

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: School Trust #22-5
Location: 2261' FSL & 1650' FWL, Sec. 5-T35S-R12W, Barber Co., KS.
Licence Number: 15-007-24127-00-00 Region: Hardtner Field
Spud Date: 2/7/2014 Drilling Completed: 2/19/14
Surface Coordinates: 2261' FSL & 1650' FWL, Sec. 5-T35S-R12W

Bottom Hole Same as above
Coordinates:
Ground Elevation (ft): 1468' K.B. Elevation (ft): 1477'
Logged Interval (ft): 3600' To: 5580' Total Depth (ft): 5580'
Formation: Simpson Formation at Total Depth
Type of Drilling Fluid: Freshwater/Gel to 3408'; Chemical Gel 3408' to 5580'

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OPERATOR

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GEOLOGIST

Name: Jon D. Christensen
Company: Consulting Petroleum Geologist
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Wichita, KS. 67205-8856

Cores

None Taken

DSTs

DST #1(Stalnaker Sand) 4174' - 4190'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Strong Blow BOB/1 Min, 10" Blowback on ISI, FFP Strong Blow BOB/30 Sec., no Gas to Surface, BOB Blowback in 15 Min. of FSIP; REC: 830' Gas in Pipe, 1400' GCSW(5%G, 95%W) CI 87,000, Mud 5000; IFP 104-362#, ISIP 1685#, FFP 385-692#, FSIP 1684#, IHP 2115#, FHP 1995#, BHT 121 Deg. F.

DST #2(Miss. Limestone) 4866' - 4921'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Weak Blow built to 2.5", FFP Weak 2" Blow, no Blowback on SI's; REC: 10' SGCM(2%G, 98%M), no oil, no Water; IFP 25-29#, ISIP 107#. FFP 25-30#, FSIP 51#, IHP 2471#, FHP 2429#, BHT 119 Deg. F.

DST #3(Miss. Limestone) 4924' - 4976'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair 9" Blow, FFP Fair 8" Blow, no Blowback on SI's; REC: 189' Gas in Pipe, 121' GOCM(5%G, 5%O, 90%M), 63' GOCMW(2%G, 2%O, 60%W, 36%M), 124' SGCMSW(2%G, 74%W, 24%M) CI 125,000, Mud 3500; IFP 55-129#, ISIP 1132#, FFP 138-168#, FSIP 1037#, IHP 2486#, FHP 2454#, BHT 125 Deg. F.

DST #4(Misener Sand) 5258' - 5272'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair 9.5" Blow, FFP Fair 5.5" Blow, no Blowback on SI's; REC: 178' Gas in Pipe, 40' HOCM(30%O, 70%M), no Water; IFP 18-28#, ISIP 294#, FFP 18-36#, FSIP 814# and Building, IHP 2733#, FHP 2627#, BHT 127 Deg. F.

Comments

2/7/14 MIRU Sterling Drilling Rig #4 Spud at 5:00 PM; 2/8/14 TD. 270' - WOC; 2/9/14 Drilling at 1337'; 2/10/14 Drilling at 2180'; 2/11/14 Drilling at 2965'; 2/12/14 Drilling at 3815'; 2/13/14 TD. 4194' - TOH with DST #1; 2/14/14 Drilling at 4523'; 2/15/14 TD. 4925' - TOH for DST #2; 2/16/14 TD. 4980' - TIH for DST #3; 2/17/14 Drilling at 5175'; 2/18/14 TD. 5275' - TIH after DST #4; 2/19/14 Drilling at 5538' - Reached TD. of 5580' at 12:05 PM., LTD. 5578'(Halliburton); 2/20/14 RTD. 5580' - LDDP to set 5 1/2" Production Casing - PD. 5:45 PM.

Set new 13 3/8"(55#) Surface Casing at 266' with 300 sacks of cement(Allied Cementing Co.). Cement did Circulate. PD. at 6:45 AM. 2/8/14.

Set new 5 1/2"(15.5#) Production Casing at 5575' with 350 sacks of "Loeb Blend" Cement(Basic Energy Services). PD. 5:45 PM. 2/20/14.

Surveys: 0.50 Deg. at 270'(Surface Casing); 0.50 Deg. at 1370'(Plugged Bit trip); 0.25 Deg. at 2450'(Bit Trip); 0.50 Deg. at 3504'; 0.75 Deg. at 4194'(DST #1); 2.50 Deg. at 4925'(DST #2); 3.0 Deg. at 4980'(DST #3); 0.50 Deg. at 5275'(DST #4); 0.75 Deg. at 5580'(RTD).


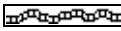
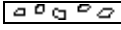
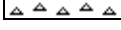
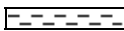







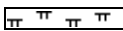
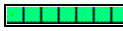
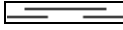
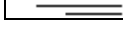
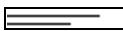



Pipe Strap at 4194'(DST #1): Strap 0.59' Short to the Board, no correction made to the Board.

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








































































LOG TOPS: Elgin Sand 3690(-2213), Heebner Shale 3841(-2364), Toronto 3860(-2383), Iatan Lmst. 4099(-2622), Stalnaker Sand 4170(-2693), Kansas City 4366(-2889), Stark Shale 4542(-3065), Hertha 4578(-3101), Base Kansas City 4618(-3141), Marmaton 4636(-3159), Cherokee Shale 4752(-3275), Cherokee Sand 4780(-3303), Miss. Chert 4830(-3353), Miss. Lmst. 4862(-3385), Kinderhook Shale 5160(-3683), Woodford 5226(-3749), Misener Sand 5263(-3786), Viola 5284(-3807), Simpson Shale 5387(-3910), Wilcox Sand 5408(-3931), McLish Sand 5533(-4056), Arbuckle 5574(-4097).

NOTE: This log was shifted upward by 3' 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

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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OTHER SYMBOLS

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

- [V] Vuggy
SORTING
 [W] Well
 [M] Moderate
 [P] Poor

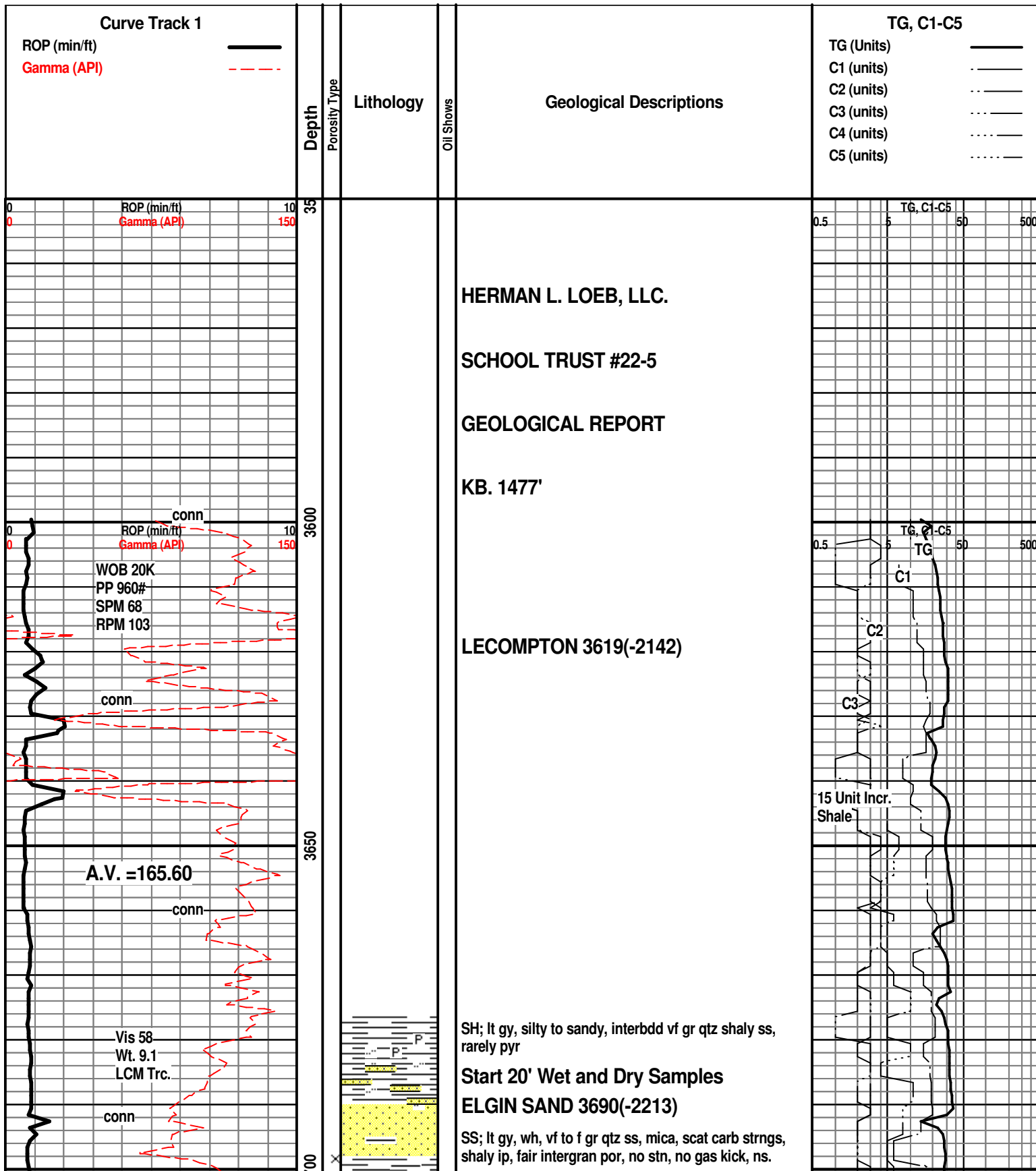
- ROUNDING**
 [R] Rounded
 [r] Subrnd
 [a] Subang
 [A] Angular

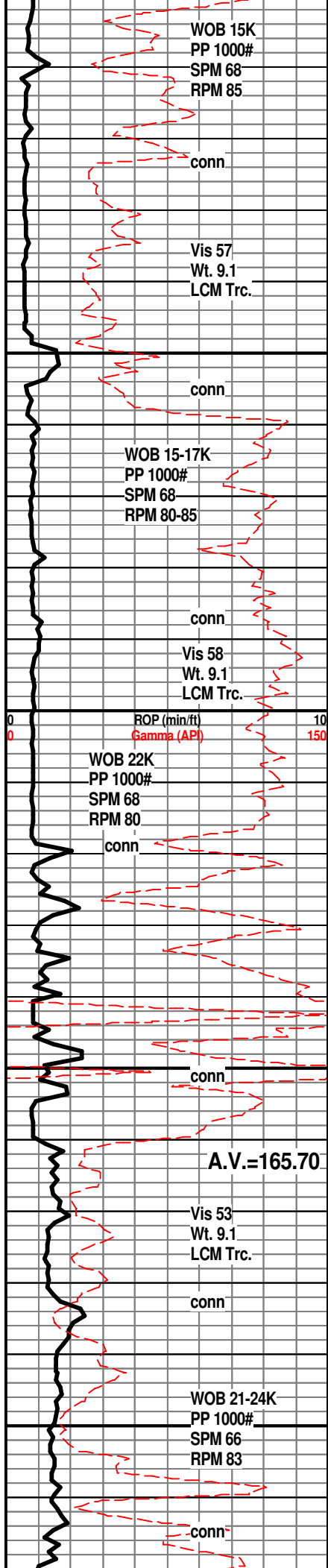
- [S] Spotted
 [Q] Ques
 [D] Dead

- EVENT**
 [Rft] Rft
 [S] Sidewall

- INTERVAL**
 [Core] Core
 [Dst] Dst

- OIL SHOW**
 [Even] Even





SS; lt gy, pred f gr qtz, mica ip, fair to occ gd intergran por, argil ip - some very sticky, no stn, no fluor, ns.

SS; lt gy, clr, wh, f to med gr, clusters, mica ip, fairly clean, fair to gd intergran por, no stn or odor, no fluor, no gas kick

LM; lt brn, hd, foss ip, sandy, occ pyr, tite

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

SH; lt to med gy, platy, smooth, rarely silty

LM; med brn, dense, micritic, hd

SH; dk gy, platy, smooth

HEEBNER SHALE 3841(-2364)

SH; blk, carb ip, trc gas, blocky

LM; med brn, hd, micritic, dense

LM; tan - lt gy, dense, blocky

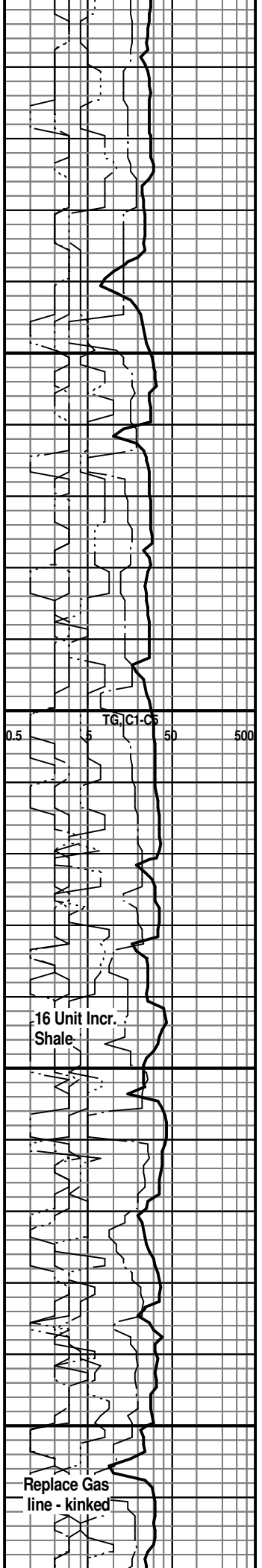
TORONTO 3860(-2383)

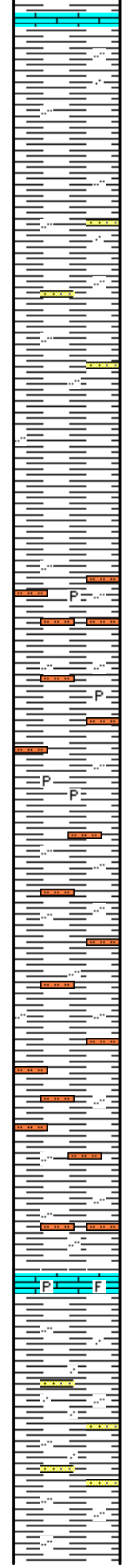
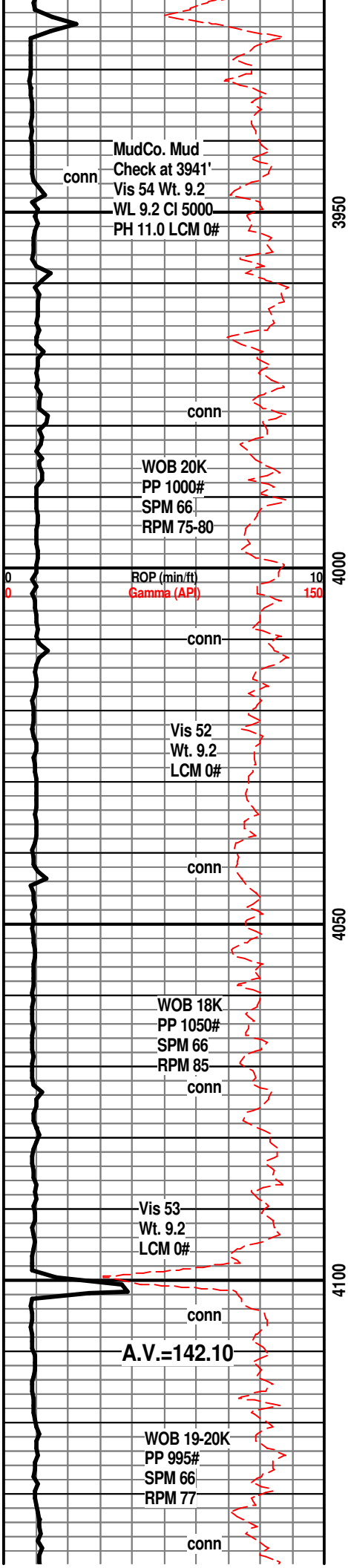
LM; off wh, buff, tan, foss ip w/scat pellets and foss hash, lt yel min fluor, poor to no vis interpart por, no stn or odor, ns.

LM; off wh, tan - buff, fxl n w/scat foss mat, trc poor interxln/interpart por, dull to lt yel min fluor, no stn or odor, no gas kick

LM; wh, off wh, tan, foss ip w/poor vis interpart por, occ med spar calc xtals, interbdd soft chalk and chalky lmst, dull to occ lt yel min fluor, no stn or odor, ns.

LM; lt brn, dense, micritic





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

SH; It to med gy, platy, interbdd sandy sh w/occ vf gr ss strngs.

SH; It to med gy, silty w/interbdd sltst, pyr ip, platy

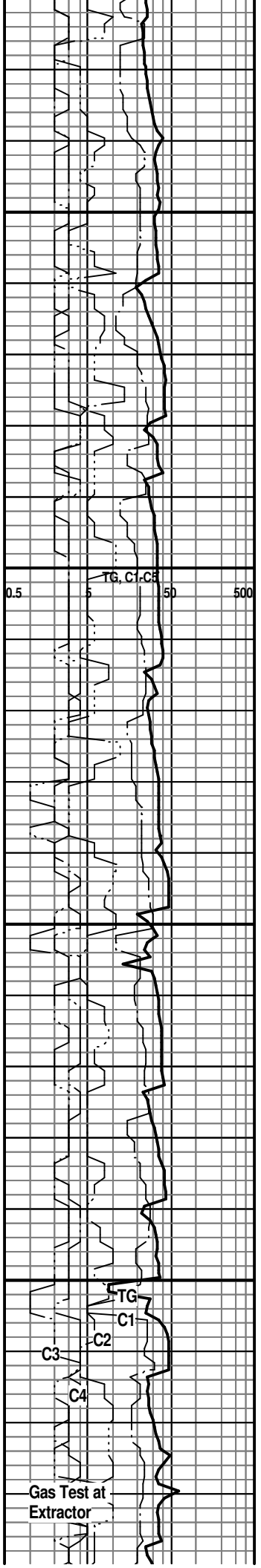
SH; It to med gy, silty w/interbdd sltst, firm

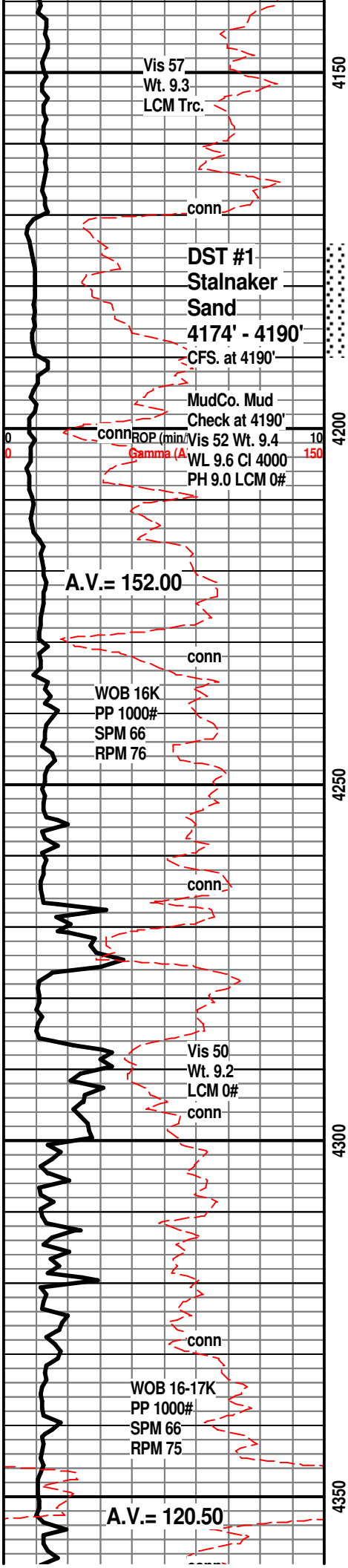
IATAN 4099(-2622)
LM; med brn, hd, trc pyr, rare well cem foss.

NOTE: PULL 30 STAND WIPER TRIP AT 4109'

SH; It gy, silty to sandy, occ mica

SH; It gy, sandy w/occ strngs/interbdd vf gr qtz ss, tite





SH; lt gy, silty to sandy, mica ip, platy, interbdd tite vf gr qtz ss strngs

STALNAKER SAND 4170(-2693)
 SS; lt gy, clr, pred f gr qtz, clusters, fair to gd intergran por, subrnd/subang gr, calc cmt, occ salt & pepper gr, scat dull yel/pale blue fluor, gas bubbles, v. faint gas odor, no stn, no cut

DST #1: Stalnakker Sand 4174' - 4190' Corrected Depths to Log
 SS; lt gy, f gr qtz, clusters, fair to gd intergran por, subang gr, interbdd argil ss, no fluor, no stn or odor, ns.

SH; lt gy, sandy w/interbdd shaly ss

SS; lt gy, off wh, f to rarely med gr qtz, clusters, some gd intergran por, barren, no stn or odor, no gas kick

SH; lt to med gy, platy, sandy ip.

LM; lt gy, gy brn, sandy, pyr ip, hd

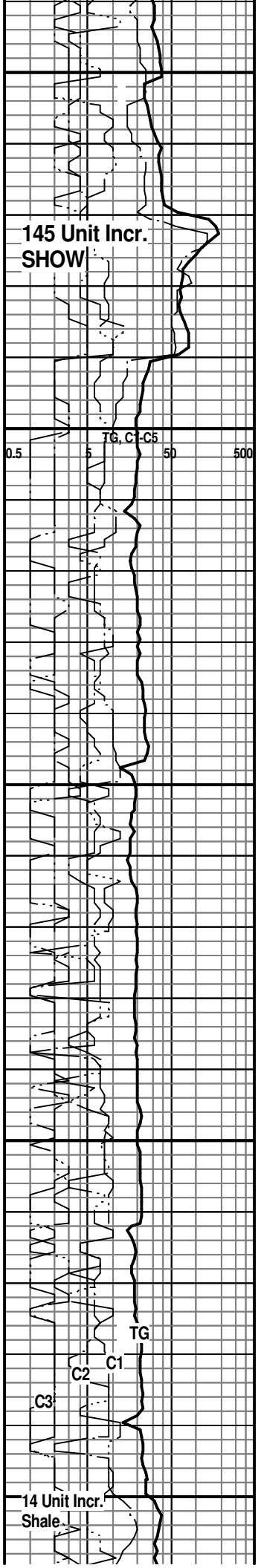
SH; lt to med gy, firm, platy

LM; med to occ dk brn, scat well cem foss mat, hd, dull yel min fluor, no vis por, ns.

SH; med gy, platy, interbdd med to dk brn lmy strngs, foss ip.

SH; med to dk gy, lmy ip, firm

SH; blk, carb, trc coaly frags, pyr ip.



KANSAS CITY 4366(-2889)

LM; tan to off wh, buff, fxln w/occ foss mat, poor interxln por, dull yel min fluor, no stn or odor, no sample shows

LM; off wh, tan, foss ip, fair interpart por, minor chalky mtx, poor to fair interpart por, dull yel min fluor, no stn or odor, ns.

SH; med gy grn, platy

LM; lt brn, lt gy brn, most micritic, blocky, scat wh to off wh foss cht, no vis por, ns.

LM; off wh, buff, fxln, fair interxln por, minor soft chalky mtx, lt yel min fluor, no stn or odor, no gas kick

LM; tan to lt brn, f to med xln, scat well cem foss mat, fair interxln/interpart por, scat lt yel min fluor, no stn or odor, ns.

SH; med gy, gy grn, fiss

LM; off wh, buff, tan, fxln w/scat chalk and chalky mtx, trc poor interxln por, interbdd gy foss cht, lt yel min fluor, no stn, ns.

LM; lt to med brn, oolitic, med size molds, gd oomoldic por, brittle, some rextalized, lt yel min fluor, no vis stn, no odor, no gas kick

LM; lt brn, tan, fxln w/scat foss mat, well cem, occ gy/off wh cht, no fluor, no stn or odor, ns.

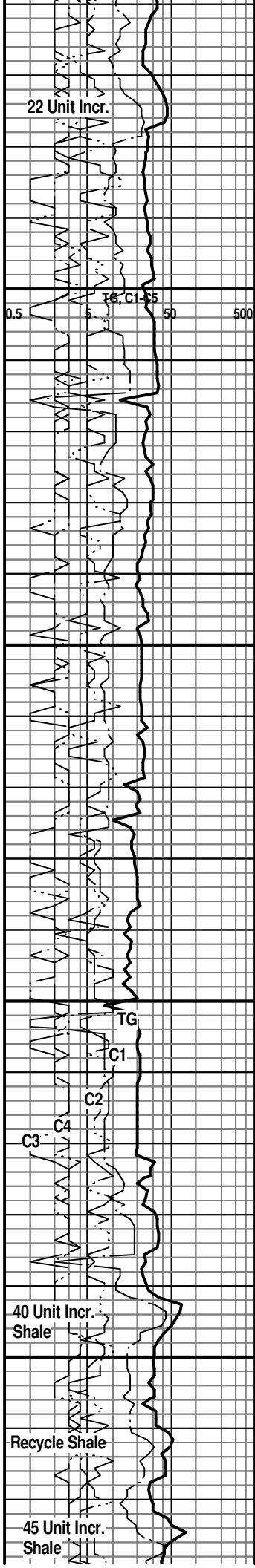
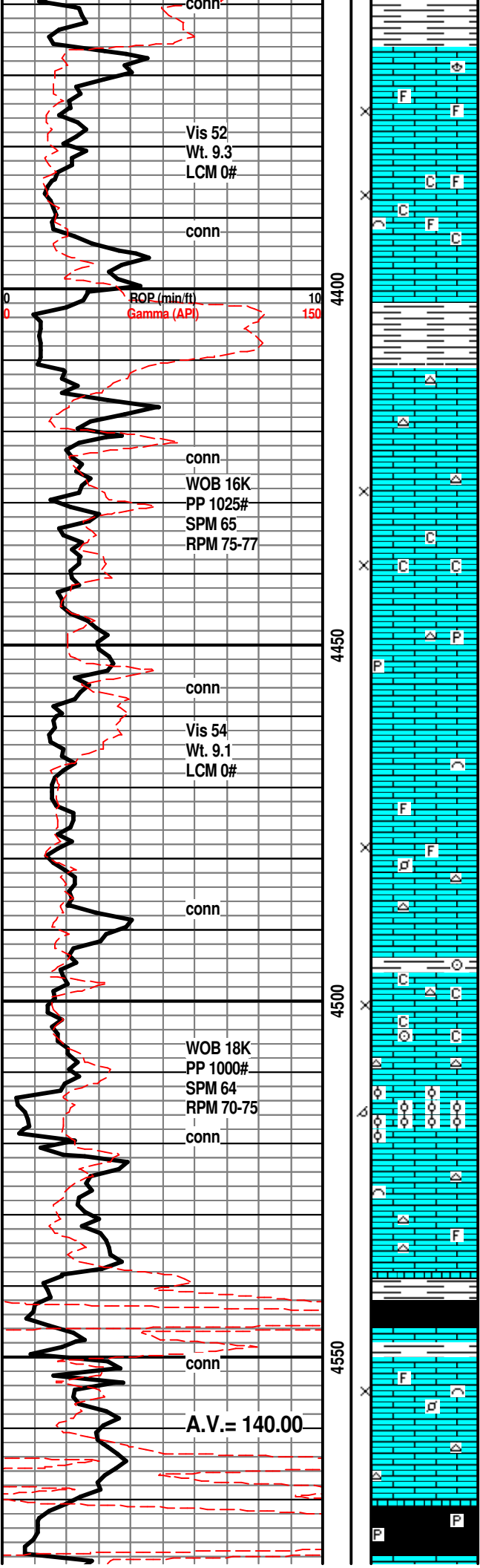
STARK SHALE 4542(-3065)

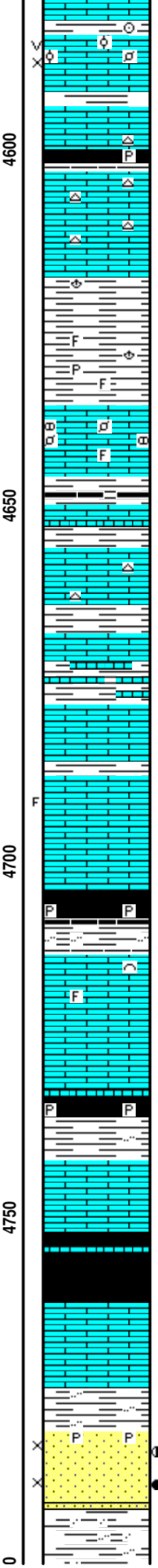
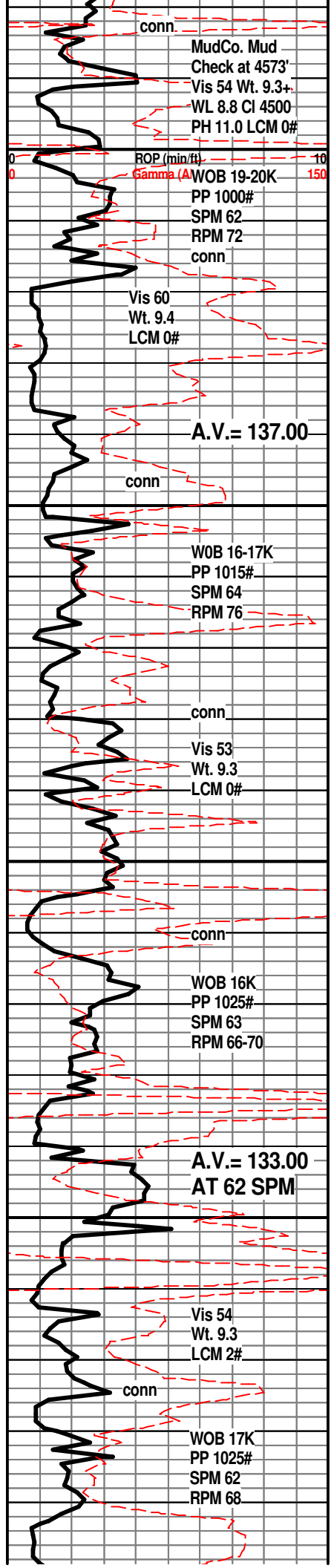
SH; v. dk gy - blk, carb ip, trc gas

LM; tan to lt brn, buff, foss w/trc poor interpart por, most tite, trc blk dead tar/gilsonite on few pcs, no live shows, no odor, scat dull yel min fluor, no apparent gas kick

SH; blk, carb ip, blocky to soft, pyr ip.

DEPTH 4579(-3101)





HERTHA 4578(-3101)
 LM; lt brn, foss ip w/scat well cem ooids/oolitic ip, trc poor interpart/vug por, no vis stn, no odor, ns.
 SH; grn, rust red, brn, varic ip.
 SH; blk, platy, pyr ip.
 LM; med to dk brn, blocky, hd, scat gy to off wh cht, no vis por, no fluor, ns.

BASE KANSAS CITY 4618(-3141)
 SH; dk gy, gy grn, grn, platy, occ foss, minor pyr

MARMATON 4636(-3159)
 LM; med brn, hd, some nodular - rnd, foss ip, most dense, no fluor, ns.
 SH; dk gy, some blk, platy
 LM; med brn, hd, most micritic, blocky, rare lt brn/tan cht, no vis por, no fluor, ns.
 LM; grn, lt brn, argil w/interbdd grn platy sh
 LM; lt to med gy, gy grn, dense, micritic, tite
 LM; tan to cream, lt brn, fxln w/trc frags, scat med yel fluor, no odor, no vis oil stn, no apparent gas kick

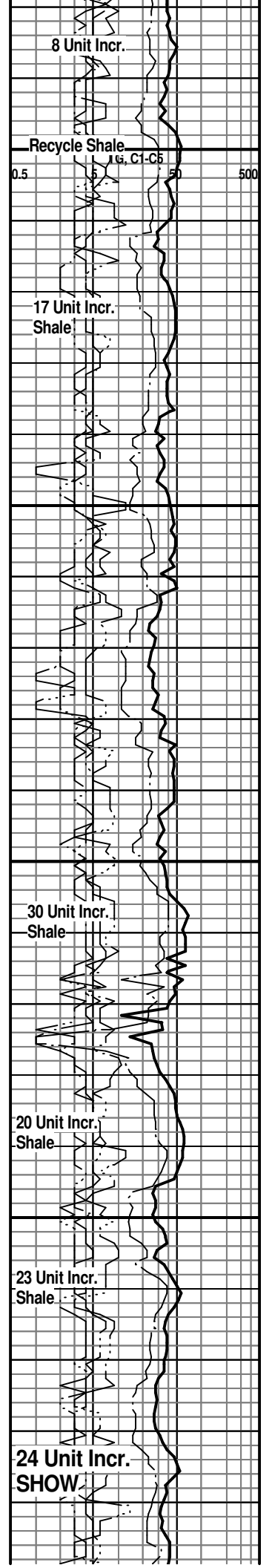
SH; blk, carb ip, platy, pyr ip, trc gas, also grn/gy grn silty sh

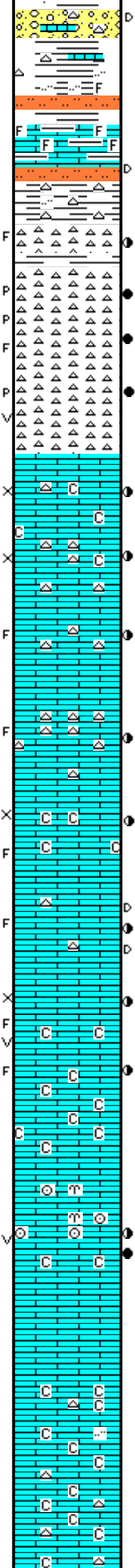
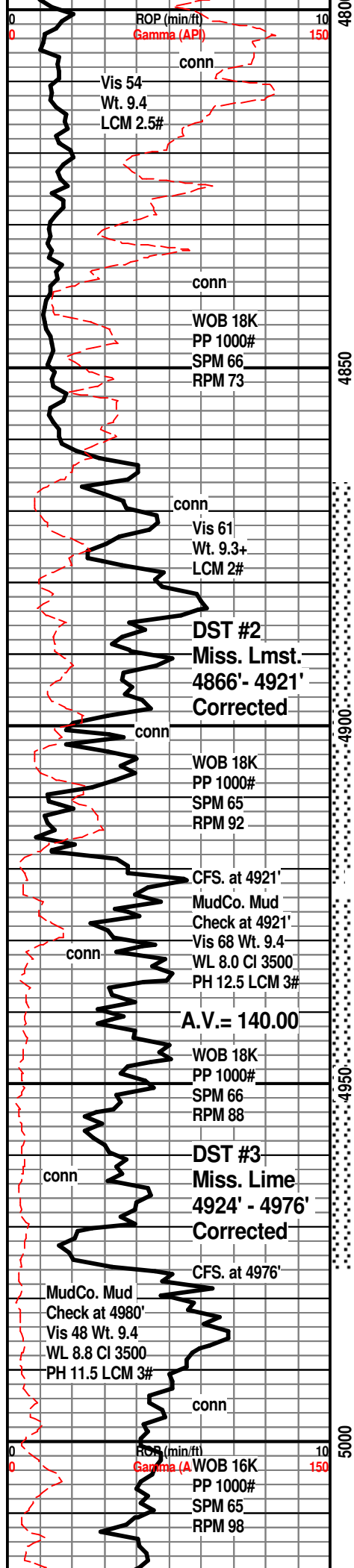
PAWNEE 4713(-3236)
 LM; lt to med brn, hd, rare well cem foss mat, most dense, no vis por, dull yel min fluor, no stn or odor, ns.
 LM; tan to lt brn, most dense - micritic, hd, no vis por, no fluor, ns.
 SH; blk, carb ip, blocky, scat pyr

LM; med brn, rare foss, hd, blocky, no vis por, rare dull yel min fluor, ns.

CHEROKEE SHALE 4752(-3275)
 SH; blk, blocky, carb ip.
 LM; med to occ dk brn, hd, blocky, interbdd grn to gy grn silty shale, no vis por, no stn or odor, ns.

CHEROKEE SAND 4780(-3303)
 SS; lt brn(Oil Stain) to wh, vf gr qtz, pyr fri, clusters, fair/gd intergran por, spotted to occ even dk brn oil stn-some live stn, lt yel fluor, faint odor/cut, no vis gas, well srt "sugar" sand
 SH; grn, gy, maroon, varic ip, occ silty to sandy





SH; varic ip, scat weath lmst and cht, trc hvy blk tarry dead oil, faint odor

SLTST; grn, platy, firm, with abnt sea grn soft sh, some grn highly foss argil lmst, interbdd weathered cht w/scat blk tar/gilsonite

MISSISSIPPI CHERT 4830(-3353)
 CHT; wh, off wh, most fresh, fracs w/blk oil in frac faces, fair p-p por w/pcs bleeding blk oil drops, gas bubbles, golden yel fluor, faint odor

CHT; wh, dk brn/blk(Oil stn), fresh and trip, trip w/fair p-p por bleeding oil/gas, fracs vis in fresh cht, gd odor, dull golden yel fluor, SFO

CHT; wh, brn/blk(Oil stn), fair p-p w/scat vug por, SFO, gd odor, few gas bubbles, dull golden yel fluor, exc. cut

MISSISSIPPI LMST. 4862(-3385)
 LM; tan to off wh, buff, f to med xln, fair interxln por, minor chalky mtx, spotted med brn oil stn, faint odor, med yel fluor, fair cut, scat cht w/live stn(some maybe from above)

LM; tan to off wh, wh, micritic ip, blocky, scat fresh wh cht, looks tite

LM; wh, off wh, cherty ip w/spotted dk brn/blk oil stn, fracs vis, med to brite yel fluor, gd cut/ SSFO

LM; wh, off wh, cherty ip, interbdd soft chalky mtx, scat blk dead oil on chert faces - some fracs, no odor, med yel fluor

LM; wh, cse xln, chalky ip, spotted live oil stn, v. faint odor, scat gd interxln por, occ cht w/fracs and blk oil stn, some barren por, med yel flour, trc gas bubbles(MUCH SHALE SLOUGH)

DST #2: Miss. Limestone 4866' - 4921'(Corrected Depths to Log)
 LM; lt gy, off wh, med to cse xln, fracs w/live med brn stn in fracs, sev. gas bubbles, med/brite yel fluor, gd cut, faint odor, scat pcs w/blk dead tar/gils

LM; tan, lt gy, off wh, med xln to gran text, fair interxln por, SFO(hvy oil), faint odor, interbdd wh soft chalky lmst w/ns, fracs w/sev. lrg calc xtals w/scat oil stn

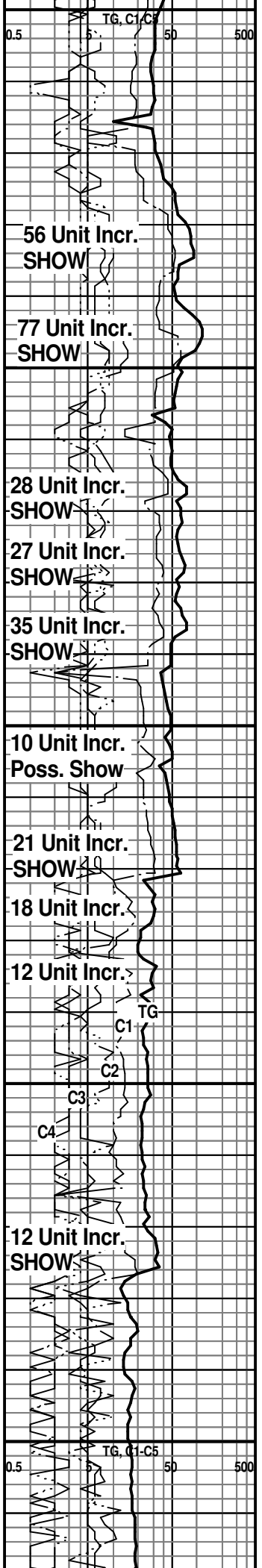
LM: off wh, wh, buff, fxln w/abnt soft chalk and chalky mtx, lt yel fluor, no vis stn, no odor

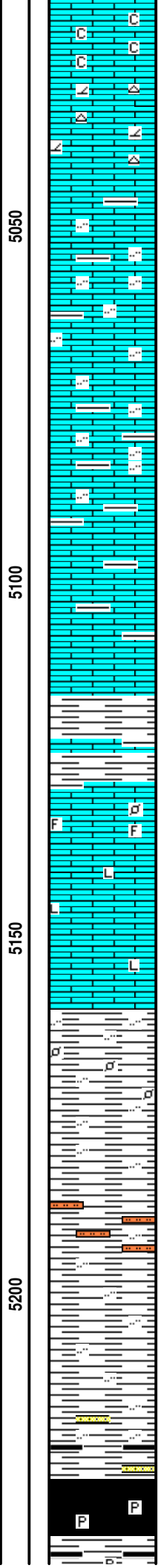
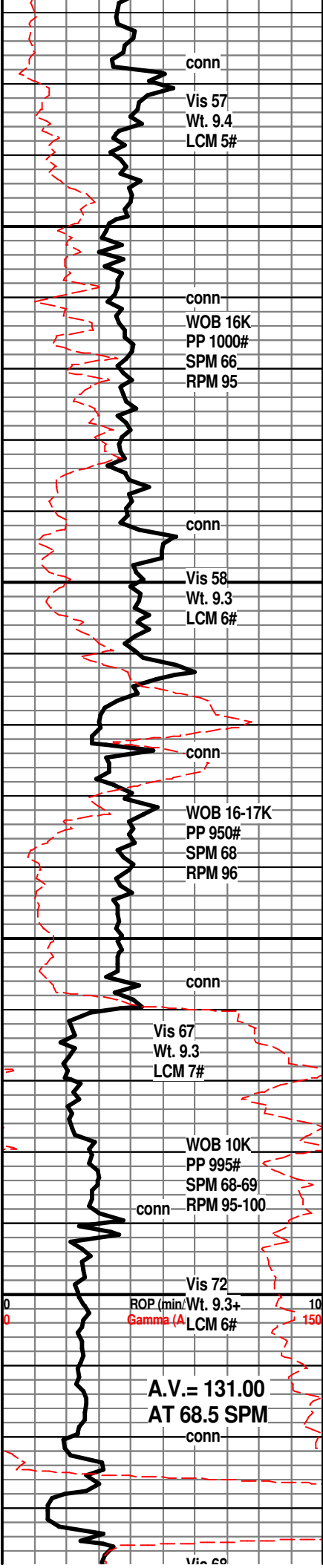
LM; off wh, lt gy, foss w/cse foss(crin & bryozoa) frags w/spotted to even dk brn oil stn w/SFO, abnt cse calc xtals, scat gd vug por

DST #3: Miss. Limestone 4924' - 4976' (Corrected Depths to Log)

SAMPLES MOSTLY SHALE SLOUGH AFTER DST

LM; wh, off wh, rare red/brn, fxln w/much chalk and chalky mtx, cherty ip w/fresh wh to transl cht, lt yel min fluor, no vis stn, no odor, ns.





LM; off wh, lt gy, fxl n w/some sucrosic text, interbdd dolomitic lmst, no vis por, minor chalky mtx, scat wh cht, no stn or odor, ns.

LM; grn, gy grn, gritty text, argil ip.

LM; med gy grn, argil, gritty, occ off wh chalky, interbdd shaly lmst, no vis por, no fluor, ns.

LM; lt to med brn, gy brn, blocky, hd, argil ip.

SH; grn, gy grn, platy

LM; lt to med brn, occ gy brn, fxl n w/rare foss mat, blocky, argil ip, no vis por, no fluor, ns.

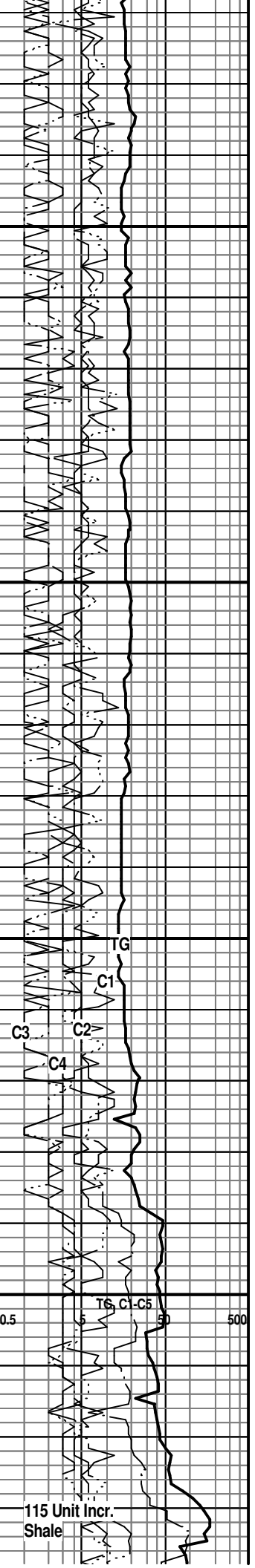
LM; tan to lt brn, micritic, litho ip, hd, no vis por, no fluor, ns.

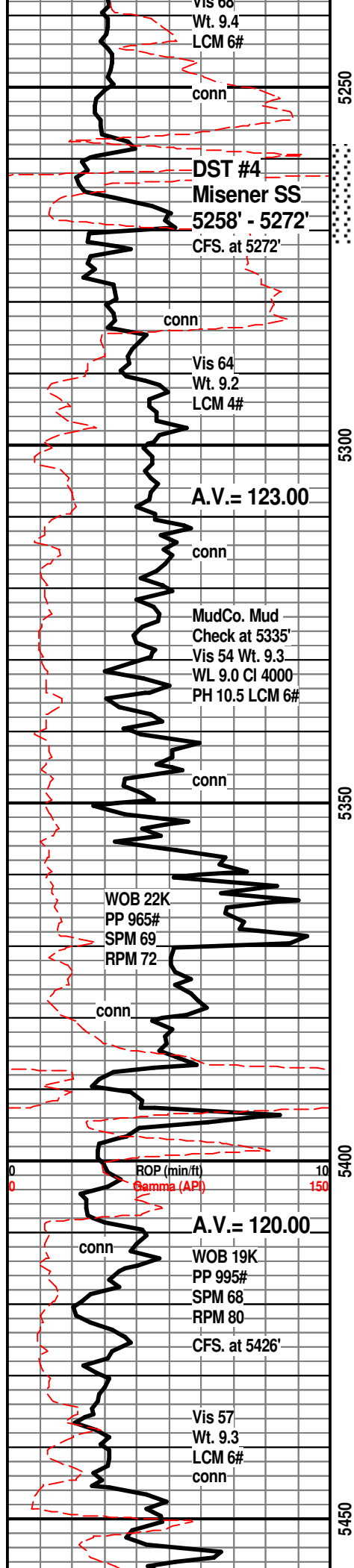
KINDERHOOK SHALE 5160(-3683)
SH; med gy grn, trc maroon/red, grn, silty ip, firm, rare foss pellets

SH; med to dk gy, gy brn, silty, firm

SH; med gy brn, med brn, silty ip, platy, trc of vf gr qtz ss

WOODFORD SHALE 5226(-3749)
SH; blk, v. dk brn, gassy ip, occ pyr, soft, fair hydrocarbon odor





SH; dk brn - blk, carb, abnt yel "flecks" of fluor, hydrocarbon odor, occ pyr

SH; blk, v. dk brn, carb, odor
MISENER SAND 5263(-3786)
 SS; clr, med gr qtz, subrnd-rnd gr, clusters and loose gr, fair/gd intergran por, faint odor, even lt brn oil stn w/SFO(light oil), med yel fluor, gd cut, gas bubb., lmy hd pyr tite ss, dk gy clay incl.

DST #4: Misener Sand 5258' - 5272'
Corrected Depths to Log
VIOLA 5284(-3807)

DOL; lt to med brn, rare gy brn, gritty to partly sucrosic text - partly sucrosic, hd, no vis por, no fluor, ns.

LM; off wh, tan, buff, med xln, interbdd soft chalky mtx, most dense, scat dove gy to tan cht, no fluor, no stn or odor, ns.

LM; tan to lt brn, blocky, most micritic, v. cherty ip w/ dove gy, gy & lt brn fresh cht, no vis por, scat cse spar calc xtals, no fluor, ns.

CHT & CHTY LM; med brn, gy brn, much fresh hd cht and cherty tite lmst, no vis por, no fluor, ns.

LM; med brn, gritty text, partly dolomitic, abnt med brn fresh cht, hd, no vis por, no fluor, ns.

LM; tan to lt brn, rarely cherty, some gritty text, hd, no vis por, ns.

SIMPSON SHALE 5387(-3910)

SH; med grn, flakey, pyr ip.
 DOL; lt gy brn, cse rhombic ip, some lmy, tite, no vis por, no fluor, ns.

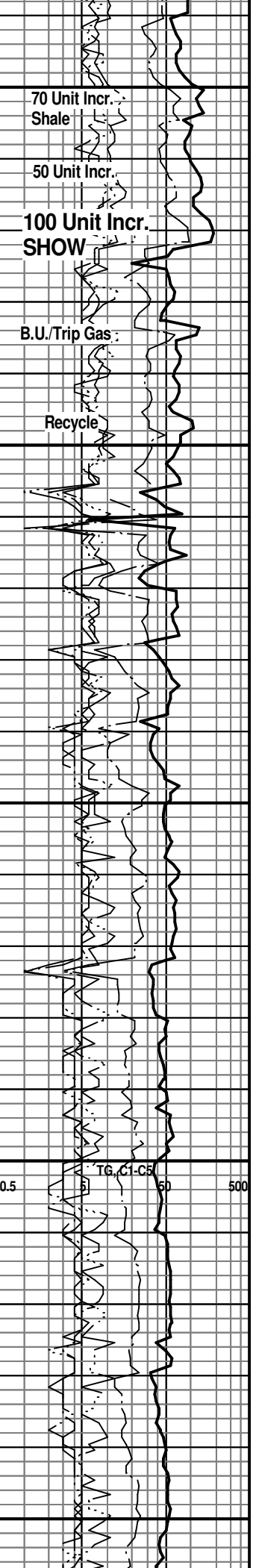
SH; med grn, platy, some pyr, sandy w/some dolomitic tite ss

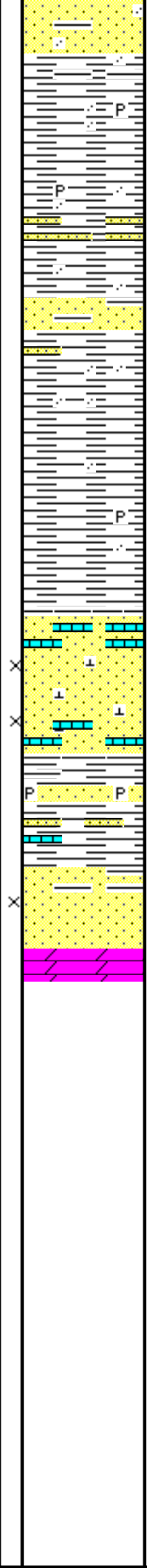
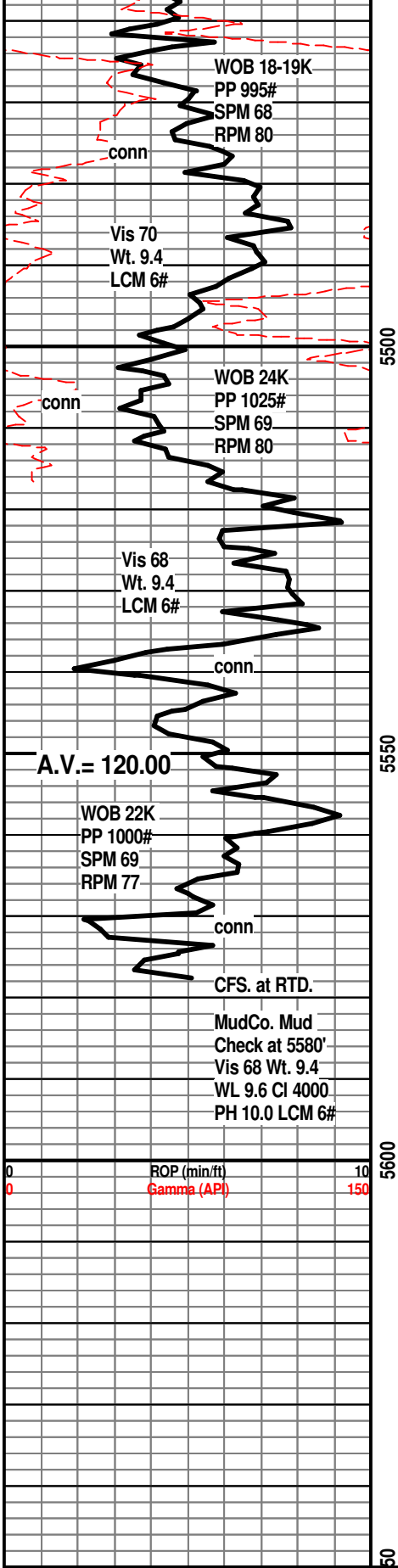
SIMPSON "WILCOX" SS 5408(-3931)

SS; lt gy, clr, f to med gr, qtz, clusters, dolomitic at top, some v. tite, bcm pred. med gr, rnd to subrnd gr, fri, fair to gd intergran por, no fluor, no stn or odor, no gas kick, barren, ns.

SS; lt gy - clr, f to med gr qtz, most rnd gr, fair srt, clusters, fri w/mostly gd intergran por, minor argil, no fluor, no stn or odor, ns.

SS; lt gy, vf to f gr, poorly srt, some argil, occ "salt and





pepper sand, no stn, ns.

SH; grn, gy grn, med gy, platy to flakey, rare pyr, sandy ip w/interbdd hd pyr ss

SS; lt gy, tan, most f gr qtz, argil w/shaly ss and sandy sh, dirty, no fluor, no stn, ns.

SH; med grn to sea grn, platy to flakey, occ waxy luster, scat sandy sh

SIMPSON "MCLISH" SS 5533(-4056)
SS; lt gy, tan, f to occ med gr, poorly srt, most clustered sand, some clr subrnd - rnd gr, calc cmt, lmy at top, fair intergran por, no fluor, no stn or odor, interbdd argil ss, ns.

SH; grn, gy grn, interbdd clr med gr qtz ss, some v. hd lmy, pyr ip, interbdd grn sandy sh

SS; clr to tan, lt gy, med gr, some calc cmt, clusters and loose gr, fair to gd intergran por, rarely argil, no fluor, no stn or odor, ns.

ARBUCKLE 5574(-4097)
DOL; tan to lt brn, sucrosic to fine rhombic, uniform med yel fluor, no vis por, no stn, ns.

RTD. 5580' at 12:05 PM. 2/19/14

LTD. 5578'

Halliburton "Quad Stack" ACRT, NEU/DEN, Microlog, Sonic, and XRMI(Imaging Log)

NOTE: This log was shifted upward by 3' to 4' for correlation purposes with the Halliburton LOGS.

