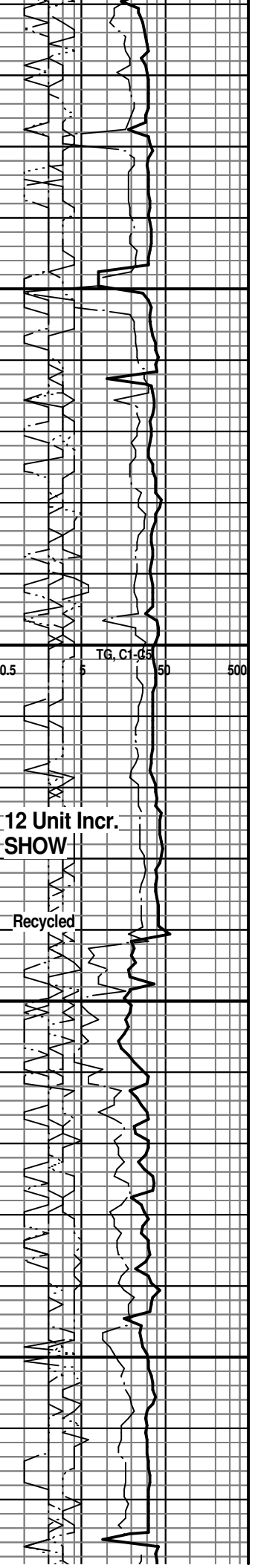
LM; off wh, buff, tan, med xln w/scat spar calc, minor chalky mtX, trc poor interxln por, no fluor, no stn, ns.

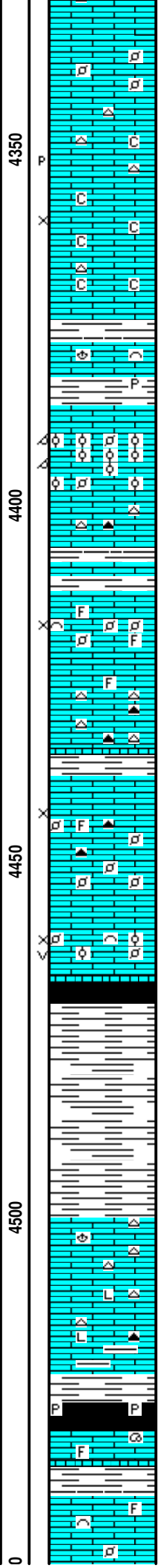
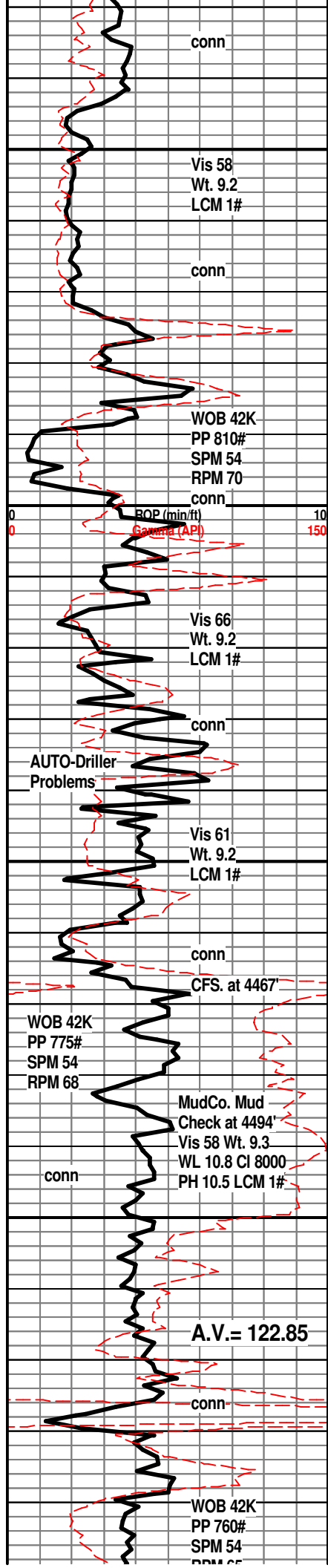
LM; lt to med brn, foss, hd, most well cem, scat gy cht, dull yel min fluor only, no stn, ns.

SH; grn, gy grn, platy

LM; off wh, tan, fxln w/scat sucrosic text, partly dolomitic, much soft chalky mtX, lt yel min fluor, fair interxln por, no stn, no gas kick, ns.

LM; med to occ dk brn, dense, scat smoky cht, no fluor.





ns.

LM; tan to cream, buff, fxl n to micritic, rare well cem foss/small pellets, no vis por, ns.

LM; off wh, cream, buff, f to occ med xln, fair vis interxln w/occ p-p por, scat spar calc xtals, interbdd wh to off wh cht, minor chalky mtx, no fluor, no stn, ns.

LM; off wh, buff, med xln, chalky ip, poor to no vis por, no fluor, ns.

LM; med to dk brn, hd, foss ip, tite

SH; med to occ dk gy, platy, occ pyr

LANSING/.KC. "H" 4386(-2140)

LM; tan to lt brn, oolitic, most w/med to occ lrg molds, brittle ip, gd oomoldic por, spotted lt yel min fluor, no stn or odor, no gas kick, ns.

LM; med brn, hd, occ cherty, tite

SH; gy grn, firm, some waxy

LM; tan to cream, buff, foss w/scat pellets and cse foss frags, poor to fair interpart por, dull yel min fluor, no stn or odor, no gas kick, ns.

LM; tan to lt brn, most dense, scat off wh to brn cht, no vis por, no fluor, ns,

K.C. "I" 4438(-2192)

LM; tan to lt brn, foss - finely pelletal, most well cem, poor interpart por, spotty lt yel fluor, no odor, trc blk tar/dead oil stn, scat blk/smoky cht, no gas kick

LM; tan to buff, off wh, foss ip, most med xln w/scat fair vug and interxln por, lt yel min fluor, no vis oil stn, no odor, no cut, no sample shows

SH; dk gy, trc blk, platy

SH; gy grn, grn, some varic w/red - brn, silty ip.

K. C. "J" 4500(-2254)

LM; tan to lt brn, buff, fxl n w/rare foss mat, blocky, cherty ip, no vis por, scat lt yel min fluor, no stn or odor, ns.

LM; lt to med brn, hd, micritic to litho, scat gy to smoky cht, some argil lmst, no vis por, ns.

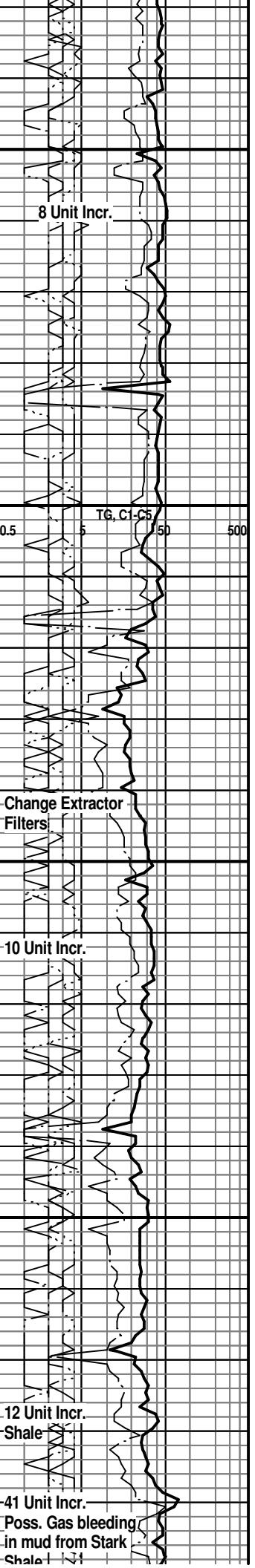
STARK SHALE 4526(-2280)

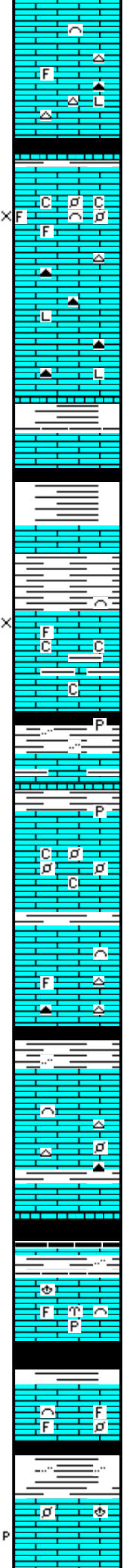
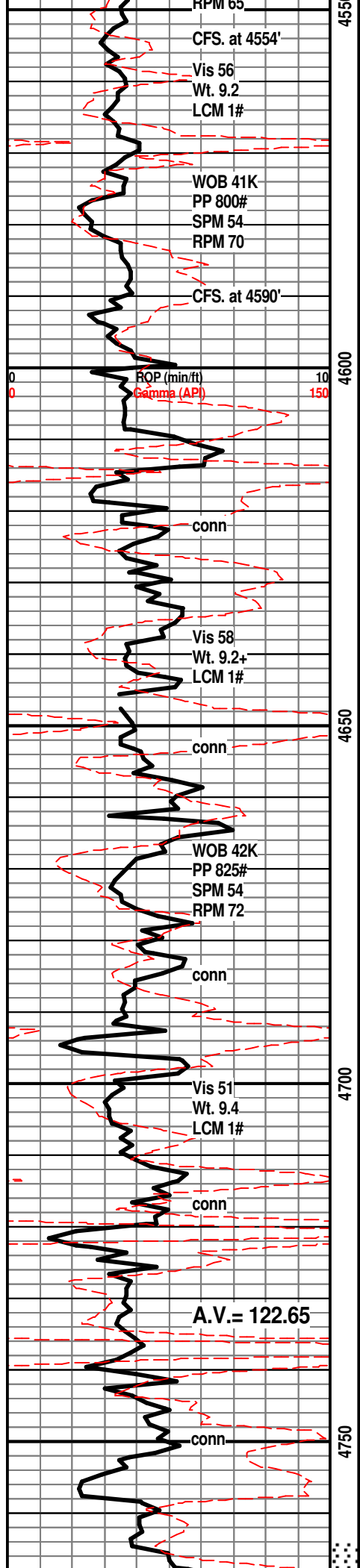
SH; blk, carb ip, platy, occ pyr

LM; med brn, foss ip, dense

SWOPE 4539(-2293)

LM; tan to cream, lt brn, scat foss mat, most well cem, lt yel fluor, no vis stn, no odor, no vis gas bubbles, no sample shows





sample shows
LM; lt brn, tan, most micritic, rare foss mat, no vis por, spotted lt yel fluor, no vis stn, no odor, some litho lmst, interbdd tan/amber cht, ns.

SH; dk gy, trc blk, platy
HERTHA 4572(-2326)
LM; off wh, tan, wh, foss ip, scat med xln chalky soft lmst, poor to fair interxln w/trc small vug por, no fluor, no odor, few pcs. w/blk tar/dead residual oil, no apparent gas kick

LM; med brn, some mottled text, scat amber to smoky cht, litho ip, hd, no vis por, ns.

BASE KANSAS CITY 4605(-2359)

SH; grn, rust red, brn, varic, some blk, flakey

PLEASANTON 4622(-2376)
LM; tan to med brn, f to med xln, most dense, no vis por, no fluor, ns.

LM; off wh, buff, tan, med xln, scat foss mat, soft chalky mtx in some, poor interxln por, no fluor, no stn or odor, no samples shows
LM; lt to med gy, some rose/pink, weathered, argil ip, tite

MARMATON 4654(-2408)
LM; lt gy, gy brn, hd, micritic, some argil
SH; dk gy, pyr ip, platy

LM; tan to lt brn, rare off wh, fxln w/scat foss pellets, well cem, dense, no vis por, dull yel to no fluor, minor chalky mtx, no stn, ns.

LM; tan to buff, off wh, foss ip, most dense, blocky, rare tan/amber cht, no vis por, no fluor, ns.

SH; grn, gy grn, some blk, platy
PAWNEE 4698(-2452)
LM; tan to off wh, buff, foss ip, well cem, scat lt yel fluor, no stn or odor, no gas kick, ns.
LM; lt to med brn, hd, scat gy/amber cht, no vis por, no fluor, ns.

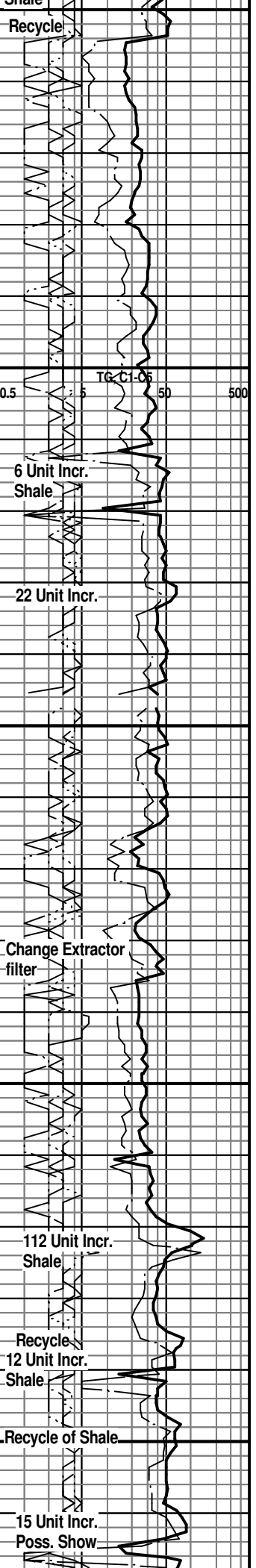
SH; blk, carb ip, blocky, gassy ip.

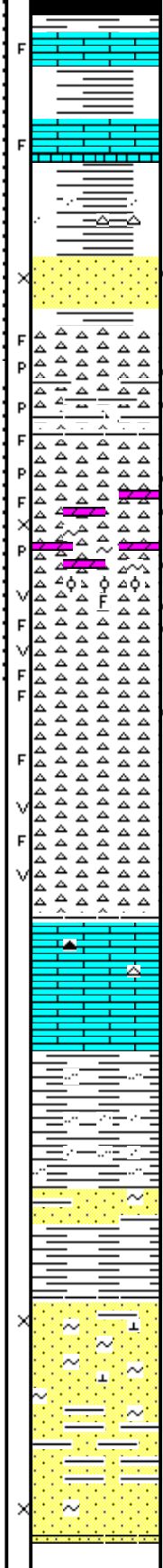
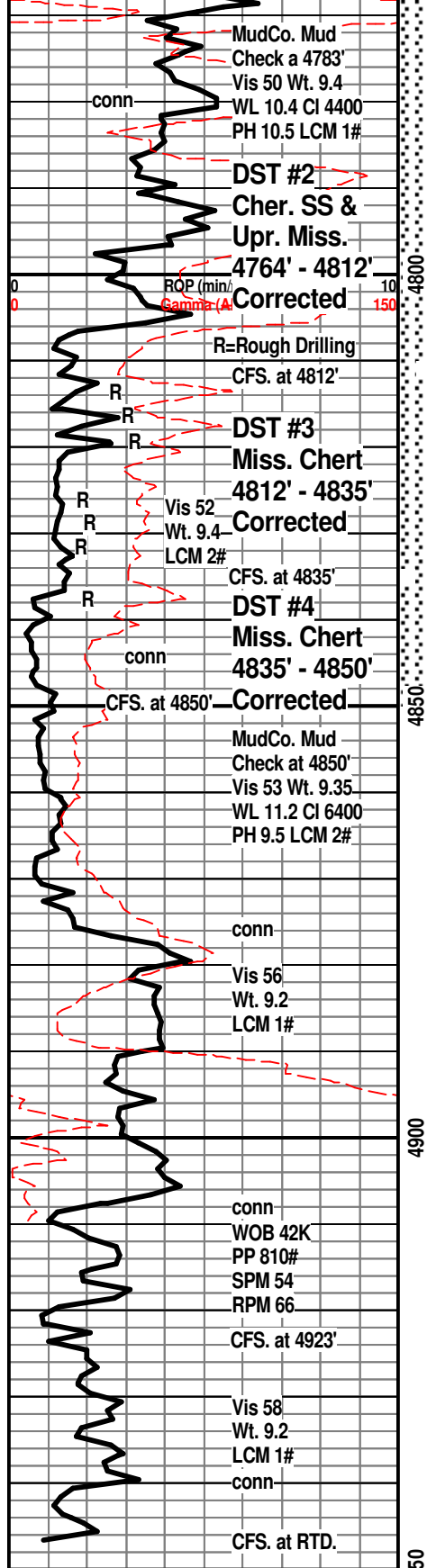
LM; lt brn, tan, hd, rare foss, occ pyr, no vis por, spotted lt yel fluor, no stn or odor, ns.

CHEROKEE SHALE 4736(-2490)
SH; dk gy, blk, carb ip, platy
LM; tan to lt brn, fxln, most dense, scat well cem foss mat, spotted lt yel fluor, no stn or odor, ns.

SH; varic, fiss - flakey, silty ip.

LM; tan to brn, foss ip, scat poor p-p por, occ dk brn/blk residual oil/tar, spotted lt yel fluor, no odor, no live shows





SH; dk gy, blk, grn, some varic, platy
 LM; off wh, tan, med xln w/scat fracs, lt to med yel fluor, no vis stn, no vis gas bubbles
 SH; varic, platy to flakey
 LM; tan, off wh, fxl, most dense, trc fracs, trc blk tar/gils/dead oil, lt yel fluor, no odor

CHEROKEE SANDST. 4798(-2552)
 SS; clr, lt gy, f to med gr, qtz, rnd/subrnd, some loose gr, fair intergran por, lt yel fluor, scat dk brn live stn/blk tar/gils, faint odor, poorly srted

MISS. CHERT 4806(-2560)
 CHT; wh, off wh, fresh and trip, fracs, fair p-p por, blk tar/some med brn stn, gas bubbles, faint odor, lt to med yel fluor

DST #2: Cher.SS & Miss. 4764' - 4812'
 CHT; wh, off wh, trip and fresh, spotted/even oil stn, fair odor, much brite yel fluor, SSFO, fair p-p por, fracs, some blk tar/gils, some grn tripolite

DST #3: Miss. Chert 4812' - 4835'
 CHT; off wh, grn, dolo w/cherty dolo, much spotted lt brn stn, fair odor, SSFO, fair p-p and interxln por, most w/med to brite yel fluor

DST #4: Miss. Chert 4835' - 4850'
 CHT; wh, off wh, scat lrg qtz xtals, fresh and trip, p-p and vug por w/SFO, spotted/even lt brn stn, faint odor, fracs, occ foss cht, shows decreasing toward base

DST #4: Miss. Chert 4835' - 4850'
Corrected Depths to Log
 CHT; wh, off wh, fresh and trip, rare dk brn spotted oil stn, decrease in show with depth, scat fracs, no odor, v. spotted med yel fluor

CHT; wh, most fresh, porc, scat vug por, no fluor, no stn, ns.

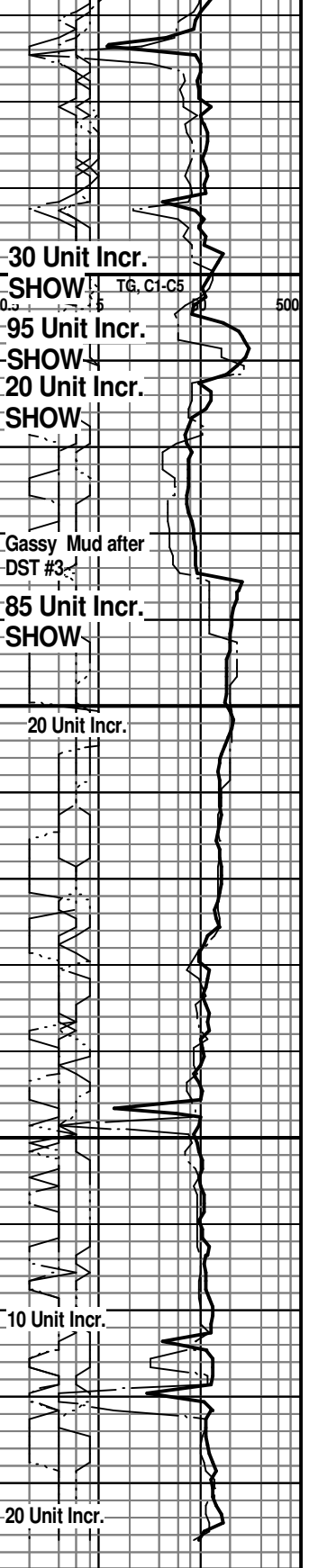
LM; med gy brn, some red brn, weathered, oxidized, cherty, hs.

KINDERHOOK SHALE 4890(-2644)
 SH; grn, gy grn, some varic, platy, occ silty
 SH; grn, gy grn, firm, silty to sandy

SS; lt gy, lt brn, some pale grn, vf gr qtz, argil, dirty, no fluor, ns.

KINDERHOOK SAND 4919(-2673)
 SS; wh, pale grn, some glau, all f gr qtz, clusters, calc mtx, fair intergran por, no fluor, no stn or odor, no sample shows, interbdd hd partly siliceous ss

SS; wh, pale brn, rare tan tint, most f gr qtz, clusters, scat glau, fair to scat gd intergran por, no fluor, no stn or odor, ns.



RTD. 4950' at 6:15 PM. 5/9/13

LTD. 4950'

Halliburton DIL, NEU/DEN, Microlog, Sonic

NOTE: This log was shifted upward by

