

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: Miller #3-12
Location: 850' FSL & 1124' FWL, Sec. 12-T27S-R29W, Gray Co., KS.
Licence Number: 15-069-20429-0000 Region: Wendel
Spud Date: 1/26/2013 Drilling Completed: 2/5/2013
Surface Coordinates: 850' FSL & 1124' FWL, Sec. 12-T27S-R29W

Bottom Hole Same as above
Coordinates:
Ground Elevation (ft): 2730' K.B. Elevation (ft): 2743'
Logged Interval (ft): 4000' To: 5160' Total Depth (ft): 5160'
Formation: Mississippian St. Louis at Total Depth
Type of Drilling Fluid: Freshwater/Gel to 2966'; Chemical Gel 2966' to 5160'

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
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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(Morrow / St. Gene. / St. Louis) 5021' - 5065'(Corrected Depths to LOG) Test Times 15"-45"-30"-60" IFP Weak 0.25" Blow, FFP No Blow, no Blowback on SI's; REC: 10' Drlg. Mud, no shows, IFP 28-28#, ISIP 76#, FFP 32-32#, FSIP 50#, IHP 2511#, FHP 2471#, BHT 129 Deg. F.

DST #2(St. Louis 'B') 5066' - 5088'(Corrected Depths to LOG) Test Times 15"-45"-30"-90" IFP Weak 1" Blow, FFP Weak Blow/Died in 5", no Blowback on SI's; REC: 15' Drlg. Mud w/Oil specks, layer of Free Oil in top of Test tool; IFP 27-31#, ISIP 56#, FFP 34-39#, FSIP 54#, IHP 2558#, FHP 2493#, BHT 119 Deg. F.

DST #3(Upper Morrow Sst. - Straddle Packer Test after Logs) 4998' - 5016'(Corrected Depths to LOG) Test Times 15"-45"-15"-45" IFP Weak Surface Blow/Died in 10", FFP No Blow, no Blowback on SI's; REC: 15' Drlg. Mud, no Shows, IFP 22-26#, ISIP 250#, FFP 25-25#, FSIP 45#, IHP 2498#, FHP 2317#, BHT 116 Deg. F.

Comments

1/26/13 MIRU Sterling Drilling Rig #5, Spud at 6:48 PM; 1/27/13 Drilling at 548'; 1/28/13 TD. 1879' - Wiper Trip prior to Setting Surface Casing; 1/29/13 Drilling at 2045'; 1/30/13 Drilling at 3107'; 1/31/13 Drilling at 3740'; 2/1/13 Drilling at 4367'; 2/2/13 Drilling at 4790'; 2/3/13 Drilling at 5056'; 2/4/13 TD. 5091' - Circ. for Samples; 2/5/13 RTD. 5160' at 2:30 AM., Going into the hole with Halliburton OH Logs; 2/6/13 RTD. 5160', LTD. 5158' - P & A.

Set new 8 5/8"(24#) Surface Casing at 1875' with 600 sacks cement(Basic Energy Services). Cement did Circulate. PD. 2:30 PM. on 1/28/13. Cement fell 10 from Surface, Filled annulus with 2 yds. pea gravel.

Surveys: 1 Deg. at 1879'(Surface Casing); 0.75 Deg. at 5068'(DST #1); 0.75 Deg. at 5160' RTD.


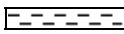

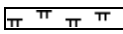
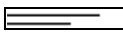
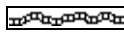




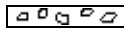


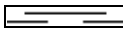

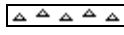


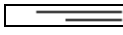
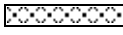
Pipe Strap at 5068'(DST #1): Strap 1.20' Short to the Board, no correction made to the Board.

LOG TOP: Chase Krider zone 2727(+16), Stotler Lmst. 3564(-821), Heebner Shale 4176(-1433), Toronto 4192(-1449), Lansing 'A' 4273(-1530), Kansas City 'A' 4604(-1861), Base Kansas City 4736(-1993), Marmaton 4755(-2012), Pawnee 4834(-2091), Cherokee Shale 4874(-2131), Upper Morrow Sst. 5006(-2263), St. Genevieve 5028(-2285), St. Louis 'B' 5048(-2305), St. Louis 'C' 5068(-2325).







































































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

After review of the Halliburton Logs, DST data, structural position and lack of commercial amounts of hydrocarbons, the operator elected to Plug and Abandon the #3-12 Miller on 2/6/2013.

ROCK TYPES

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

ACCESSORIES

| | | | |
|--|---|---|--|
| MINERAL | | FOSSIL | |
|  Anhy |  Gyp |  Algae |  Ostra |
|  Arggrn |  Hvymin |  Amph |  Pelec |
|  Arg |  Kaol |  Belm |  Pellet |
|  Bent |  Marl |  Bioclst |  Pisolite |
|  Bit |  Minxl |  Brach |  Plant |
|  Brecfrag |  Nodule |  Bryozoa |  Strom |
|  Calc |  Phos |  Cephal | |
|  Carb |  Pyr |  Coral | STRINGER |
|  Chtdk |  Salt |  Crin |  Anhy |
|  Chtlt |  Sandy |  Echin |  Arg |
|  Dol |  Silt |  Fish |  Bent |
| Feldspar |  Sil |  Foram |  Coal |
|  Ferrpel |  Sulphur |  Fossil |  Dol |
|  Ferr |  Tuff |  Gastro |  Gyp |
|  Glau | |  Oolite |  Ls |
| | | |  Mrst |
| | | |  Sltstrg |
| | | |  Ssstrg |
| | | | TEXTURE |
| | | |  Boundst |
| | | |  Chalky |
| | | |  Cryxln |
| | | |  Earthy |
| | | |  Finexln |
| | | |  Grainst |
| | | |  Lithogr |
| | | |  Microxln |
| | | |  Mudst |
| | | |  Packst |
| | | |  Wackest |

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

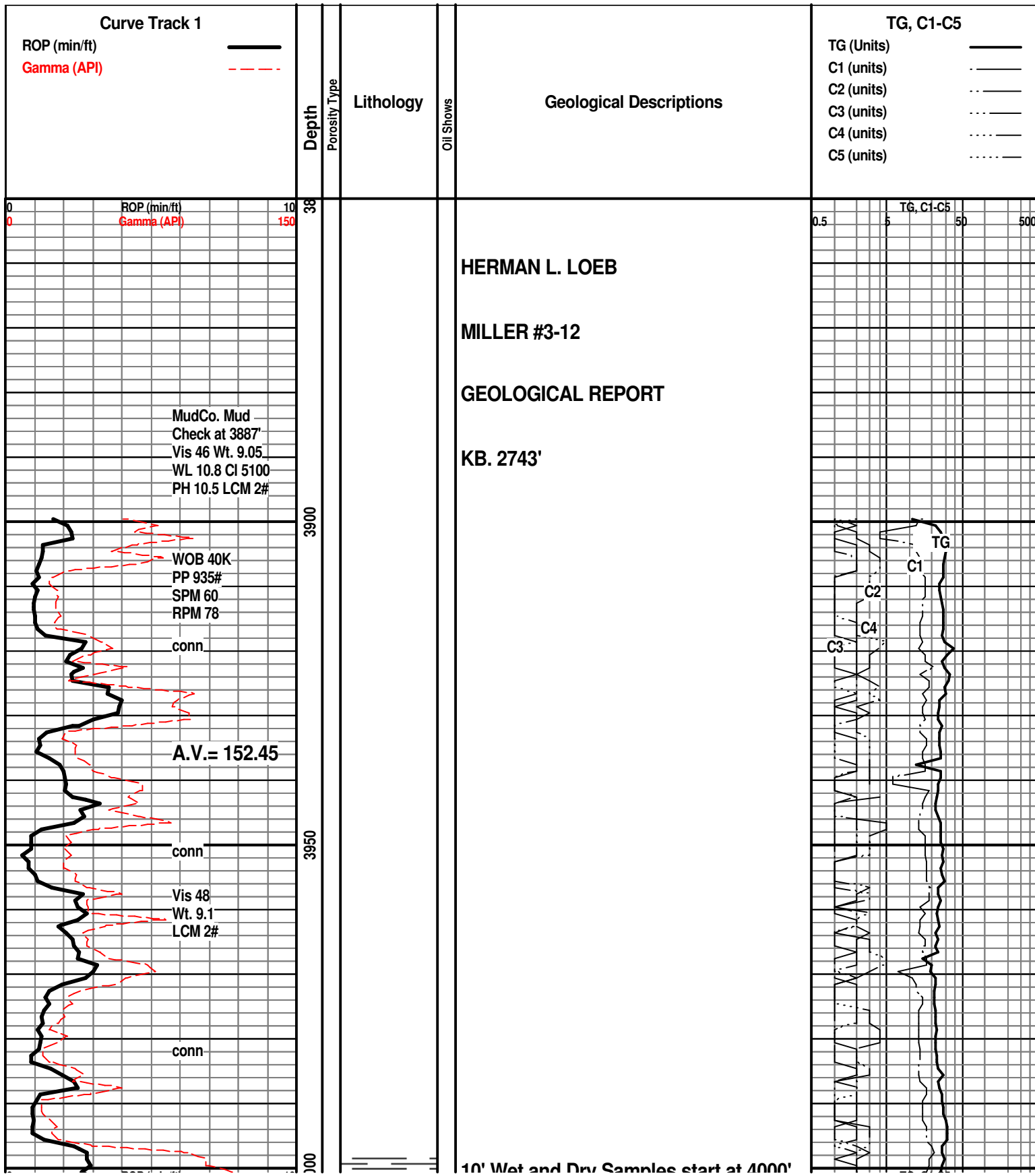
- ROUNDING**
 [R] Rounded
 [r] Subrnd
 [a] Subang
 [A] Angular

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

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

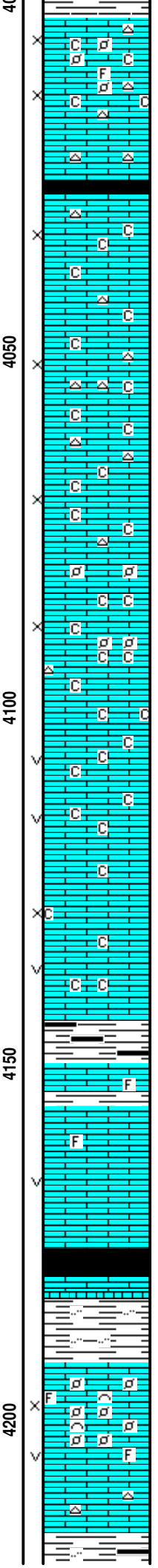
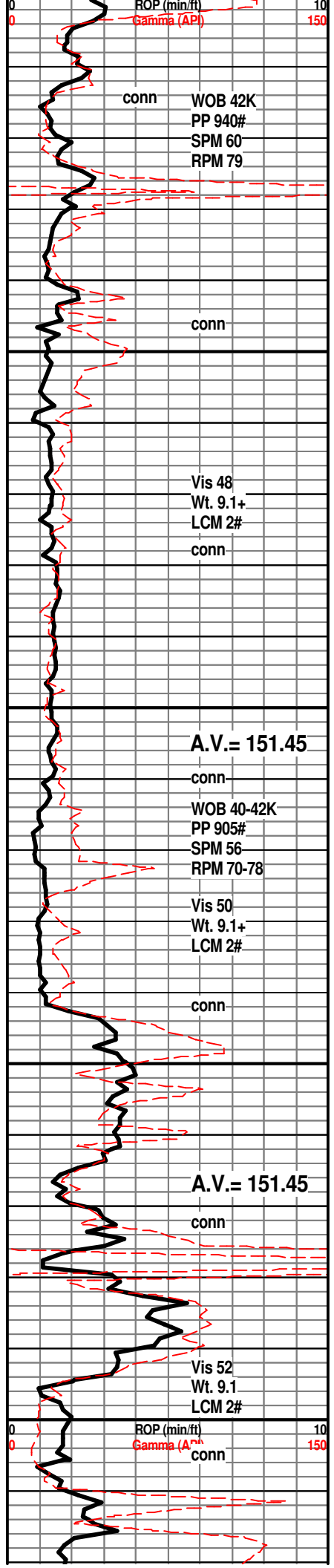
- INTERVAL**
 [Core] Core
 [Dst] Dst

- OIL SHOW**
 [Even] Even



10' Wet and Dry Samples start at 4000'

Wet and Dry Samples Start at 4000



LM; off wh, tan, buff, foss ip, scat finely pelletal lmst, fair interpart por, chalky mtx ip, lt yel fluor, scat off wh/wh cht, no stn or odor, ns.

SH; dk gy, blk, platy

LM; tan to buff, lt brn, fxln w/scat foss mat, fair to gd interpart/interxln por, occ cherty, lt yel fluor, no stn or odor, ns.

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

LM; off wh, tan, buff, f to med xln, scat foss mat w/occ pellets and foss hash, fair interpart por, chalky, lt yel min fluor, ns.

LM; wh - off wh, buff, tan, med xln, v. chalky - soft, much pure chalk, scat vug por, lt yel fluor, occ wh cht, ns.

LM; tan to buff, off wh, f to med xln, gd interxln w/scat vug por, chalky - soft mtx, lt yel min fluor, no stn or odor, ns.

SH; dk gy, some blk, platy

LM; tan to lt brn, buff, most dense, blocky, micritic, hd, scat well cem foss mat, no fluor, ns.

LM; off wh, buff, tan, f to med xln, scat small vug por, dull yel fluor, no stn or odor, ns.

HEEBNER SHALE 4176(-1433)

SH; blk, carb, gassy

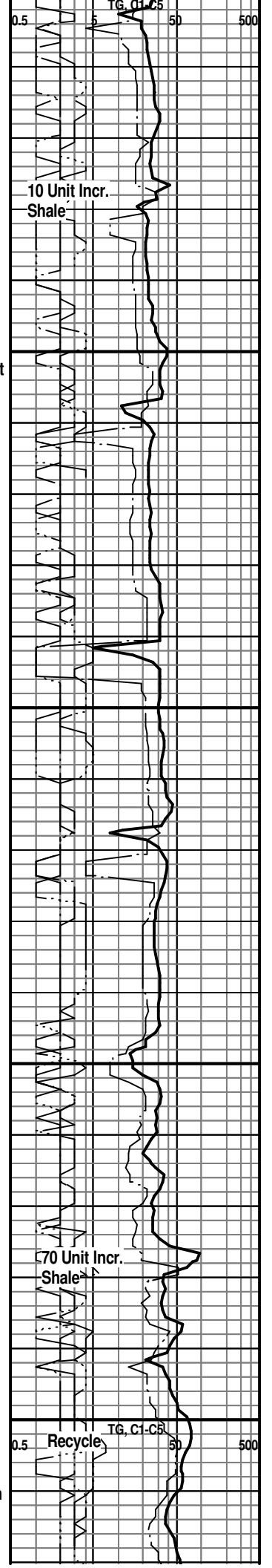
LM; med to dk brn, v. hd, blocky

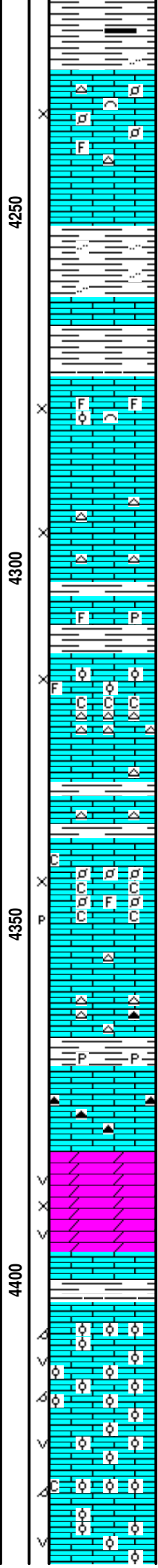
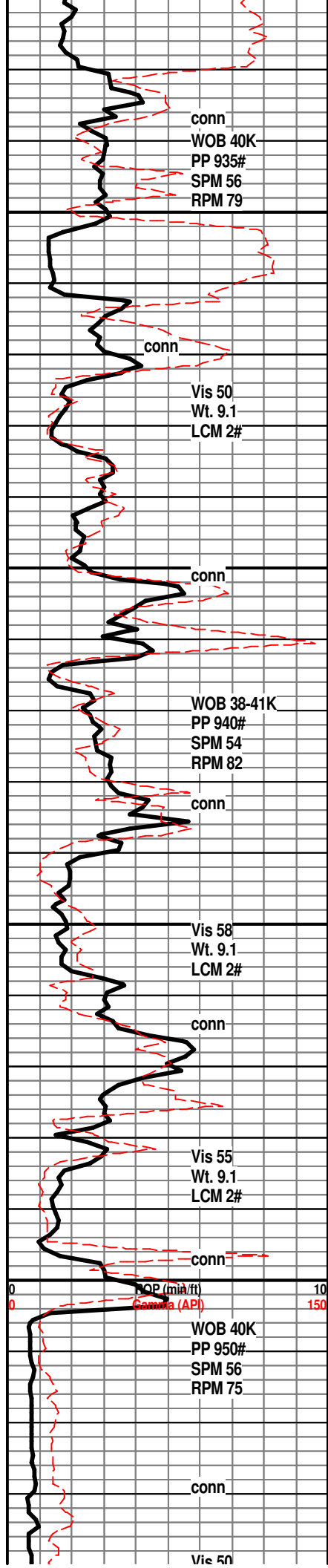
SH; lt gy, rare grn, soft - sticky ip, occ silty

TORONTO 4192(-1449)

LM; off wh, wh, buff, foss w/scat foss pellets and hash, fair to gd interpart w/occ vug por, lt yel fluor, no stn or odor, ns.

LM; tan to lt brn, off wh, most dense, blocky, occ off wh cht





SH; med to dk gy, some blk, fiss

LM; lt to med brn, occ dk brn, micritic ip, interbdd foss lmsst w/poor interpart por, rare gy cht, no fluor, no stn or odor, ns.

LM; lt brn, tan, most dense, blocky, tite

SH; med gy, gy brn, soft, rare rust red, silty ip,

LM; med brn, dense, blocky

LANSING 'A' 4273(-1530)

LM; tan to cream, lt brn, fxln, fair interxln por, some soft chalky mtx, scat foss mat, lt yel min fluor, no stn or odor, ns.

LM; tan to lt brn, fxln w/scat sucrosic text, fair interxln por, cherty ip, lt yel fluor, no stn or odor, ns.

LM; lt brn, hd, scat well cem foss, occ pyr, tite

LANSING 'B' 4312(-1569)

LM; off wh, buff, tan, foss - partly oolitic at top, interbdd soft chalky mtx, abnt wh/off wh cht, fair interpart por, lt yel fluor, no stn or odor, no gas kick, ns.

LM; tan to lt brn, hd, most micritic, scat off wh to lt gy cht, tite

SH; med gy, grn, trc red, platy

LM; off wh, wh, buff, finely pelletal - foss, very chalky ip, soft, some fair interpart/p-p por, lt yel min fluor, no stn or odor, no gas kick, ns.

LM; tan to lt brn, most dense, micritic, cherty w/off wh, brn, dk gy-smokey cht

SH; med gy, platy, occ pyr

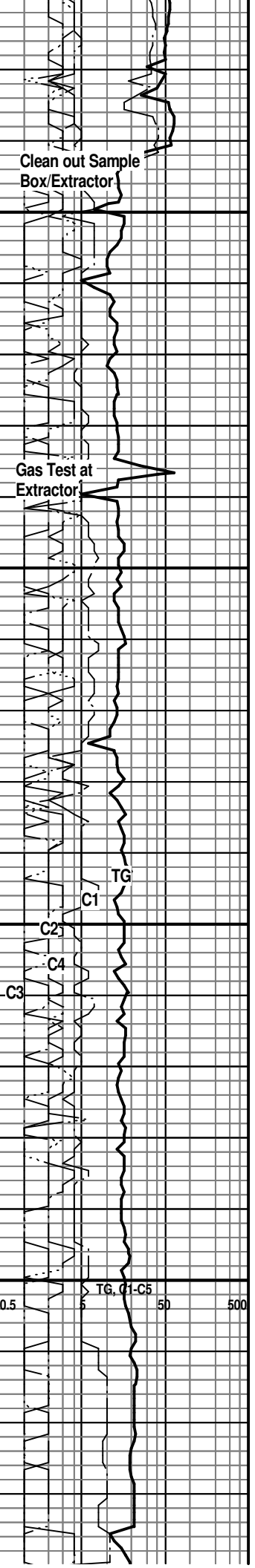
LM; med to dk brn, hd, scat dk gy - smoky cht

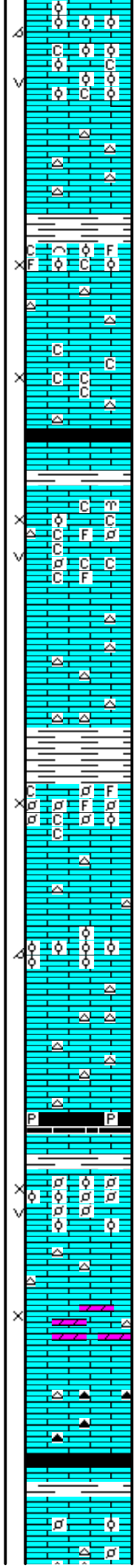
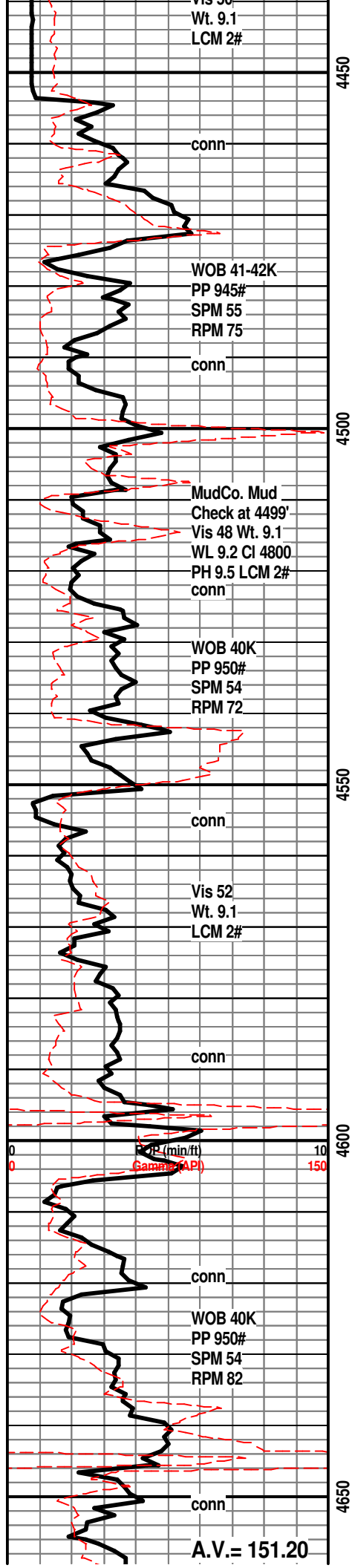
DOL; lt brn, buff, sucrosic, well dev. interxln w/vug por, scat cse spar calc xtals, lt yel min fluor, no stn or odor, ns.

LANSING 'G' POROSITY 4403(-1660)

LM; tan to lt brn, oolitic, med to occ lrg molds, well dev. oomoldic and occ vug por, brittle, med to occ brite yel min fluor, rextalized ip, no stn or odor, no gas kick, barren, ns.

LM; lt to med brn, profusely oolitic, med to lrg molds, brittle, some rextalized, interbdd gran text oolitic lmsst,





minor wh chalky mtx, med to brite yel min fluor, no stn or odor, ns.

LM; lt to med brn, dense, cherty ip, tite

SH; med to dk gy, sticky ip.

KANSAS CITY 'H' 4474(-1731)

LM; tan to lt brn, foss - partly oolitic, abnt foss hash, fair interpart por, interbdd soft chalky mtx, spotty lt yel fluor, no stn or odor, ns.

LM; off wh, wh, fxln w/abnt chalky and soft chalky mtx, poor interxln por, no fluor, ns.

LM; lt gy, hd, micritic, blocky

LM; off wh, wh, buff, foss w/scat foss hash, some very chalky mtx, poor to fair interpart w/scat small vug por, lt yel fluor, no stn or odor, ns.

LM; tan to lt brn, buff, most dense, micritic, blocky, scat off wh/gy cht, no vis por, lt yel min fluor, ns.

SH; dk gy, platy, smooth

LM; off wh, tan, foss - pelletal, scat foss hash, weakly cem - fair interpart por, some soft chalky mtx, lt to med yel fluor, no stn or odor, no sample shows

LM; lt gy, foss - oolitic, poor oomoldic por, scat foss mat, most well cem, lt yel min flour, no stn or odor, ns.

LM; tan to buff, lt brn, hd, micritic, scat gy to off wh cht, tite

SH; blk, carb ip, pyr ip, hd

KANSAS CITY 'A' 4604(-1861)

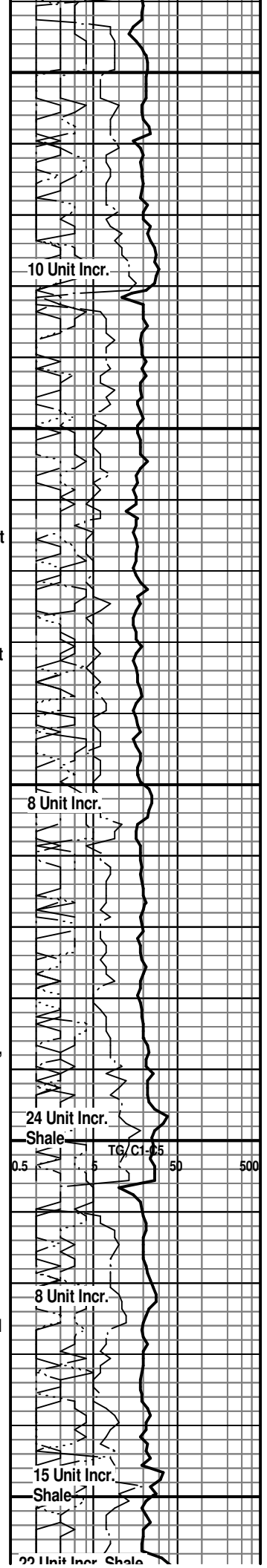
LM; lt brn, foss - oolitic, abnt small pellets and ooids, fair interpart por, minor vug por, lt yel min fluor, no stn or odor, no gas kick, ns.

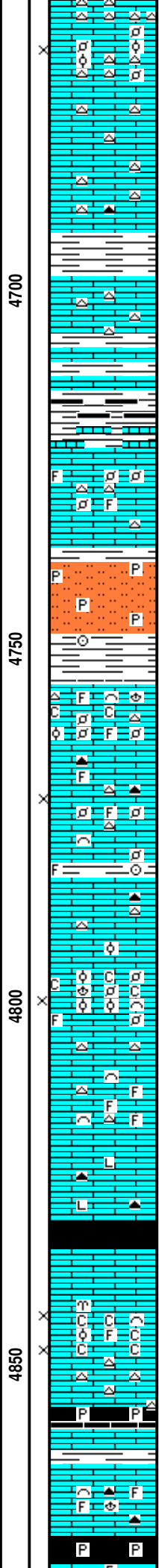
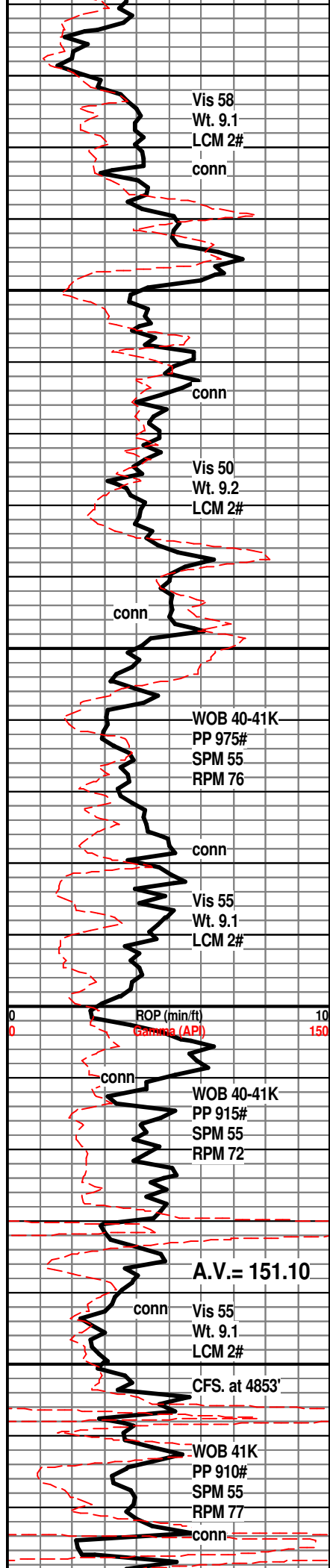
LM; off wh, wh, buff, fxln w/scat sucrosic text, partly dolomitic, fair interxln por, occ cherty, lt to rare med yel fluor, no stn or odor, no sample shows

LM; med brn, hd, scat amber/brn cht, tite

SH; blk, carb ip, platy

LM; off wh, tan, lt brn, foss - partly oolitic, scat foss





pellets and hash, lt yel flour, abnt wh/gy cht, no stn or odor, no gas shows

LM; med gy brn, hd, cherty, tite

SH; med to dk gy, rare grn, platy to flakey

LM; tan to buff, lt brn, fxln to micritic, no vis por, scat gy/off wh cht, no fluor, ns.

SH; med gy, gy brn, some blk carb sh - coaly frags, lmy w/interbdd shaly lmst.

LM; lt brn, buff, lt gy brn, foss to finely pelletal, well cem, dull yuel min fluor, no stn, ns.

BASE KANSAS CITY 4736(-1993)

SLTST; pale grn, gy grn, firm, occ pyr, interbdd varic silty shales

MARMATON 4755(-2012)

LM; tan to cream, buff, fxln w/scat foss mat, interbdd foss off wh cht, minor chalky mtz, lt yel flour, no stn or odor, no gas kick, ns.

LM; off wh, buff, tan, foss ip w/scat pellets and foss hash, most well cem, poor interpart por, lt to occ med yel min fluor, no stn, ns.

SH; grn, gy grn, firm, occ foss

LM; tan to lt brn, buff, hd, micritic, occ cherty

LM; off wh, buff, v. foss w/scat hash and pellets, loosely cem, minor chalky mtz, interbdd cse xln lmst, lt yel min fluor, no stn or odor, no gas kick, ns.

LM; tan to lt brn, foss ip, well cem, interbdd hd micrite, no vis por, occ gy/off wh cht, dull yel min fluor, ns.

LM; tan to lt brn, hd, micritic to litho, scat dk gy to smoky cht, no vis por, ns.

SH; blk, carb ip, platy, blocky

PAWNEE 4834(-2091)

LM; off wh, wh, buff, fxln w/occ foss mat, much soft chalk and chalky mtz, poor to fair interxln/interpart por, v. dull to no fluor, few pcs. w/questionable gas bubbles, no odor, no vis oil stn, no cut

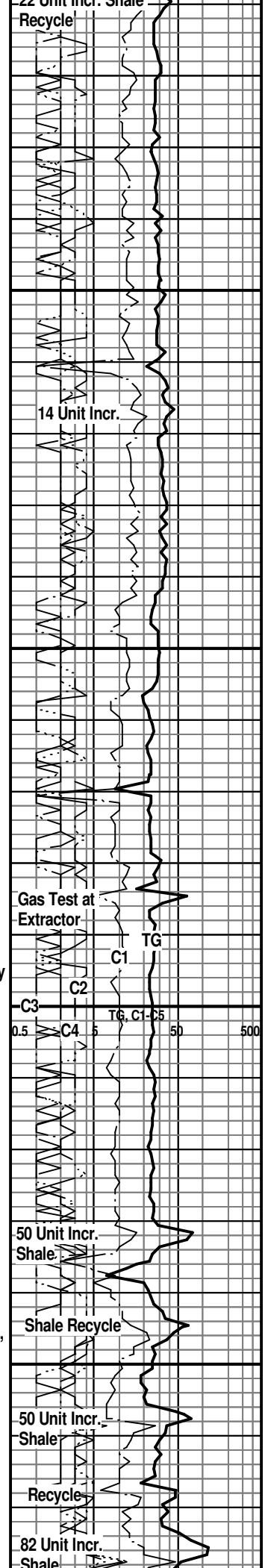
LM; lt to med brn, hd, cherty, tite

SH; blk, carb ip, gassy w/gas odor, pyr ip.

LM; med brn, foss ip, dense, no vis por, scat gy/amber cht, dull yel fluor, no stn or odor, ns.

CHEROKEE SHALE 4874(-2131)

LM; tan to buff, cream, foss ip, occ pyr, interbdd



MudCo. Mud
Check at 4893'
Vis 50 Wt. 9.25
WL 9.6 Cl 3100
PH 10.5 LCM 2#

Vis 56
Wt. 9.2
LCM 2#

A.V. = 151.10

DST #3
Straddle
4998' - 5016'
Corrected
Depths to
LOG

DST #1
Morrow / St.
Louis 'B'
5021' - 5065'
Corrected

DST #2
St. Louis 'C'
5066' - 5088'
Corrected

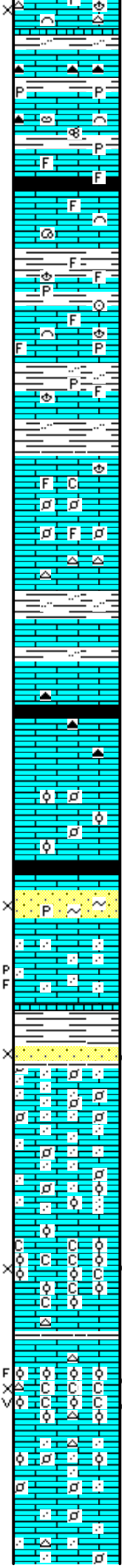
4900

4950

5000

5050

0



LM; tan to buff, cream, fross ip, poor to no vis interpart por, no fluor, no stn or odor, ns.
SH; grn, gy grn, grn, rust red, silty ip, firm
LM; dk brn, dk gy brn, occ amber cht, tite
SH; med to dk gy, gy grn, fiss, occ pyr

LM; off wh, lt to med brn, fross ip, well cem, dull yel min fluor, no stn or odor, ns.
SH; blk, platy, gassy ip.

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

LM; med gy brn, med gy, v. shaly w/interbdd hd lmy shales, scat well cem foss mat, minor amts. of pyr, tite
SH; med grn, gy grn, silty, interbdd brn dense occ foss lmst,

LM; tan to lt brn, occ finely pelletal - well cem, micritic, no vis por, no fluor, no gas kick, no stn or odor, interbdd off wh/pale brn cht, ns.

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

LM; tan to cream, buff, fxln, most dense, micritic, no vis por, lt yel min fluor, n.s

SH; med to dk gy, gy grn, firm

LM; med to dk gy, blocky, dense, no vis por, scat blk/dk gy cht, tite

LM; lt brn, tan, occ gy brn, fxln, scat well cem foss mat, occ small pellets/ooids, hd, no vis por, dull to lt yel fluor, ns.

MORROW SST. 5006(-2263)
SS; lt gy, blk, f gr qtz, fri, clusters, lt yel fluor, blk hyy residual oil, shaly ss interbdd, fair por, gd cut, no odor, interbdd coaly frags, pyr ip.
LM; lt brn, occ blk tarry dead oil, poor p-p por, trc frags, lt/med yel fluor, no odor/ kick, fair cut

SS; lt gy to med brn, f gr qtz, clusters, much dk brn/blk residual oil, gd intergran por, some soft v. shaly ss interbdd, lt yel flour, gd cut, no odor
ST. GENEVIEVE 5029(-2286)
DST #3: Morrow Sst. Straddle Packer
4998' - 5016' Corrected Depths

LM; tan, lt brn, sandy to finely pelletal, scat med gr qtz in lmst mtx, hd, no fluor, no stn, ns.
ST. LOUIS 'B' 5048(-2305)
LM; wh, off wh, oolitic, chalky, poor to fair interooid por, scat dk live oil stn/blk tarry - dead oil, VSSFO., lt yel fluor, v. faint odor, weak cut
DST #1: Morrow - St. Louis 'B' 5021'-5065' Corrected Depth to LOG

ST. LOUIS 'C' 5068(-2325)
LM; wh, off wh, tan, oolitic, med to occ lrg oolites, fair interpart w/some vug por, very chalky, spotted to even dk brn stn, strong oil odor, cht w/edge staining - trc frags, lt golden yel fluor, gd cut, SSFO, loose ooids in tray
DST #2: St. Louis 'C' 5066' - 5088' Corrected Depths to LOG

LM; lt gy brn, lt brn, sandy to finely pelletal lmst, well

Recycle

Recycle

25 Unit Incr. Shale

15 Unit Incr.

28 Unit Incr. Poss. Show

14 Unit Incr. SHOW

Recycle

8 Unit Incr. SHOW

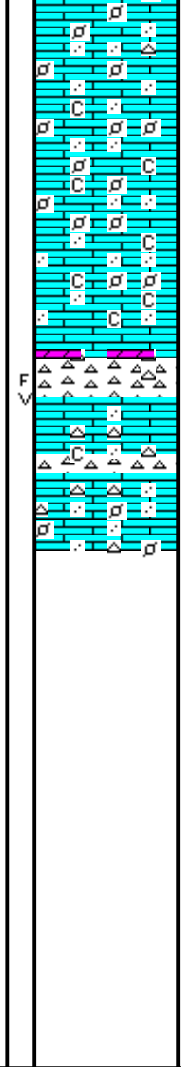
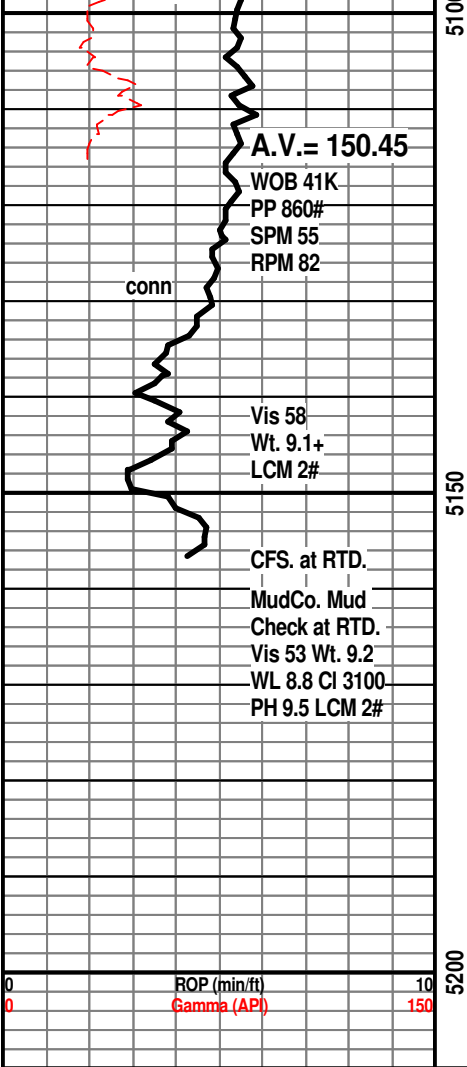
5 Unit Incr. SHOW

BU./Trip Gas

TG, C1-C5

C2 C1 TG C3 C4

500



cem, scat med to cse subrnd clr qtz, occ gy cht, no vis por, no stn or odor, no fluor, ns.

LM; off wh, tan - lt brn, sandy to finely pelletal, abnt rnd multicolored foss pellets, interbdd wh chalk and chalky mtx, no fluor, no vis por, ns.

LM & CHT; lt brn, fxl n to sucrosic text, partly dolomitic, interbdd gy to off wh fresh cht, trc frags and vug por in cht, no fluor, no vis por, minor chalky mtx, no stn or odor, ns.

LM; tan to lt brn, sandy to finely pelletal, cherty ip, no vis por, no fluor, no stn, ns.

RTD. 5160' at 2:30 AM. 2/5/13

LTD. 5158'

Halliburton DIL, NEU/DEN, Microlog
 "Triple Combo"

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

