

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: Graves #3
Location: 675' FNL & 1251' FEL, Sec. 16-T22S-R33W, Finney Co., KS.
Licence Number: 15-055-22521-00-00 Region: Damme Field
Spud Date: 7/30/2019 Drilling Completed: 8/8/2019
Surface Coordinates: 675' FNL & 1251' FEL, Sec. 16-T22S-R33W

Bottom Hole Same as above
Coordinates:
Ground Elevation (ft): 2871' K.B. Elevation (ft): 2882'
Logged Interval (ft): 3600' To: 4800' Total Depth (ft): 4800'
Formation: Mississippian at Total Depth
Type of Drilling Fluid: Freshwater/Gel to 3464'; Chemical Gel 3464' to TD.

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OPERATOR

Company: Daystar Petroleum, Inc.
Address: P.O. Box 560
Eureka, KS. 67045-0560

GEOLOGIST

Name: Jon D. Christensen
Company: Consulting Petroleum Geologist
Address: 277 S. Maple Dunes Court
Wichita, KS. 67235-7500

Cores

None Taken

DSTs

DST #1(Kansas City "I" + "J" zones) 4032' - 4061' Test Times 30"-60"-60"-120" IFP Weak Blow built to 14", 0.75" Blowback on ISI; FFP Fair Blow built to 19.5", no Blowback on FSI; REC: 380' Gas in Pipe, 170' Gassy Oil(30%G, 70%O, 26 Deg. API), 120' GMCO(25%G, 55%O, 20%M), 120' GMCWO(20%G, 30%O, 15%W, 35%M) (CI 10,800 - MudCo, Mud 2,100); IFP 32-109#, ISIP 829#, FFP 143-178#, FSIP 829#, IHP 2010#, FHP 1963#, BHT 110 Deg. F.

DST #2(Altamont zone) 4314' - 4353' Test Times 30"-60"-60"-90" IFP Weak Blow built to 5.5", FFP Weak Blow built to 4", no Blowback on SI's; REC: 5' Clean Oil(32 Deg. API), 120' OCMW(10%O, 50%W, 40%M), 125' MSW w/oil spots(CI 23,600 - MudCo, Mud 3,150); IFP 28-69#, ISIP 457#, FFP 87-131#, FSIP 425#, IHP 2142#, FHP 2137#, BHT 112 Deg. F.(NOTE: Ran EM tool).

DST #3(Miss. St. Louis "B" zone) 4658' - 4680' Test Times 30"-30"-10"-OUT; IFP Weak Blow Died in 7", FFP No Blow, no Blowback on ISI; REC: 4' Drilling Mud with oil spots; IFP 23-27#, ISIP 34#, FFP 20-19#, FSIP NONE, IHP 2275#, FHP 2206#, BHT 114 Deg. F.(NOTE: Ran EM tool).

Comments

7/29/19 MIRU Murfin Drilling Rig #21; 7/30/19 Rig up and Spud well at 5:30 PM; 7/31/19 TD. 395' - WOC; 8/1/19 Drilling at 2055'; 8/2/19 TD. 3600' - Bit Trip; 8/3/19 Drilling at 3887'; 8/4/19 TD. 4061' - DST #1; 8/5/19 Drilling at 4328'; 8/6/19 Drilling at 4430'; 8/7/19 TD. 4680' - DST #3; 8/8/19 RTD. 4800' - TOH for Logs; 8/9/19 RTD. 4800', LTD. 4799' - Cementing upper Stage of Production Casing.

Set new 8 5/8"(23#) Surface Casing at 394' with 250 sacks of Cement(Basic Energy Services). Cement did Circulate. PD. at 1:30 AM. 7/31/19.

Set new 5 1/2"(15.5#) Production Casing at 4799' with 170 sacks of cement(Basic Energy Services) - Bottom Stage PD. at 1:16 AM. DV tool at 1992'. Cemented top stage with 350 sacks. Cement circulated to Surface. PD. at 7:08 AM. 8/9/18.


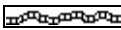
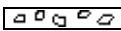
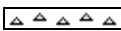
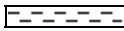







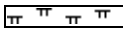

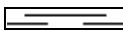
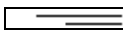
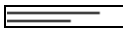



Surveys: 0.5 Deg. at 395'(Surface Casing); 0.7 Deg. at 1215'; 0.7 Deg. at 2006'; 0.8 Deg. at 2831'; 0.5 Deg. at 3600'(Bit Trip); 0.5 Deg. at 4061'(DST #1), 1.25 Deg. at 4353'(DST #2); 1.50 Deg. at 4680'(DST #3); 1.75 Deg. at 4800' RTD.

After review of the Pioneer Energy Services logs, DST and sample shows of commercial amounts of hydrocarbons, the operator elected to set new 5 1/2" Production Casing for completion in the K.C. "I" and "J" zones, and Altamont Lmst.








































































LOG TOPS: Base Anhydrite 1998(+884), Heebner Shale 3762(-880), Toronto 3777(-895), Lansing 3804(-922), Lansing "E" 3906(-1024), KC. "H" 4012(-1130), KC "I" 4038(-1156), KC "J" 4058(-1176), Stark Shale 4134(-1252), KC "K" 4141(-1259), KC "L" 4181(-1299), BKC 4267(-1385), Marmaton 4290(-1408), Altamont 4316(-1434), Pawnee 4370(-1488), Fort Scott 4394(-1512), Cherokee Shale 4406(-1524), Morrow Shale 4589(-1707), Mississippi 4598(-1716), St. Louis "B" 4657(-1775).

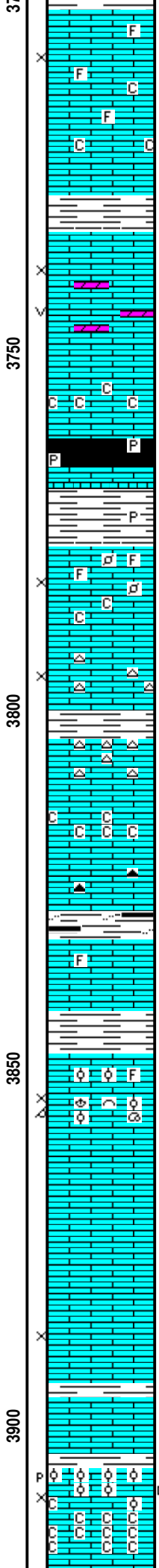
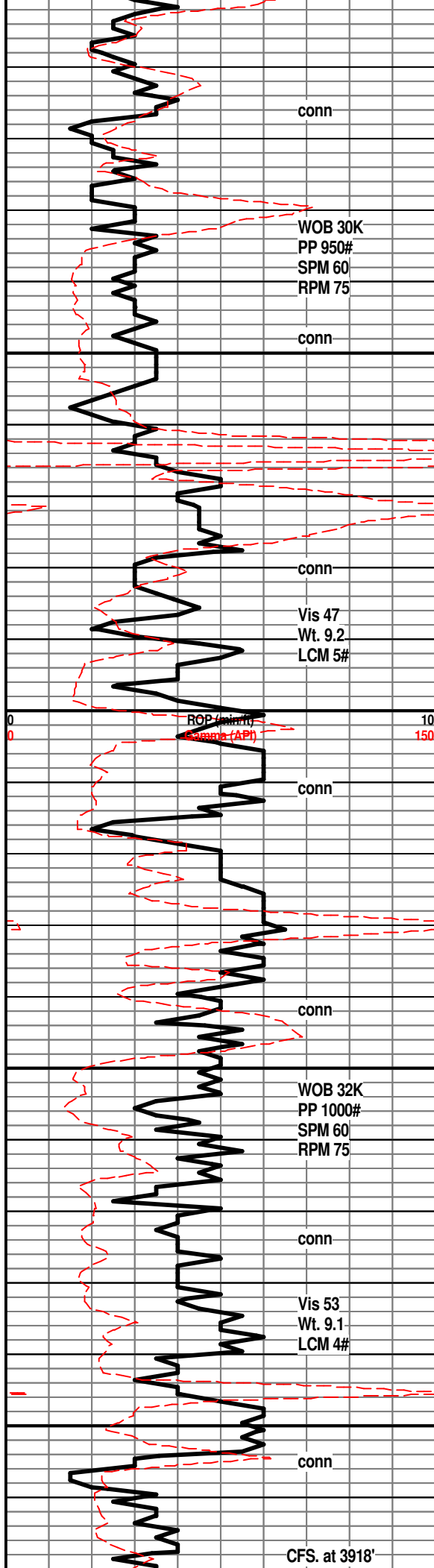
NOTE: Portions of this log were shifted 1' to 2' for correlation purposes with the Pioneer Energy Services logs.

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; tan to lt brn, foss ip, scat fxln lmst, poor to fair interxln/interpart por, minor soft chalky mtx, dull yel min fluor, ns.

SH; med gy, platy, smooth

LM; lt brn, fxln, some mottled text, occ off wh/lt gy cht, fair interxln por, no fluor, interbdd sucrosic dolomitic lmst, occ vug por, ns.

LM; wh, off wh, soft, v. chalky, ns.

HEEBNER SHALE 3762(-880) LOG

SH; blk, carb ip, occ pyr
LM; med brn, hd - blocky, tite

SH; gy grn, lt gy, platy, rare pyr

TORONTO 3777(-895) LOG

LM; tan to off wh, wh, foss at top, scat small pellets, bcm chalky, lt yel min fluor, no stn or odor, ns.

LM; off wh, cream, fxln, poor to fair interxln por, cherty ip, lt yel min fluor, ns.

LANSING 3804(-922) LOG

LM; tan to buff, fxln to micritic, most dense, abnt wh fresh cht, no fluor, no stn or odor, ns.

LM; off wh, buff, fxln, v. chalky - soft, dull yel min fluor, no stn or odor, ns.

LM; med brn, dense - micritic, occ dk brn to dk gy/smoky cht, no vis por, ns.

SH; dk gy, blk, some silty

LM; med brn, hd, blocky, tite

SH; med to dk gy, platy

LM; tan to cream, buff, foss - partly oolitic, small ooids w/occ foss hash, fair interpart/interoid por, dull yel min fluor, ns.

LM; lt gy, gy brn, hd - micritic, tite

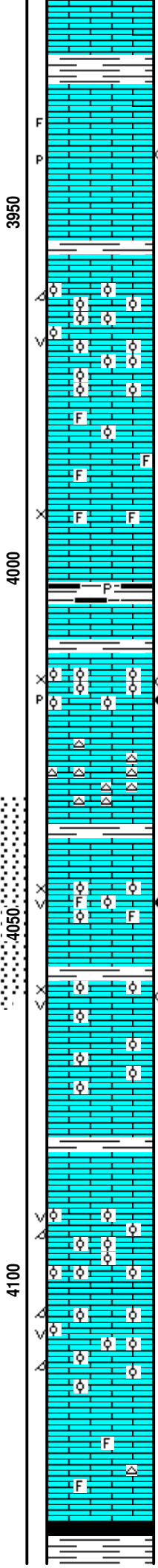
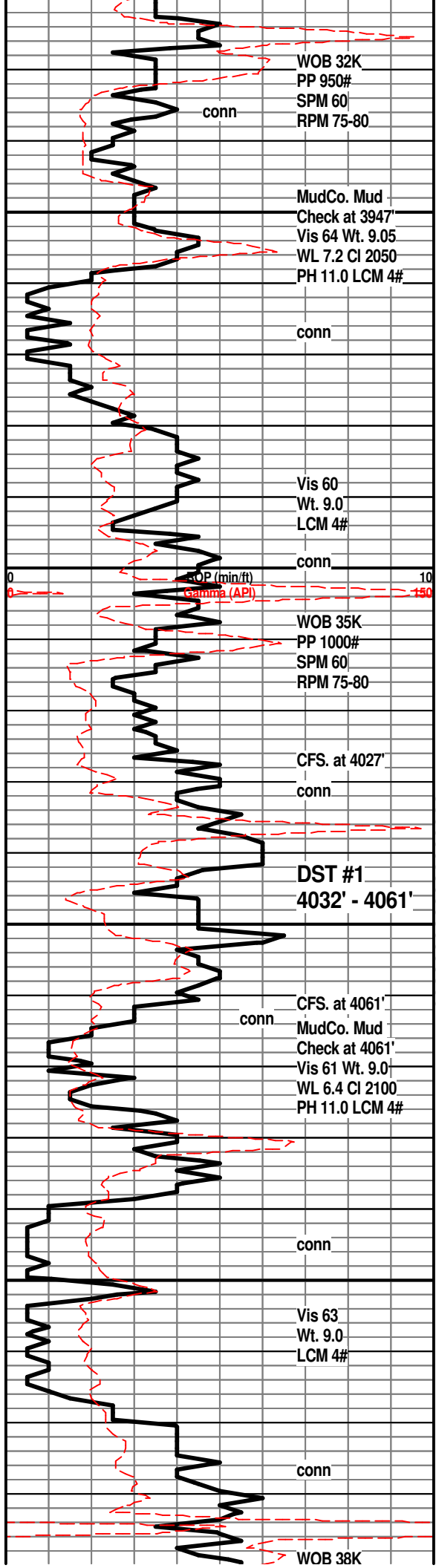
LM; off wh, tan - cream, fxln, foss ip, poor to fair interxln por, no fluor, no stn or odor, ns.

SH; med to dk gy, platy

LM; lt to med brn, hd, blocky, tite

LANSING "E" ZONE 3906(-1024) LOG

LM; lt to med brn, oolitic, fair interoid and p-p por, much dk dead oil stn, strong sulfur odor, v. dull yel flour, gd cut, bcm very chalky with depth



LM; tan to cream, off wh, most dense - micritic, tite

SH; med gy, some sticky - soft ip.

LM; off wh, tan - buff, fxln, scat dk brn to blk v. spotted oil stn, sulfur odor - stinky, occ lt yel fluor, poss frags in some, rare p-p por, most with barren por, poor show

LM; tan to buff, lt brn, oolitic, well dev. oomoldic por, occ vug por also, brittle, occ soft chalky mtx, scat lt yel min fluor, no stn or odor, ns.

LM; tan to lt brn, foss - rare ooids, bcm tite

LM; tan to lt brn, f to med xln, partly foss, poor interpart por, no fluor, ns.

SH; dk gy - blk, platy, rare pyr

LANSING/K.C. "H" ZONE 4012(-1130) LOG
LM; off wh, finely oolitic, most w/spotted to occ even lt to med brn oil stn, gd odor, med to occ brite yel fluor, immediate cut, SSFO, few pcs w/gd p-p and interoid por

LM; lt brn, hd, micritic, abnt lt gy cht, tite

K.C. "I" ZONE 4038(-1156) LOG
LM; tan to buff, foss, partly oolitic, well dev. vug and occ interoid por, much brite yel fluor, gd odor, most with even oil stn - some oil saturated pcs, exc. cut, SFO

K.C. "J" ZONE 4058(-1176) LOG
DST #1: K.C. "I" & "J" ZONES 4032' - 4061'
LM; med brn, oolitic, most med size oolites, poor to fair interoid and occ vug por, brite yel fluor, gd odor, spotted med brn stn, Trc F.O., some tite

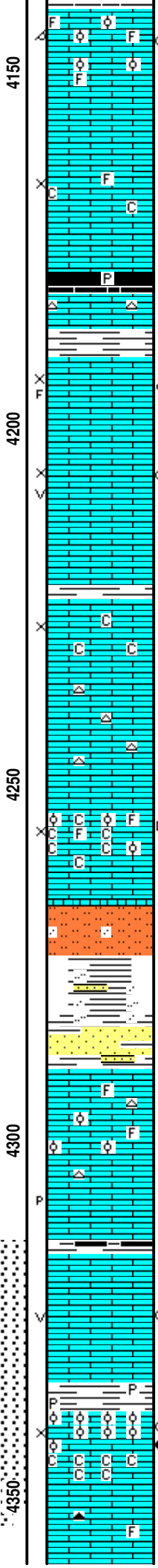
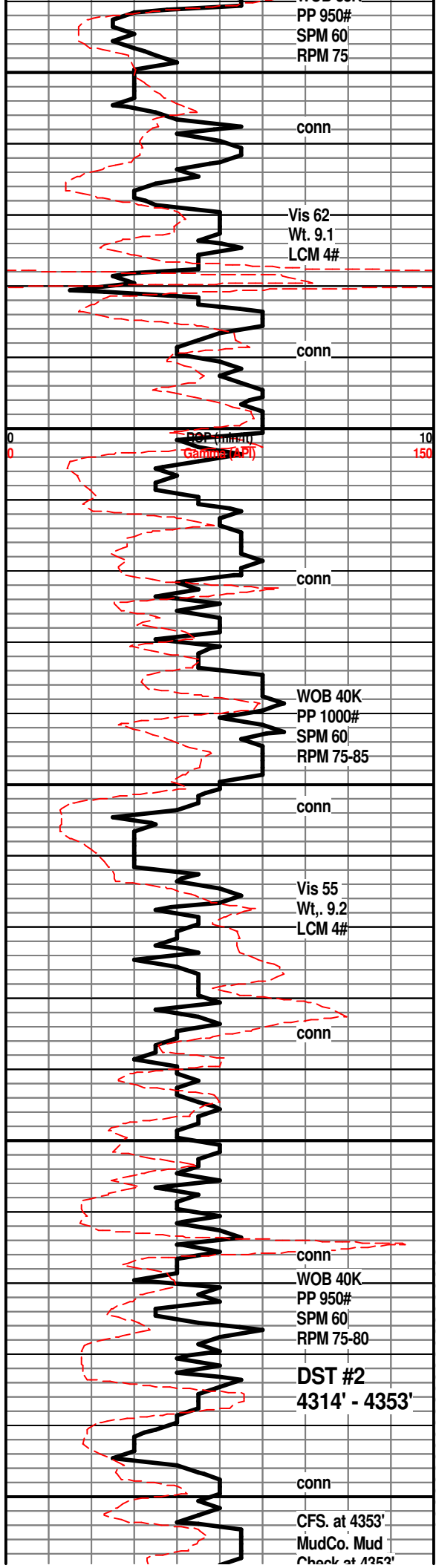
SH; dk gy, platy

LM; tan to lt brn, oolitic, most lrg size moldic por, occ vug por, lt yel min fluor, brittle ip, no stn or odor, ns.

LM; tan to lt brn, oolitic, med size moldic por, occ chalky mtx, gd oomoldic por w/occ vug por, sl. sulfur odor, no stn or odor, ns.

LM; med brn, dense - micritic, rare gy cht, foss ip, tite

STARK SHALE 4134(-1252) LOG
SH; blk, carb ip, platy



K.C. "K" ZONE 4141(-1259) LOG

LM; lt brn, foss to oolitic, poor to fair moldic por, lt yel fluor, spotted med to dk brn oil stn, VSSFO, strong sulfur odor, gd cut, dull to lt yel fluor

LM; tan to lt brn, foss ip, poor to fair interpart por, minor chalky mtx, no fluor, no stn or odor, ns.

K.C. "L" ZONE 4181(-1299) LOG

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

LM; lt brn, fxln, poor to fair interxln por, trc frags, few pcs w/dk brn spotted stn, some edge stn, faint odor, scat med yel fluor, looks tite

LM; med brn, foss ip, rare oolites, poor to fair interpart por, rare vug por, rare med brn spotted oil stn, no F.O., faint to fair odor, poor cut

LM; tan to lt brn, fxln, occ soft - chalky mtx, occ poor interxln por, no stn or odor, ns.

LM; med to dk brn, hd, blocky, scat gy to brn cht, tite

LM; off wh, cream - buff, foss w/rare oolites, much soft chalk and chalky mtx, fair interpart por, lt yel min fluor, trc dead blk stn/some gilsonite, no odor

BASE KANSAS CITY 4267(-1385) LOG

SLTST; lt gy, gritty, sandy ip.

SH; med gy to varic, platy, silty to occ sandy, firm, interbdd fgr qtz occ argil ss

MARMATON 4290(-1408) LOG

LM; off wh, tan - buff, foss ip, most well cem oolites and foss mat, no vis por, rare wh cht, no fluor, no stn or odor, ns.

LM; tan to lt brn, most dense, blocky, trc poor p-p por, lt yel fluor, no stn or odor, ns.

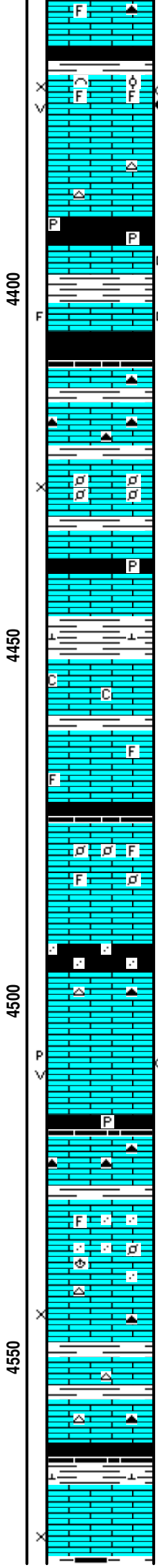
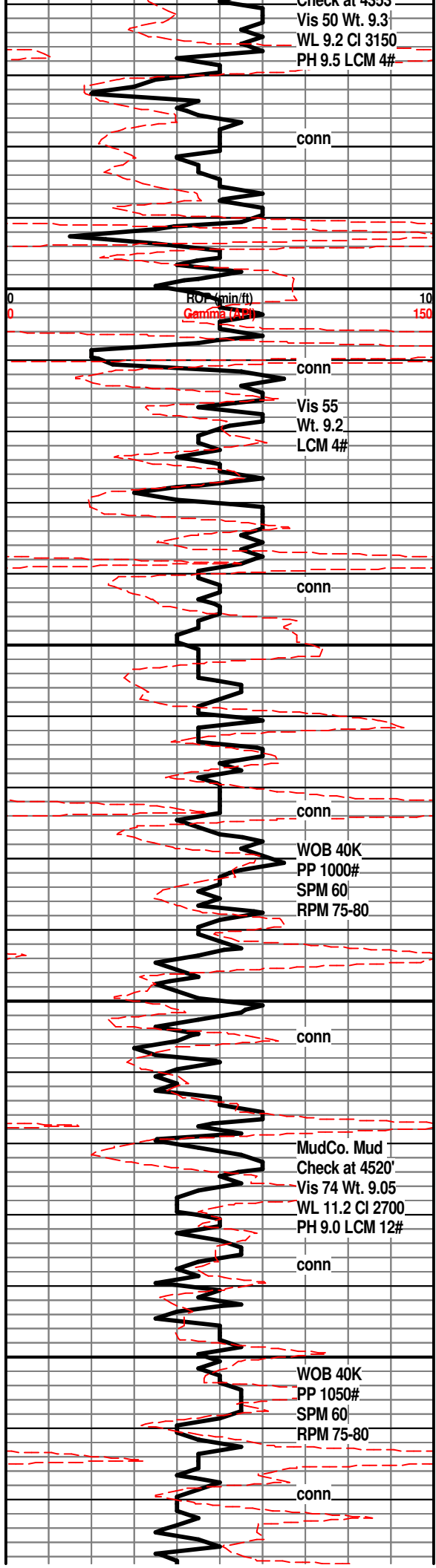
ALTAMONT 4316(-1434) LOG

LM; lt to med brn, foss ip, scat small vug por, hvy dk brn spotted stn, lt yel fluor, faint odor, no F.O., poor cut

SH; med gy, platy, pyr ip.

LM; lt brn, oolitic, med to lrg oolites, some very compact - well cem, occ oolite clusters w/fair interoid por, fair to gd spotted to even oil stn in por, fair odor, gd cut, SSFO, bcm very chalky - soft

DST #2: ALTAMONT ZONE 4314' - 4353'



LM; med to dk gy brn, foss ip, some argil lmst, rare dk gy cht, tite

SH; blk, v. dk gy, platy

PAWNEE 4370(-1488) LOG
LM; off wh - wh, foss, fair interpart w/occ vug por, med brn spotted/rarely even oil stn, fair odor, most w/brite yel fluor, fair to gd cut, VSSFO

LM; off wh, buff, hd - blocky, scat wh to gy cht, tite

SH; blk, carb ip, scat pyr, faint gas odor

FORT SCOTT 4394(-1512) LOG
LM; med to dk brn, dense - blocky, scat blk/dk brn heavy residual oil stn/gilsonite, no live shows, no vis por, no fluor, trc frags

CHEROKEE SHALE 4406(-1524) LOG
SH; blk, carb, faint gas odor

LM; med brn, hd - micritic, scat dk gy to blk cht, no vis por, ns.

LM; off wh, buff, foss w/rare small pellets, poor interpart por, most well cem, lt yel min fluor, no stn or odor, ns.

SH; dk gy - blk, pyr ip, platy

SH; dk gy, limy ip, platy

LM; off wh, tan, rare wh, fxln, scat soft chalky mtx, no vis por, ns.

LM; tan to lt brn, foss - well cem, occ cse xln lmst, no fluor, ns.

SH; dk gy - blk, platy

LM; med gy brn, foss - finely pelletal, most well cem, hd, no vis por, no fluor, ns.

SH; dk gy- blk, platy, some sandy text

LM; med brn, cse xln, cherty w/amber to translucent cht, tite

LM; med brn, f to med xln, fair p-p w/occ vug por, spotted med brn oil stn, faint odor, med yel fluor, gd cut, no F.O.

SH; blk, platy, occ pyr

LM; med brn, micritic, scat blk cht, tite

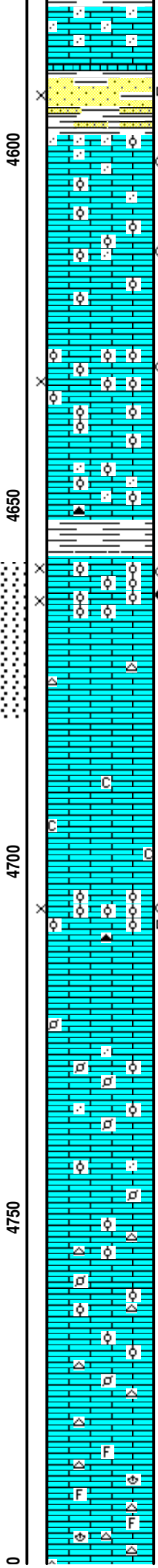
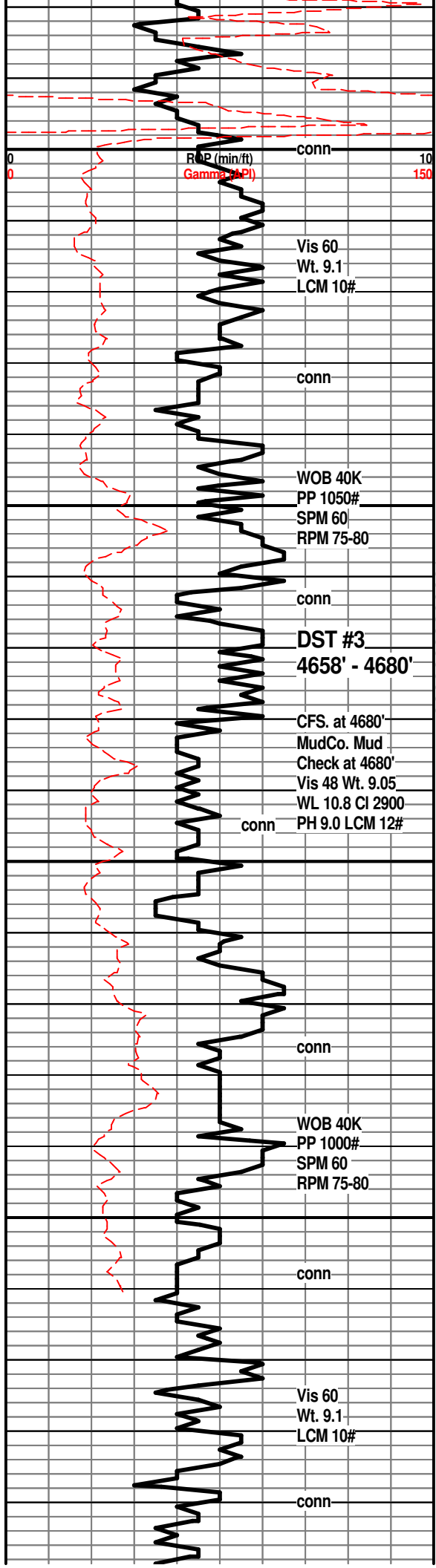
LM; tan to cream, buff, foss ip, some gritty to sandy text, most tite, dull yel min fluor, no stn or odor, ns.

LM; lt to med brn, med xln ip, poor vis interxln por, scat dk gy to occ amber cht, ns.

LM; lt to med brn, dense - micritic, occ cherty, tite

SH; dk gy, some blk, lmy ip.

LM; med to dk gy, f to med xln, trc poor interxln por, spotty lt yel fluor, no vis stn, no odor, looks tite



LM; med to dk gy, gy brn, sandy ip, some gritty text, no vis stn, ns.

MORROW SHALE 4589(-1707) LOG

SH; dk gy, platy, silty to sandy
SS; clr to lt brn, f gr qtz, shaly, poor integran por, rare med brn hvy residual oil stn, lt yel fluor, no odor

MISSISSIPPI 4598(-1716) LOG

LM; wh, off wh, sandy ip, reworked section, minor chalky mtz, rare med to dk brn spotted oil stn, scat lt yel fluor, v. faint odor, interbdd oolitic lmst, no vis por, looks tite

LM; off wh, oolitic ip, most tite, spotted med brn stn, faint odor, dull yel fluor, poor to fair cut in some, much wh dense lmst, tite

LM; off wh, finely oolitic, much soft chalky mtz, fair amount of med brn oil stn, med yel fluor, fair cut, faint odor, no F.O., poor to occ fair interoid por

LM: off wh, wh, finely oolitic/pelletal, rare f gr qtz in dense mtz, trc org to amber cht, tite

SH; med gy, trc grn, smooth

ST. LOUIS "B" ZONE 4657(-1775) LOG

LM; off wh, oolitic, most small oolites, poor to fair interpart/interoid por, spotted to rarely even med brn oil stn, med yel fluor, no F.O., gd cut, v faint odor, some tite

LM; med brn, hd, micritic, blocky, rare gy cht, tite

DST #3: ST. LOUIS "B" 4658' - 4680'

LM; tan to buff, most dense - micritic, rare chalky mtz, no vis por, no stn or odor, ns.

LM; off wh, oolitic, small to rare med size oolites, most well cem, occ poor interpart/interoid por, few clusters w/dk brn oil stn, some gilsonite, lt yel fluor, no odor, fair cut, occ amber cht

LM: tan to lt brn, med xln ip, most dense, interbdd finely pelletal to oolitic lmst, rare f gr qtz, no vis por, no flour, ns.

LM; lt brn, finely pelletal to oolitic, scat tan to gy cht, no flour, no stn or odor, ns.

LM; med brn, f to med xln, foss ip, occ cherty, no vis por, no flour, no stn or odor, ns.

