

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: White #2-4
Location: 2300' FSL & 1830' FWL, Sec. 4-T28S-R18W, Kiowa Co., KS.
Licence Number: 15-097-21804-00-00 Region: Greensburg SW
Spud Date: 8/24/2014 Drilling Completed: 8/30/2014
Surface Coordinates: 2300' FSL & 1830' FWL, Sec. 4-T28S-R18W

Bottom Hole Same as Above
Coordinates:
Ground Elevation (ft): 2220' K.B. Elevation (ft): 2233'
Logged Interval (ft): 3900' To: 4920' Total Depth (ft): 4920'
Formation: Kinderhook at Total Depth
Type of Drilling Fluid: Freshwater/Gel to 3390'; Chemical Gel 3390' to 4920'
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(Marmaton Altamont) 4677' - 4712'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Weak 0.75" Blow, FFP Weak 0.5" Blow, no Blowback on SI's; REC: 10' Drilling Mud, no shows; IFP 14-19#, ISIP 59#, FFP 19-22#, FSIP 46#, IHP 2320#, FHP 2265#, BHT 118 Deg. F.

DST #2(Miss. Chert) 4792' - 4839'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Strong Blow BOB/2.5 Min., FFP Strong Blow BOB/10 Sec., no Gas to Surface, 7" Blowback on FSI; REC: 781' Gas in Pipe, 15' Drilling Mud, no oil, no water; IFP 37-39#, ISIP 725#, FFP 34-41#, FSIP 1060#, IHP 2431#, FHP 2340#, BHT 123 Deg. F.

DST #3(Miss. Chert) 4839' - 4854'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Strong Blow BOB/1.25 Min., FFP Strong Blow BOB/Immed., no Gas to Surface, 4" Blowback on FSI; REC: 1723' Gas in Pipe, 5' OCM(5%O, 95%M), 60' GO&WCM(15%G, 15%O, 20%W, 50%M) CI 39,000, Mud 8000; IFP 19-26#, ISIP 801#, FFP 25-43#, FSIP 780# and Building, IHP 2377#, FHP 2290#, BHT 123 Deg. F.

Comments

8/23/14 MIRU Sterling Drilling Co. Rig #5; 8/24/14 Spud at 4:00 AM., Drilling at 129', Set Surface Casing; 8/25/14 TD. 745' - Bit Trip; 8/26/14 Drilling at 3050'; 8/27/14 TD. 4250' - Bit Trip; 8/28/14 Drilling at 4622'; 8/29/14 Drilling at 4730'; 8/30/14 Drilling at 4840'; 8/31/14 RTD. 4920' - LTD. 4920' - Logging; 9/1/14 RTD. 4920' - Land Plug - Production Casing.

Set new 8 5/8"(23#) Surface Casing at 647' KB. with 350 sacks cement(Basic Energy Services). Cement did Circulate. PD. at 6:00 PM. on 8/24/14.

Set new 5 1/2"(15.5#) Production Casing at 4918' with 200 sacks of "Loeb Blend" Cement(Basic Energy Services). PD. at 7:00 AM. 9/1/14.

Surveys: 0.50 Deg. at 652'(Surface Casing); 4.0 Deg. at 4250'(Bit Trip); 3.50 Deg. at 4713'(DST #1); 2.50 Deg. at 4840'(DST #2); 2.25 Deg. at 4920' RTD.


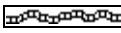
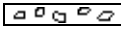
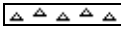
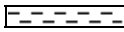







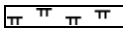
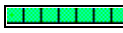
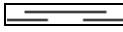
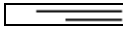
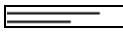



Pipe Strap at 4250'(Bit Trip): Strap 1.75' Short to the Board, no Correction made to the Board.

After review of the Halliburton Logs, DST data and samples, the operator elected to set new 5 1/2" Production Casing for completion in the Mississippi Chert.







































































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

LOG TOPS: Chase 2472(-239), Stotler Lmst. 3438(-1205), Howard 3635(-1402), Heebner Shale 4076(-1843), Toronto 4090(-1857), Brown Lmst. 4231(-1998), Lansing 'A' 4242(-2009), Lansing/KC 'H' 4408(-2175), K.C. 'I' 4458(-2225), Stark Shale 4547(-2314), Hertha 4609(-2376), Base Kansas City 4646(-2413), Marmaton 4688(-2455), Pawnee 4738(-2505), Cherokee Shale 4769(-2536), Reworked Miss. 4816(-2583), Clean Miss. Chert 4836(-2603), Kinderhook Shale 4918(-2685).

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  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

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

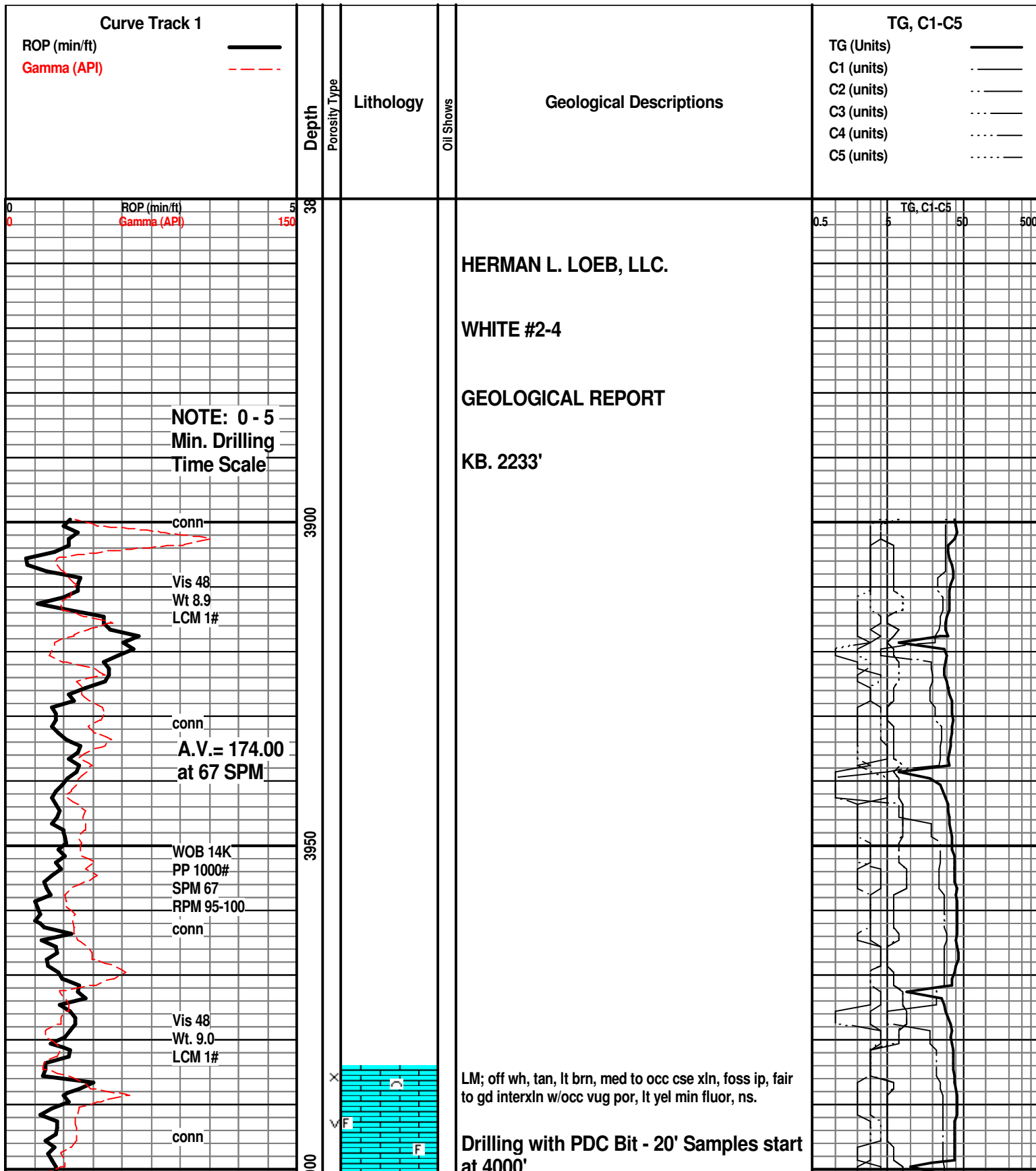
- ROUNDING**
 [R] Rounded
 [r] Subrnd
 [a] Subang
 [A] Angular

- Spotted
 [O] Ques
 [D] Dead

- EVENT**
 [▽] Rft
 [▲] Sidewall

- INTERVAL**
 [■] Core
 [□] Dst

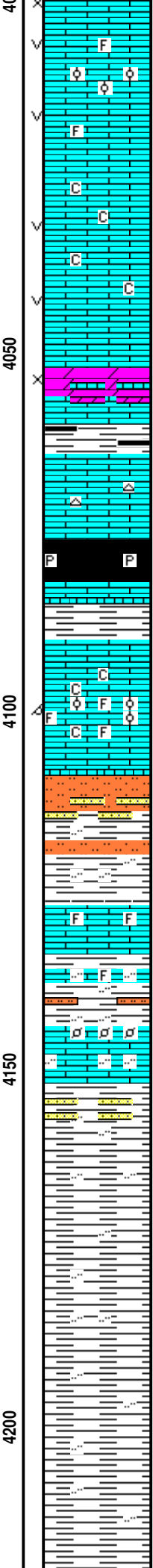
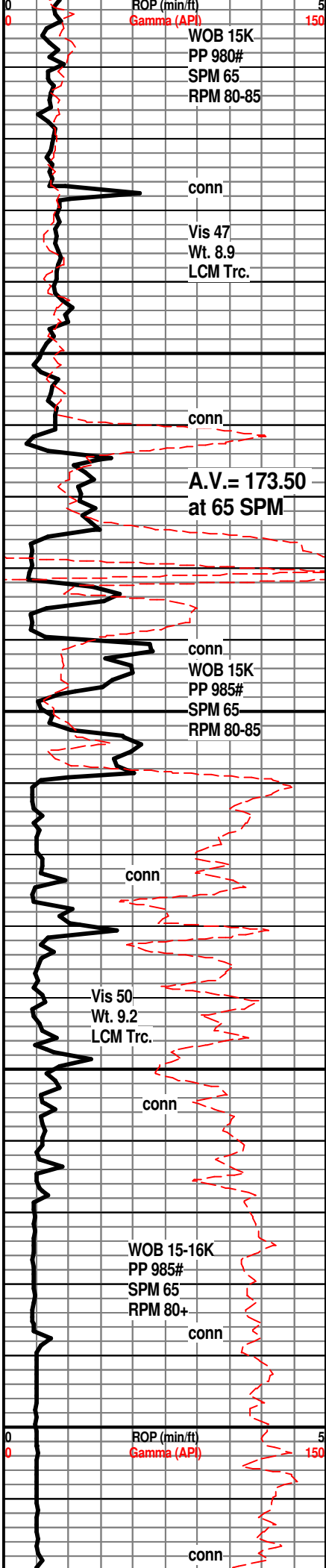
- OIL SHOW**
 Even



NOTE: 0 - 5
Min. Drilling
Time Scale

LM; off wh, tan, lt brn, med to occ cse xln, foss ip, fair to gd interxln w/occ vug por, lt yel min fluor, ns.

Drilling with PDC Bit - 20' Samples start at 4000'



LM; tan to lt brn, med xln, scat gd interxln w/vug por, interbdd foss - partly oolitic lmst, lt yel min fluor, no stn or odor, ns.

LM; wh, off wh, buff, med xln w/scat chalk and chalky mtx, occ fair vug por, dull yel to no fluor, no stn or odor, ns.

DOL; lt brn, sucrosic, lmy ip w/interbdd dolomitic lmst, fair interxln por, dull yel min fluor, no stn or odor, ns.

SH; med to dk gy, trc blk, platy

LM; lt to med gy brn, gritty text ip, most dense, no vis por, rare off wh foss cht, no fluor, ns.

HEEBNER SHALE 4076(-1843)
 SH; blk, carb, gassy ip, scat pyr
 LM; med to dk brn, hd, micritic

TORONTO 4090(-1857)
 LM; wh, off wh, tan, fxln, scat soft chalk and chalky mtx, interbdd foss/partly oolitic lmst w/fair moldic por, lt yel fluor, no stn or odor, no gas kick, ns.

DOUGLAS SHALE 4109(-1876)
 SLTST; lt gy, mica, sandy ip w/interbdd vf to f gr qtz ss, no clean ss dev.

SH; lt to med gy, mica, silty w/sltst interbdd

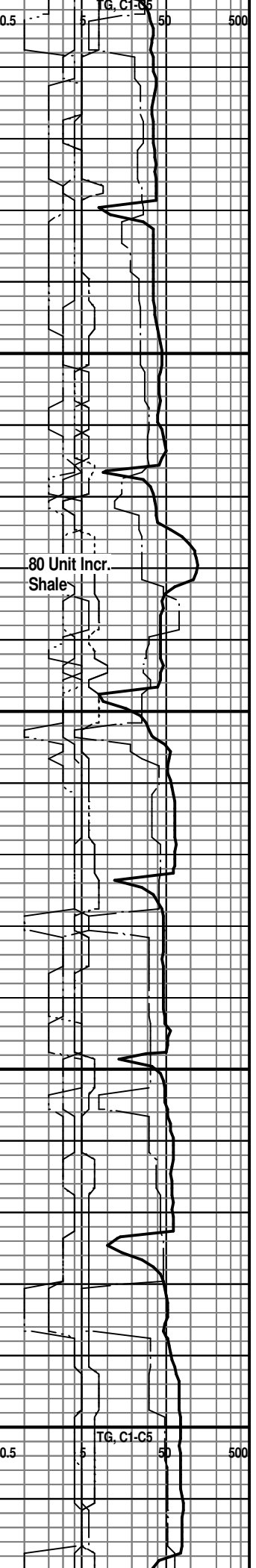
LM; lt to med brn, gy brn, foss ip, some v. dense - blocky, dull yel min fluor, ns.

LM; med brn, dk gy brn, foss, pelletal ip, some micritic - well cem, occ gritty - silty, no vis por, no fluor, ns.

SH; lt to med gy, platy, silty ip, rare hd vf gr qtz ss strngs.

SH; lt to med gy, fiss, silty ip.

SH; med gy, smooth, platy, rarely silty



Vis 49
Wt. 9.3
LCM Trc.

A.V. = 173.25
at 65 SPM

CFS. at 4250'

Scale Change
ROP (min/ft)
Gamma (API)

A.V. = 164.00

conn
MudCo. Mud
Check at 4260'
Vis 54 Wt. 9.2
WL 9.6 Cl 6500
PH 11.0 LCM Trc.

conn
WOB 36K
PP 1000#
SPM 56
RPM 70-80

Vis 53
Wt. 9.2
LCM Trc.

conn

conn
WOB 38K
PP 920#
SPM 54
RPM 76

Vis 56
Wt. 9.2
LCM Trc.

conn

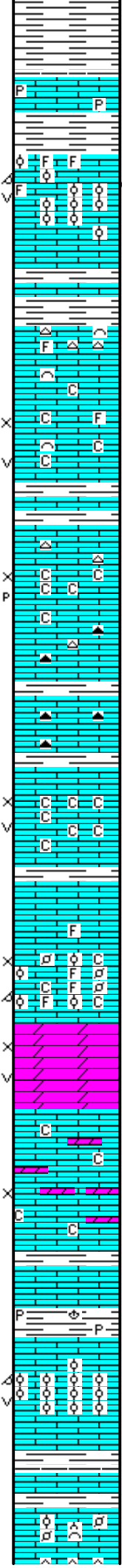
ROP (min/ft)
Gamma (API)

A.V. = 163.00
at 54 SPM

conn

WOB 38K
PP 995#
SPM 56

4250
4300
4350
4400



BROWN LMST. 4231(-1998)
LM; med brn, hd, pyr ip, tite

LANSING 'A' 4242(-2009)
LM; tan to lt brn, foss - oolitic, fair oomoldic por, trc vug por, lt/med yel fluor, v. spotted lt brn oil stn, faint/fair odor, barren porosity evident

BIT TRIP AT 4250'
Drilling with Button Bit below 4250'

LANSING 'B' 4266(-2033)
LM; off wh, buff, foss ip, most well cem, scat wh/off wh cht, no vis por, no fluor, ns.

LM; off wh, lt gy, buff, foss w/occ fair interpart and scat vug por, chalky ip, no vis stn, no odor, no gas kick, ns.

SH; med gy grn, platy
LM; lt to med brn, fxln, most dense, blocky

LM; tan, off wh, fxln, poor interxln w/trc p-p por, chalky mtx ip, no fluor, no stn or odor, cherty w/off wh, gy and brn cht, ns.

LM; lt to med brn, dense, blocky, most micritic, occ smoky/dk gy cht

LM; off wh, wh, buff, f to med xln, scat small vug and interxln por, much soft chalk and chalky mtx, lt yel min fluor, no stn or odor, ns.

LM; tan to lt brn, foss - pelletal/partly oolitic, fair interpart/scat oomoldic por, minor soft chalky mtx, lt yel min fluor, no vis stn, no odor, no gas kick

DOL; lt brn, sucrosic, scat gd interxln w/occ vug por, lt yel min fluor, no vis oil stn, no gas kick, ns.

LM; lt brn, fxln, some sucrosic text, partly chalky, fair interxln por, ns.

SH; med to dk gy, foss ip, scat pyr
LANSING/K.C. 'H' 4408(-2175)

LM; lt brn, oolitic, most small to med size moldic por, brittle ip, poor vug por, lt/med yel min fluor, no vis stn, no odor, questionable gas bubbles, no sample shows

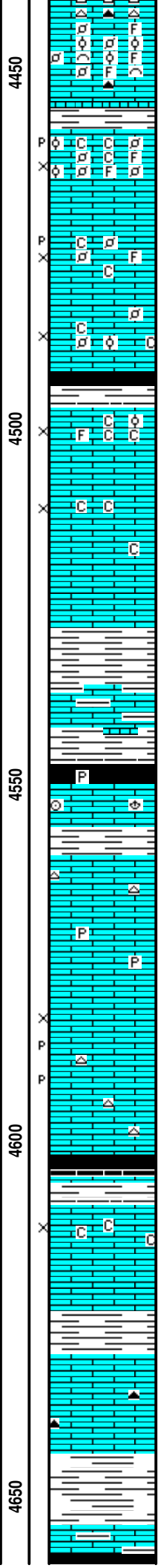
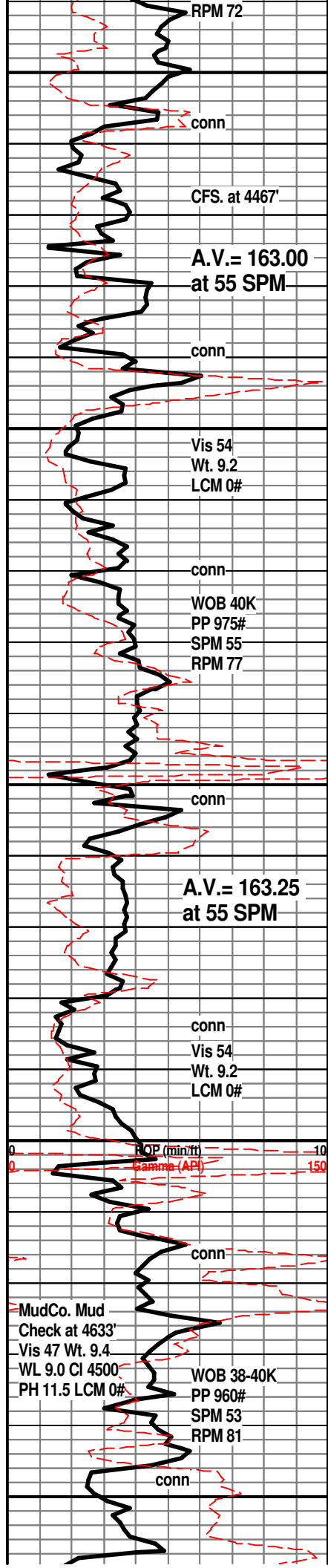
LM; tan to lt brn, foss ip, occ well cem oolites and foss mat, no vis por, no fluor, interbdd gy/tan/brn cht, ns.

170 Unit Incr.
SHOW

B.U./Trip gas

TG, Cl-C5
0.5 50 500

12 Unit Incr.



LM; lt to brn, highly foss, abnt hash/pellets, well cem, hd, no vis por, lt yel min fluor, no stn or odor, no gas kick

KANSAS CITY 'I' 4458(-2225)

LM; off wh, buff, tan, foss - finely pelletal, loosely cem, occ chalky mtx, fair interpart w/p-p por, no fluor, no stn or odor, no gas kick

LM; off wh, wh, buff, foss to fxln, poor to fair p-p and interxln/interpart por, minor chalky mtx, dull yel min fluor, no vis stn, no odor, no gas kick

LM; off wh, tan, foss w/scat small ooids/pellets, most well cem - poor interpart por, occ chalky, no fluor, ns.

KANSAS CITY 'J' 4497(-2264)

LM; off wh, buff, f to med xln, scat fair interxln por, minor chalky mtx, foss ip, no fluor, no stn or odor, no gas kick

LM; off wh, tan, buff, f to occ med xln, some gran text, scat fair interxln por, chalky ip, no stn or odor, no gas kick

SH; med gy, platy, firm

LM; med gy brn, argil, hd, w/interbdd shaly lmst

STARK SHALE 4547(-2314)

SH; blk, carb ip, blocky, rare pyr

LM; med gy, gy brn, foss ip, hd

SWOPE 4560(-2327)

LM; med brn, gy brn, dense, blocky, hd, rare gy cht, no vis por, ns.

LM; off wh, lt gy, tan, fxln to micritic, occ pyr, hd, ns.

LM; wh, off wh, f to med xln, fair interxln w/scat p-p por, chalky mtx, occ spar calc xtals, no fluor, no stn or odor, no gas kick, interbdd off wh to wh cht

SH; blk, carb, trc gas w/faint gas odor

HERTHA 4609(-2376)

LM; tan to buff, f to med xln, some gran text, fair interxln por, minor chalky mtx, no fluor, no stn or odor, ns.

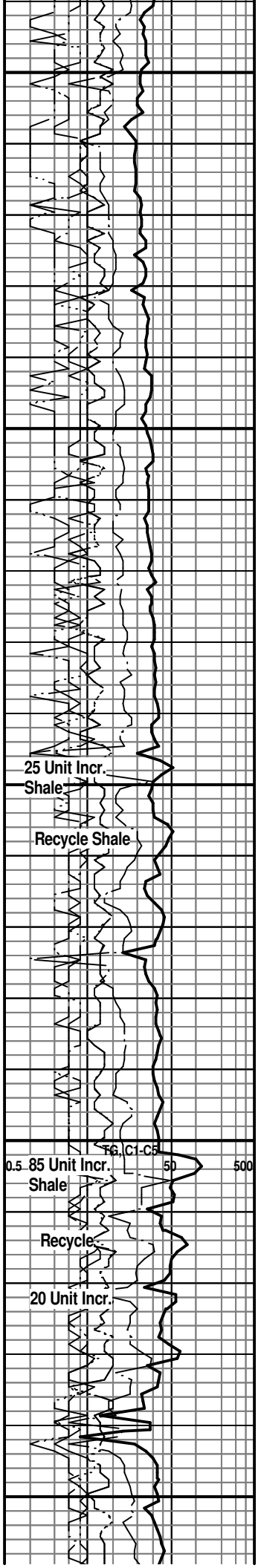
SH; med to dk gy, lmy ip.

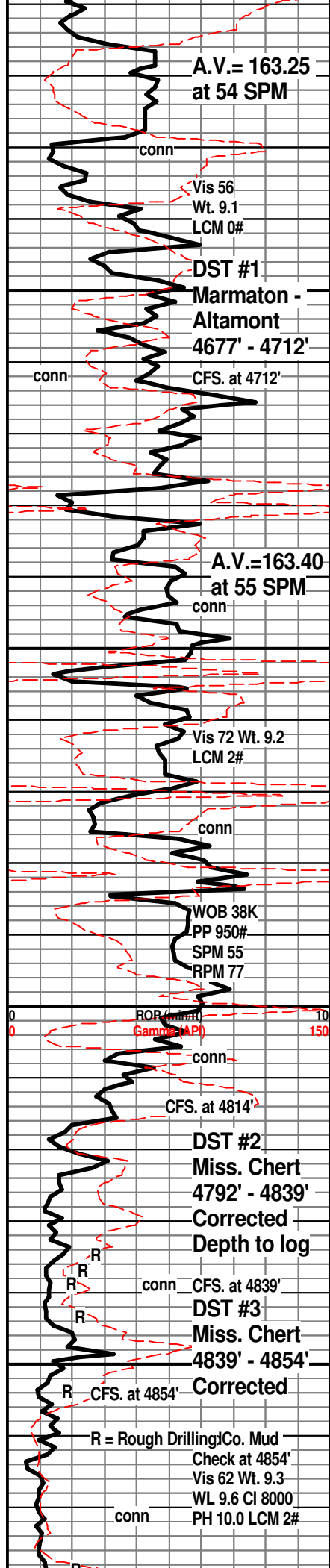
LM; med to dk brn, gy brn, dense, some gritty text, trc smoky cht, litho ip, ns.

BASE KANSAS CITY 4646(-2413)

SH; med gy, occ gy brn, rare varic, silty ip.

LM; med brn, argil ip, hd





SH; med gy, gy grn, blk, platy, smooth
PLEASANTON 4666(-2433)
 LM; off wh, tan, foss w/abnt well cem oolites/pellets, some hash, lt yel min fluor, no vis por, scat spar calc overgrowths, no gas kick
 SH; grn, gy grn, some varic - rust red, brn, foss ip.

MARMATON 4688(-2455)
 LM; lt gy, lt brn, rare pale yel/grn, hd, blocky, argil ip, no vis por, ns.

ALTAMONT 4701(-2468)
 LM; off wh, lt brn, foss w/scat pellets and oolites, med xln ip, poor/fair p-p and interpart/interxln por, lt/med brn spotted/even oil stn, brite yel fluor, fair odor, few gas bubbles, fair/gd cut, occ frags w/edge stn

DST #1: Marm. Altamont 4677' - 4712'(Corrected Depths to Log)
 LM; med brn, hd, most micritic, rare well cem foss, no fluor, ns.
 SH; dk gy, some blk, pyr ip.

PAWNEE 4738(-2505)
 LM; med brn, fxln, scat poor p-p/ vug por, much residual oil sat, fair/good odor, no live shows, med yel fluor, few gas bubbles, fair cut
 SH; blk, occ pyr, trc gas w/gas odor, blocky

LM; lt brn, foss ip, well cem, blocky, no vis por, no fluor, tite

CHEROKEE SHALE 4769(-2536)
 SH; blk, dk gy, gy grn, occ pyr, platy
 LM; tan to lt brn, fxln, most dense - micritic, scat amber/org cht, no fluor, no stn or odor, no sample shows

LM; lt brn, fxln, some gritty text, scat foss mat, trc blk tar/gilsonite, no vis por, no fluor, no odor, no gas kick

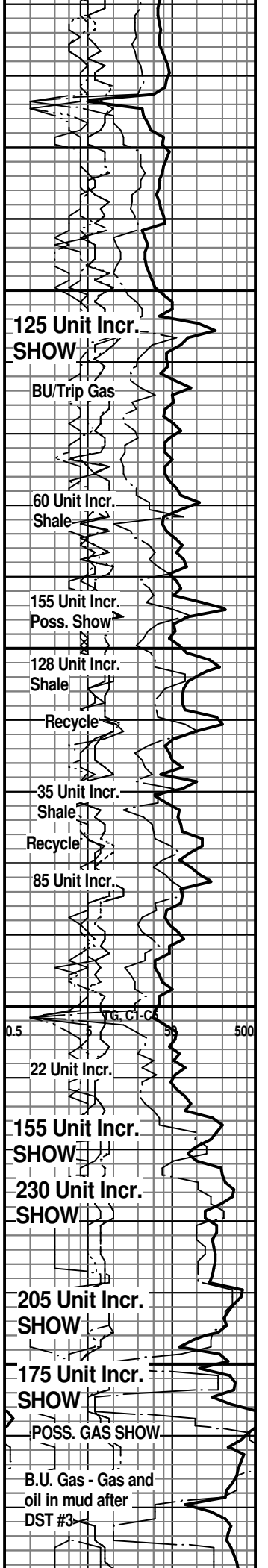
CHEROKEE LMST. 4802(-2569)
 LM; lt brn, buff, fxln to micritic, scat pcs w/blk tar/edge stn, poss frags, no live shows, no odor
 CONGL; dk red/org cht, rrd nodular lmst, f/med gr loose qtz w/live oil stn, trc blk tar/gils.

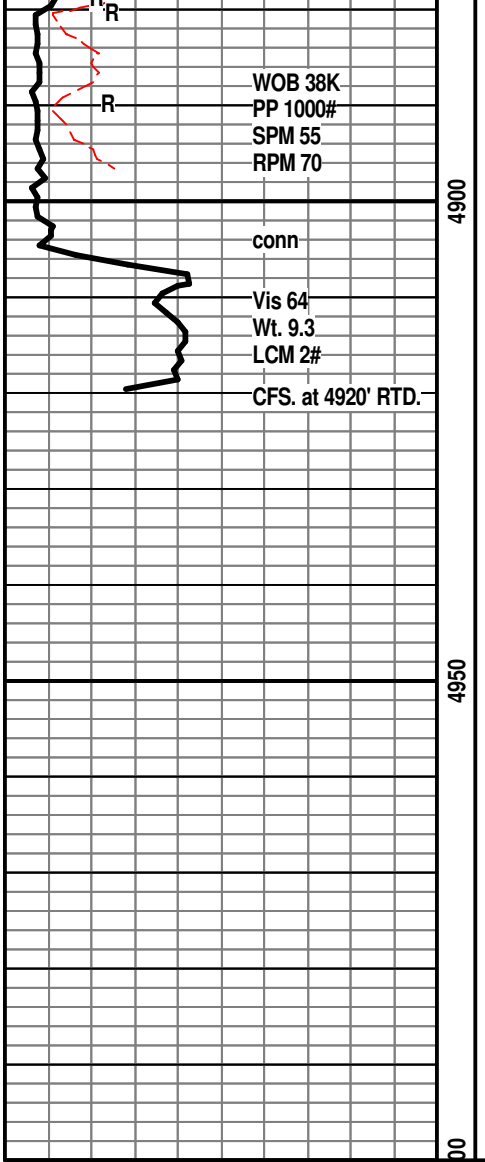
REWORKED MISS. 4816(-2583)
 CHT; yel, org, rnd nodular congl. ip, scat med brn oil stn, faint gas odor, lt yel fluor, gas show
 CHT; pale grn, wh, fresh and trip, trip has spotted/occ even med brn stn, SFO, fair odor, fair p-p/occ frac por, scat brite yel fluor, gd cut
 CHT; wh, fresh and trip, 50%w/brite yel fluor, fair odor, occ gd trip cht w/even oil stn, occ frags and scat gd p-p por, gd cut, sev. cse qtz xtals

DST #2: Miss. Chert 4792' - 4839'
 CHT; wh, trip, gd p-p/vug por, GS gassy FO, gd odor, brite yel fluor, gas bubbles, gd cut, some bleeding oil - tite

DST #3: Miss. Chert 4839' - 4854'
 CHT; wh, lt brn(oil stn), gran "chunky" text, gd vug por, brite yel fluor, SFO, gd odor, even stn

DST #3: Miss. Chert 4839' - 4854'
 CHT; wh, off wh, fresh- porc, some tripolite, frags w/scat vug por, sev. pcs w/spotted lt brn stn, fair odor, 50% brite yel fluor, SSFO, foss, sev. pcs w/oil saturation - even lt brn stn w/gassy oil, trc grn clay incl





WOB 38K
 PP 1000#
 SPM 55
 RPM 70

conn

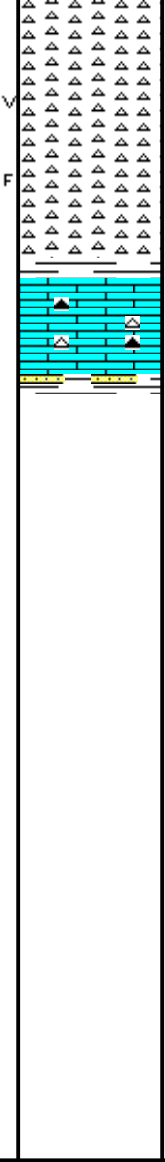
Vis 64
 Wt. 9.3
 LCM 2#

CFS. at 4920' RTD.

4900

4950

00



CHT; wh, porc, all fresh, frags w/scat vug por, v. rare fl
 yel fluor, no shows, no odor, barren

CHT; wh, porc, fresh, no shows, no fluor, rare frags/vug
 por, barren

LM; red brn, med brn, blocky, some oxidized, occ
 org/cht cht, tite

KINDERHOOK SHALE 4918(-2685)

SH; med gy, gy grn, silty to sandy, pyr

RTD. 4920' at 11:00 PM. 8/30/14

LTD. 4920'

Halliburton ACRT, NEU/DEN, Microlog,
 MRIL

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

Recycle BU Gas