

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: Sampson #3-4
Location: 1740' FNL & 430' FWL, Sec. 4-T28S-R18W, Kiowa County, KS.
Licence Number: 15-097-21770-00-00 Region: Einsel Field
Spud Date: 10/14/13 Drilling Completed: 10/23/2013
Surface Coordinates: 1740' FNL & 430' FWL, Sec. 4-T28S-R18W

Bottom Hole Same as Above
Coordinates:
Ground Elevation (ft): 2218' K.B. Elevation (ft): 2229'
Logged Interval (ft): 3400' To: 4945' Total Depth (ft): 4945'
Formation: Kinderhook at Total Depth
Type of Drilling Fluid: Freshwater/Gel to 3198'; Chemical Gel 3198' to 4945'
Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

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GEOLOGIST

Name: Jon D. Christensen
Company: Consulting Petroleum Geologist
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Cores

Devilbliss Coring Services cored Mississippian Chert interval from 4813' to 4871'(58' overall) as follows:

First CORE from 4813' - 4845' Cut 32.0', Recovered 31.0', lost bottom 1.0' from jammed core barrel after connection.

Second CORE from 4845' - 4871', Cut 26'.0', Recovered 26.0'. Core barrel jammed at 4871'.

DSTs

DST #1(Straddle Test after Logs - Miss. Chert) 4814' - 4842' Test Times 15"-45"-45"-90" IFP Strong Blow BOB/5 Min., FFP Strong Blow BOB/4 Min., no Gas to Surface, 1.5" Blowback on FSI; REC: 1280' Gas in Pipe, 10' Clean Gassy Oil, 20' MO(90%O, 10%M), 60' G&OCWM(10%G, 5%O, 4%W, 81%M), 60' G&OCMW(5%G, 2%O, 50%W, 43%M) CI 50,000, Mud CI 6500; IFP 20-38#, ISIP 1094#, FFP 46-95#, FSIP 1092#, IHP 2572#, FHP 2471#, BHT 125 Deg. F.

Comments

10/14/13 MIRU Sterling Drilling Rig #2, Spud at 7:30 PM.; 10/15/13 Drilling at 563'; 10/16/13 Drilling at 1235'; 10/17/13 Drilling at 2561'; 10/18/13 Drilling at 3310'; 10/19/13 Drilling at 3950'; 10/20/13 Drilling at 4444'; 10/21/13 TD. 4728' - Bit Trip; 10/22/13 TD. 4813' - Reaming to bottom for Coring Miss. Chert; 10/23/13 TD. 4871' - Finished Coring, Laydown Second Miss. core; 10/24/13 RTD. 4945', LTD. 4945' - Make up DST tool for DST #1; 10/25/13 Cementing Production Casing.

Set new 8 5/8"(24#) Surface Casing at 604' with 350 sx. Cement(Basic Energy Services). Cement Did Circulate. PD. at 11:30 AM. on 10/15/13.

Set new 5 1/2"(15.5#) Production Casing at 4940' w/200 sx. of "Loeb Blend" cement(Basic Energy Services). PD. 7:15 AM. 10/25/13.

Surveys: 0.25 Deg. at 610'(Surface Casing); 0.75 Deg. at 4728'(Bit Trip); 0.75 Deg. at 4813'(Core Point); 1 Deg. at 4945' RTD.

Bit Trip at 4728' to wipe/clean hole prior to coring Miss. Chert. Hole was very tight bottom 18 Stands, then free.

Pipe Strap at 4728'(Bit Trip): Strap 1.74' Long to the Board, no correction made to the Board.

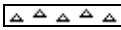
After review of the Halliburton Logs, DST #1, favorable structural position and indications of commercially recoverable hydrocarbons, the operator elected to set new 5 1/2" Production Casing for completion in the Miss. Chert.

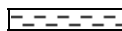



NOTE: Prior to Abandonment of the Sampson #3-4, the Marmaton Altamont zone from 4684' - 4688' should be perforated and tested. There was a 60 Unit Gas kick with Recycle observed in this zone.





LOG TOPS: Blaine 1150(+1079), Chase 2459(-230), Stotler Lmst. 3423(-1194), Howard 3627(-1398), Heebner Shale 4063(-1834), Toronto 4076(-1847), Brown Lmst. 4220(-1991), Lansing 'A' 4226(-1997), K.C. 'I' 4441(-2212), Stark Shale 4528(-2299), Hertha 4591(-2362), Base Kansas City 4626(-2397), Marmaton 4668(-2439), Altamont 4681(-2452), Cherokee Shale 4754(-2525), Miss. Chert 4812(-2583), Kinderhook Shale 4890(-2661), Kinderhook Sand 4918(-2689).

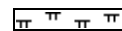
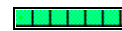
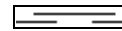
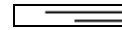
NOTE: This log was shifted upward by 1' to 2' for correlation purposes with the Halliburton Logs.





ROCK TYPES

	Anhy
	Bent
	Brec
	Cht

	Clyst
	Coal
	Congl
	Dol

	Gyp
	Igne
	Lmst
	Meta

	Mrlst
	Salt
	Shale
	Shcol

	Shgy
	Sltst
	Ss
	Till

ACCESSORIES

MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau

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- 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
- For
- Fossil
- Gastro
- Oolite

-
-
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-
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-

- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst

- Siltstrg
- Ssstrg

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint

-

Vuggy

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang
- Angular

-
-
-

- Spotted
- Ques
- Dead

INTERVAL

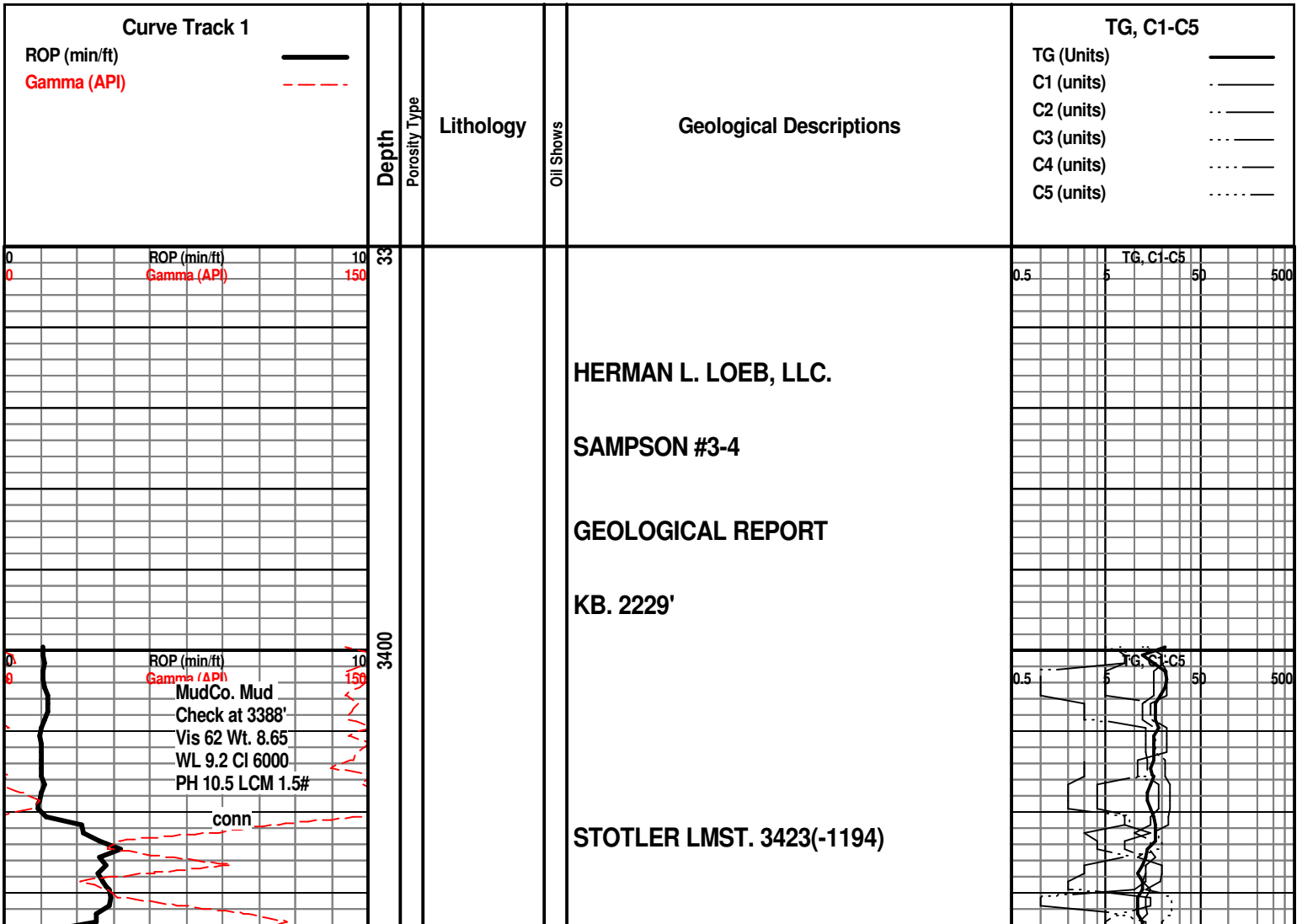
- Core
- Dst

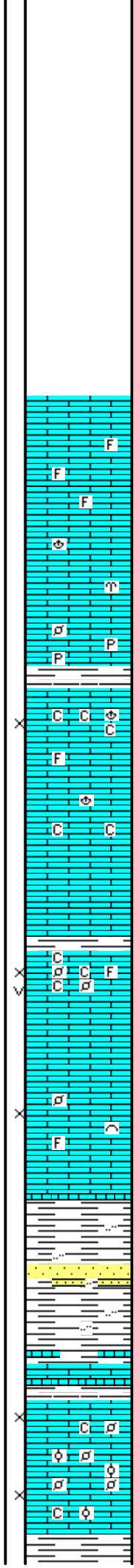
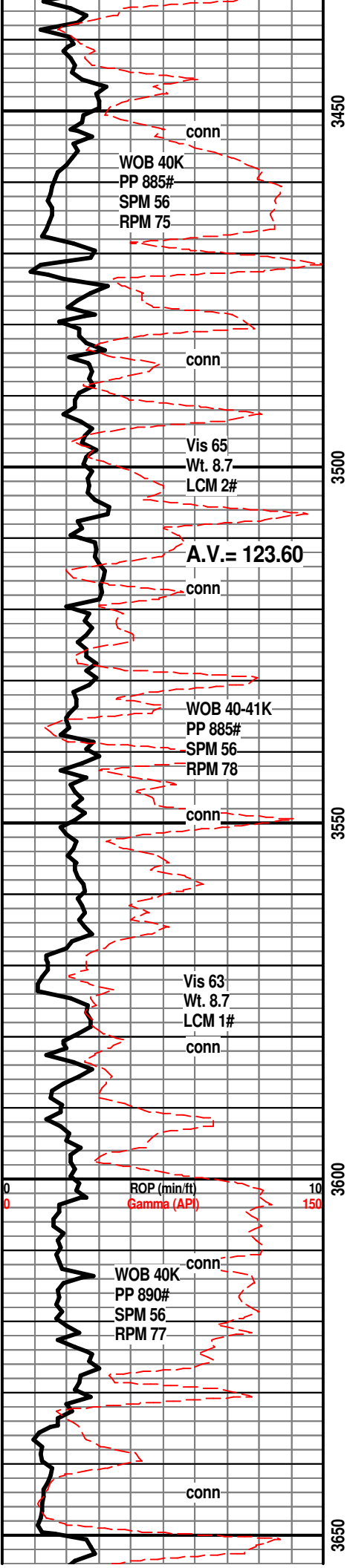
EVENT

- Rft
- Sidewall

OIL SHOW

- Even





10' Samples Start at 3500'

LM; off wh, tan, f to med xln, scat well cem foss mat, most dense, scat dull yel min fluor, ns.

LM; lt to med brn, occ gy brn, foss ip, most well cem, blocky, scat pyr, no vis por, ns.

SH; med gy, platy, smooth

LM; off wh, tan, buff, fxln w/minor soft chalk and chalky mtx, trc poor interxln por, dull to lt yel min fluor, foss ip, no stn, ns.

LM; med to dk brn, dense, blocky, tite

LM; wh, off wh, f to med xln, scat foss mat, fair interxln w/some vug por, scat chalky mtx, lt yel min fluor, no stn or odor, no gas kick, ns.

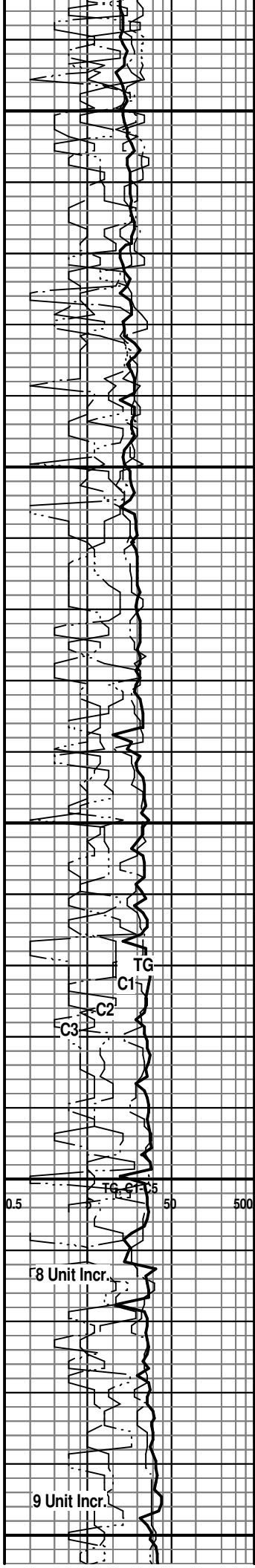
LM; off wh to tan, lt brn, scat foss mat, some loosely cem, poor to fair interpart por, no fluor, no stn, ns.

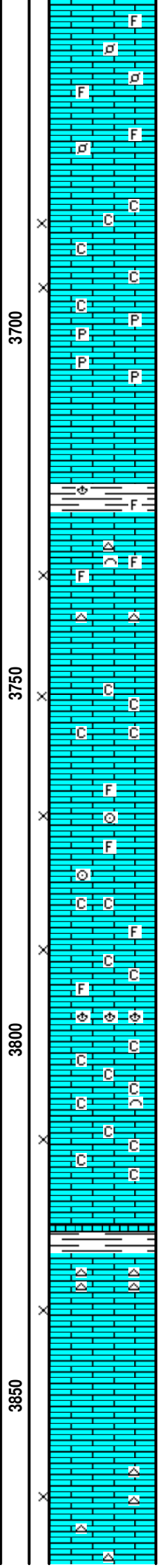
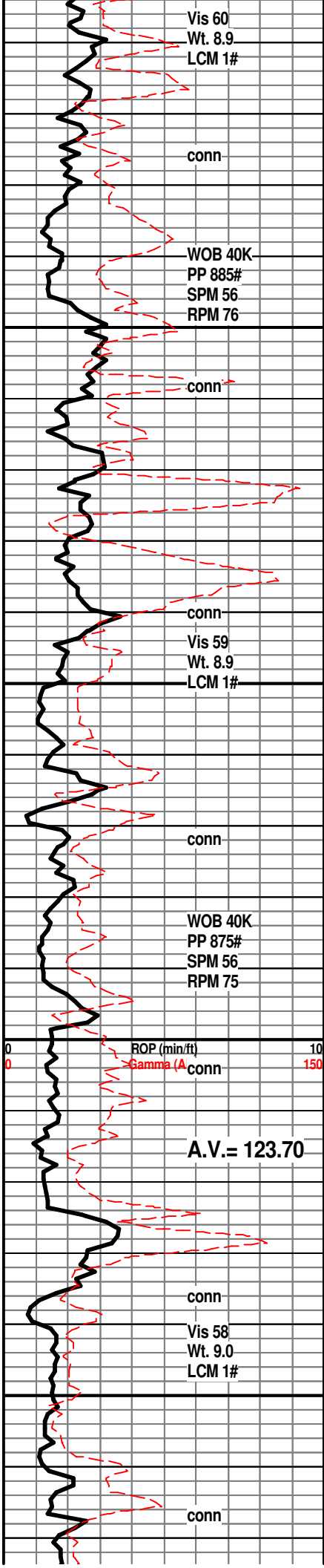
SH; med gy, gy grn, firm, occ silty, interbdd hd f gr qtz ss strngs.

HOWARD 3627(-1398)

LM; off wh, wh, tan, fxln w/scat foss pellets and oolites, fair to gd interxln por, minor chalky mtx, lt yel fluor, no stn or odor, ns.

SH; dk gy, platy





LM; tan to lt brn, some gy brn, scat well cem foss mat, most dense, blocky, no vis por, ns.

LM; off wh, tan, f to med xln, some sucrosic text, soft ip w/scat chalky mtx, fair scat interxln por, no fluor, ns.

LM; tan to lt brn, hd, scat pyr, tite

LM; tan to off wh, lt gy brn, fxln, poor to no vis por, most dense, blocky

SH; med to dk gy, platy, foss ip.

LM; wh, off wh, buff, foss w/scat fair interpart por, cherty ip, dull yel to no fluor, no gas kick, ns.

LM; tan, buff, med xln to gran text, fair to gd interxln por, occ chalky mtx, no fluor, ns.

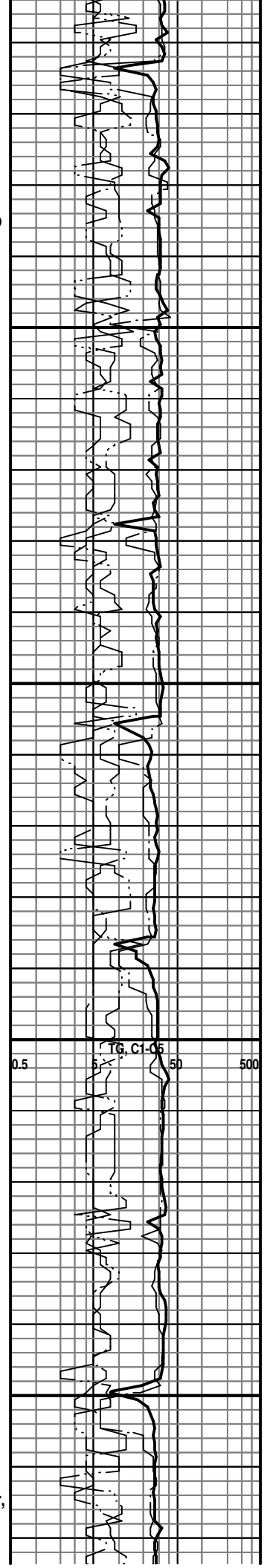
LM; tan to off wh, buff, foss ip w/occ crin stems, fair interpart por in some, scat chalky mtx, no fluor, ns.

LM; off wh, wh, tan, fxln w/rare foss mat, much soft chalk and chalky mtx, poor interxln por, no fluor, ns.

LM; tan to lt brn, hd, blocky, scat off wh to gy occ foss cht, tite

LM; tan to cream, buff, med xln to gran text, gd interxln w/scat p-p por, scat cse spar calc xtals, lt yel fluor, no stn or odor, no gas kick, ns.

LM; tan to buff, lt brn, f to med xln, fair scat interxln por, interbdd off wh to lt gy cht, no fluor, ns.



WOB 40K
PP 885#
SPM 56
RPM 75

conn

conn

Vis 55
Wt. 9.1
LCM 1#

conn

WOB 40K
PP 895#
SPM 56
RPM 75

conn

ROP (min/ft)
Gamma (API)

conn

Vis 53
Wt. 9.2
LCM 1#

A.V. = 123.70
conn

WOB 40K
PP 890#
SPM 56
RPM 75

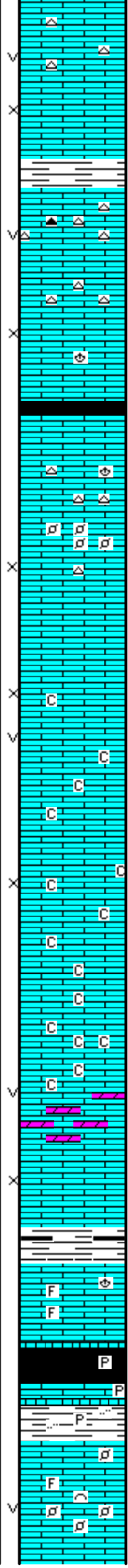
conn

3900

3950

4000

4050



LM; tan to buff, fxln, poor interxln w/rare vug por, minor gy to wh cht, no fluor, ns.

SH; med gy, platy

LM; tan to off wh, med to cse xln, spar calc xtals, cherty ip, gd interxln w/occ vug por, lt yel min fluor, no gas kick, ns.

LM; tan to buff, fxln w/rare poor interxln por, foss w/scat bracs, most tite, no fluor, ns.

LM; tan to off wh, buff, foss w/interbdd finely pelletal lmst, poor interpart por, scat off wh cht, no fluor, ns.

LM; off wh, lt gy, f to med xln, scat p-p and occ vug por, minor chalky mtz, dull yel/blue fluor, no stn or odor, ns.

LM; off wh, tan, f to med xln, fair interxln w/scat small vug por, chalky mtz, dull yel to no fluor, ns.

LM; off wh, buff, f to med xln, scat sucrosic text, interbdd dolomitic lmst, fair to occ gd interxln w/vug por, lt to occ med yel min fluor, no stn, ns.

LM; off wh, buff, cse xln, gd interxln por, dul yel min fluor, ns.

SH; dk gy, trc blk, platy

LM; tan to lt brn, buff, foss ip, most well cem, interbdd med xln off wh partly chalky lm, dull yel fluor, no stn, ns.

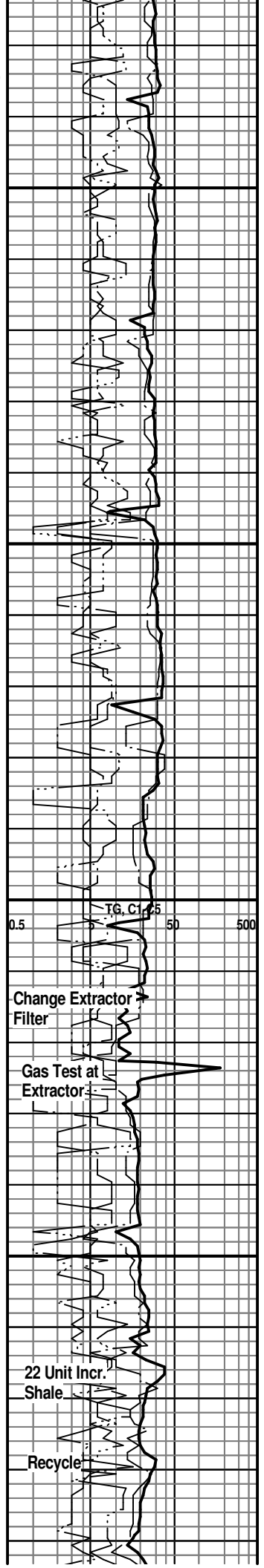
HEEBNER SHALE 4063(-1834)

SH; blk, carb ip, platy, trc pyr
LM; med to dk brn, dense, pyr ip.
SH; grn, occ pyr, silty ip.

TORONTO 4076(-1847)

LM; tan to lt brn, foss ip, hd, well cem, ns.

LM; off wh, cream, f to med xln, foss ip, scat fair vug por, lt/med yel min fluor, no stn or odor, no gas kick



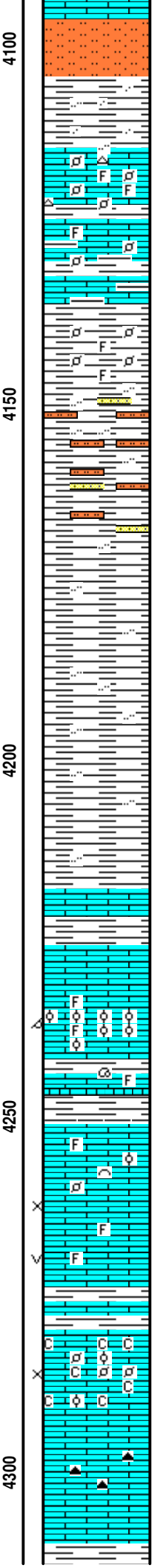
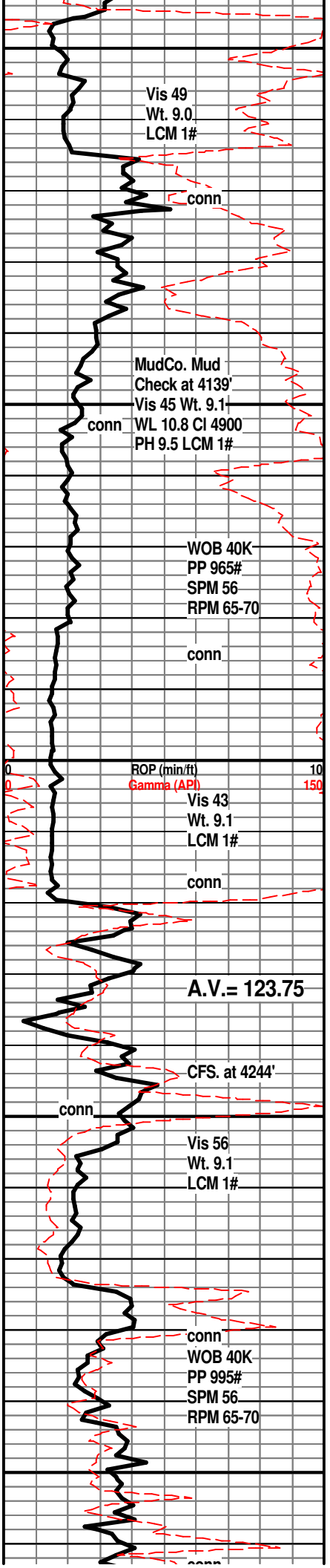
TG, Cl

Change Extractor Filter

Gas Test at Extractor

22 Unit Incr. Shale

Recycle



DOUGLAS SHALE 4096(-1867)

SLTST; lt gy, mica, sandy ip, firm

SH; lt gy, silty to sandy, platy

LM; lt to med brn, highly foss, finely pelletal, cherty ip, dense, scat lt yel min fluor

LM; med/dk brn, foss, some argil, tite

SH; lt gy, gy grn, foss ip, calc, firm

SH; lt gy, silty w/interbdd mica sltst and hd vf gr ss strngs.

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

SH; med gy, smooth, occ silty

BROWN LMST. 4220(-1991)

LM; med to dk brn, foss ip, tite

LANSING 'A' 4226(-1997)

LM; tan to lt brn, foss - oolitic, scat med size molds, fair oomoldic por, v.spotted lt brn oil stn, faint/fleeting odor, quest. gas bubbles, med yel fluor, no F.O., poor show

SH; med gy, foss ip, platy

LANSING 'B' 4251(-2022)

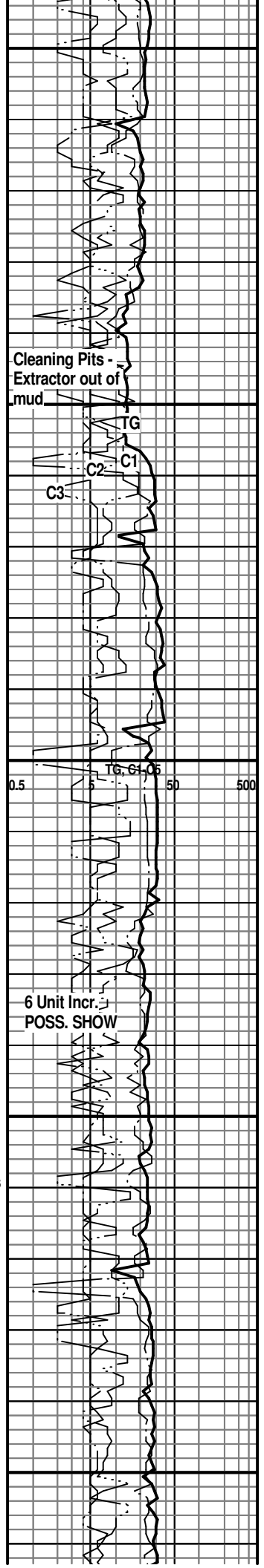
LM; tan to lt brn, buff, foss w/scat pellets and hash, most well cem, dull yel min fluor, no stn or odor, no gas kick

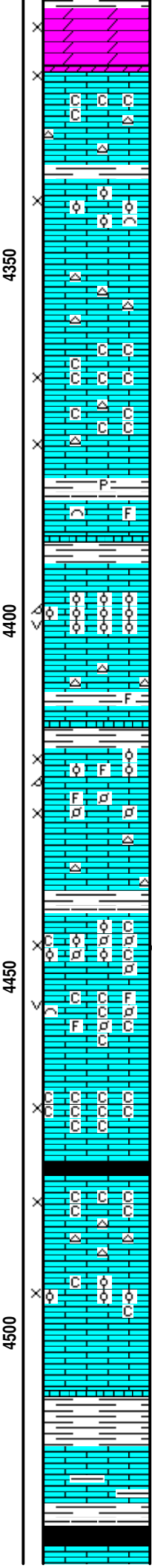
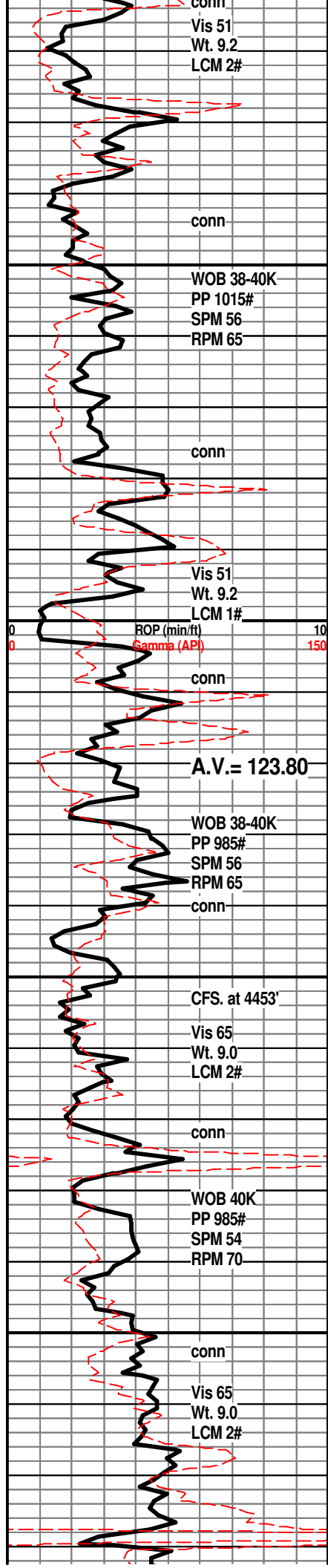
LM; lt gy, hd, foss ip, scat fair vug por, no fluor, no stn or gas kick, ns.

LM; off wh, buff, tan, foss w/scat small pellets and oolites, much soft chalky and chalky mtx, poor to fair interpart por, no fluor, ns.

LM; lt to med brn, hd, micritic, cherty ip w/med gy and amber cht, tite

SH; med gv to grn, platy





DOL; off wh, buff, sucrosic, fair interxn por, bcm lmy w/interbdd tan to buff fxln lmst, scat chalk and chalky mtx, dull to lt yel min fluor, no stn or odor, no gas kick

LM; lt to med brn, hd, occ gy/tan cht, tite

LM; off wh, tan, buff, med xln to gran text, foss ip w/trc oolitic lmst, fair to gd interxn por, spotted lt yel fluor, no stn or odor, ns.

LM; tan to off wh, buff, fxln w/scat off wh to wh fresh cht, dull yel fluor, no stn or odor, ns.

LM; wh, off wh, f to med xln, fair interxn por, much soft chalky and chalky mtx, rare off wh cht, no fluor, ns.

SH; med gy grn, platy, pyr ip.

LM; med to dk brn, foss, dense

LANSING/KC. 'H' 4392(-2163)
 LM; tan to lt brn, oolitic, small to med size molds, gd oomoldic w/scat vug por, lt yel min fluor, no stn or odor, no gas kick, barren

LM; lt to med brn, cherty ip, tite

LM; tan to lt brn, foss - finely pelletal, scat oolitic lmst(some poss. from above zone), lt yel fluor, no stn or odor, ns.

LM; tan to buff, cream, foss w/scat small pellets, poor interpart por, off wh to tan chert, no fluor, ns.

KANSAS CITY 'I' 4441(-2212)
 LM; tan to cream, buff, finely pelletal, scat small ooids, fair interpart por, trc v. light brn spotted stn, no odor, no cut, some chalky mtx

LM; tan to cream, off wh, med xln w/cse foss frags, scat small vug por, chalky mtx ip, no stn or odor, ns.

LM; wh, off wh, med xln, poor to fair interxn por, very chalky, much pure soft chalk, no fluor, no stn, ns.

SH; dk gy - blk, fiss

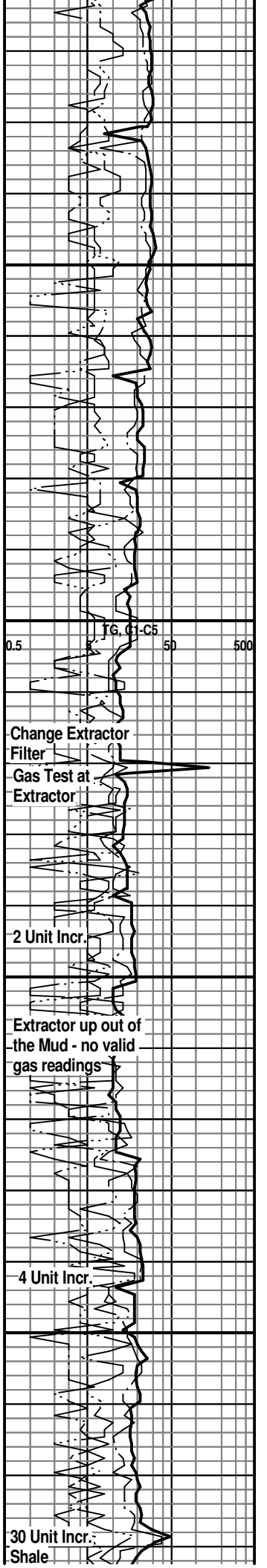
KANSAS CITY 'J' 4478(-2249)
 LM; tan to off wh, buff, f to med xln, fair interxn por, chalky - soft mtx, no fluor, no stn, ns.

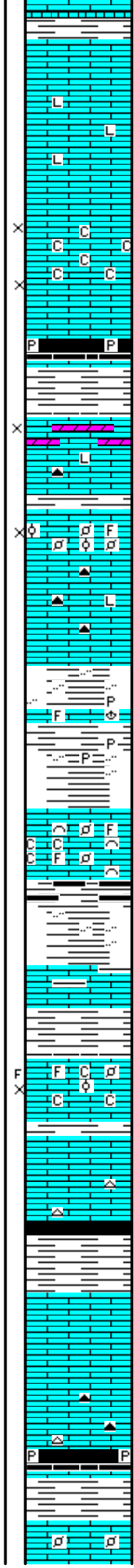
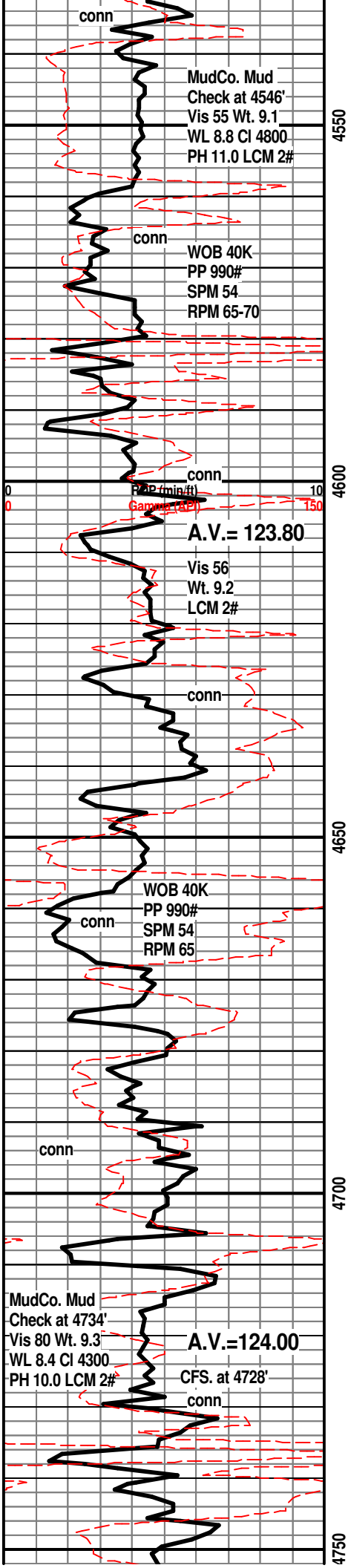
LM; tan to buff, cream, f to med xln, poor to fair interxn por, occ foss w/interbdd oolitic lmst, minor chalky mtx, ns.

SH; med gy, gy brn, lmy w/interbdd argil lmst

LM; lt to med gy, occ gy brn, dense, some argil, no vis por, ns.

STARK SHALE 4528(-2299)
 SH; blk, carb ip, sev. gas bubbles





SWOPE 4538(-2309)

LM; med brn, dense, blocky, tite
LM; tan to cream, buff, most micritic, blocky, med yel min fluor, scat med xln spar calc, interbdd hd litho lmst, no vis por, no stn, ns.

LM; tan to lt brn, f to occ med xln, spar calc xtals, poor to fair vis interxln por, chalky w/much soft chalky mtx, lt yel min fluor, no stn or odor

SH; blk, carb ip, scat pyr

HERTHA 4591(-2362)

LM; tan to buff, fxln to sucrosic text, partly dolomitic, gd interxln por, med yel min fluor, no stn or odor, quest. gas bubbles

LM; lt brn, v. foss - oolitic and pelletal, scat fair interpart por, occ foss gy cht, no fluor, ns.

LM; med to dk brn, gy brn, hd, micritic to litho ip, scat amber cht, tite

BASE KANSAS CITY 4626(-2397)

SH; varic, grn, brn, gy, maroon, silty ip, occ pyr, interbdd tite foss lmst.

PLEASANTON 4646(-2417)

LM; off wh, tan, pale grn, cse xln w/foss frags, weaky cem - fair interpart por in some, minor soft chalky mtx, lt yel fluor, no stn or odor, no gas kick

SH; varic, grn, gy, maroon, silty, flakey

MARMATON 4668(-2439)

LM; tan to lt gy grn, hd, blocky, argil ip, tite

ALTAMONT 4681(-2452)

LM; tan to cream, off wh, fxln w/scat foss mat, rare small oolites/pellets, partly chalky mtx, no poor interpart por, trc brite yel edge fluor - poss. frags, no odor, no vis oil stn, no cut

LM; lt brn, dense, scat blk dead gilsonite/tar on few pcs, no vis por, v. dull yel fluor, looks tite, rare tan to opaque cht

SH; dk gy, gy grn, some blk, platy

PAWNEE 4714(-2485)

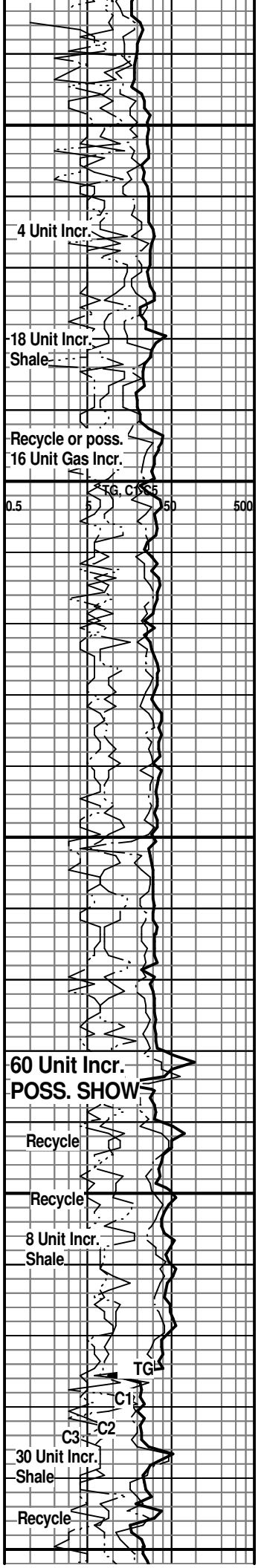
LM; tan to cream, lt brn, micritic, no vis por, dull yel min fluor, no stn or odor, ns.

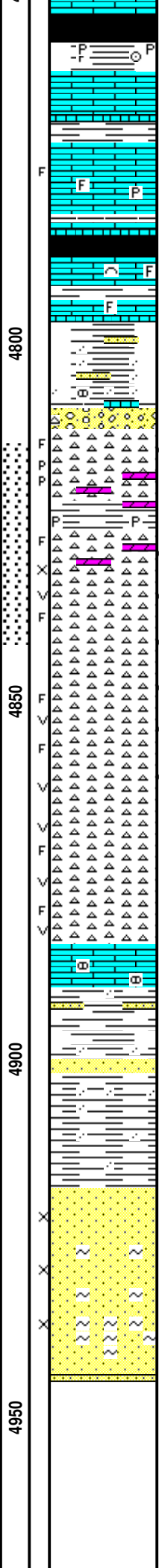
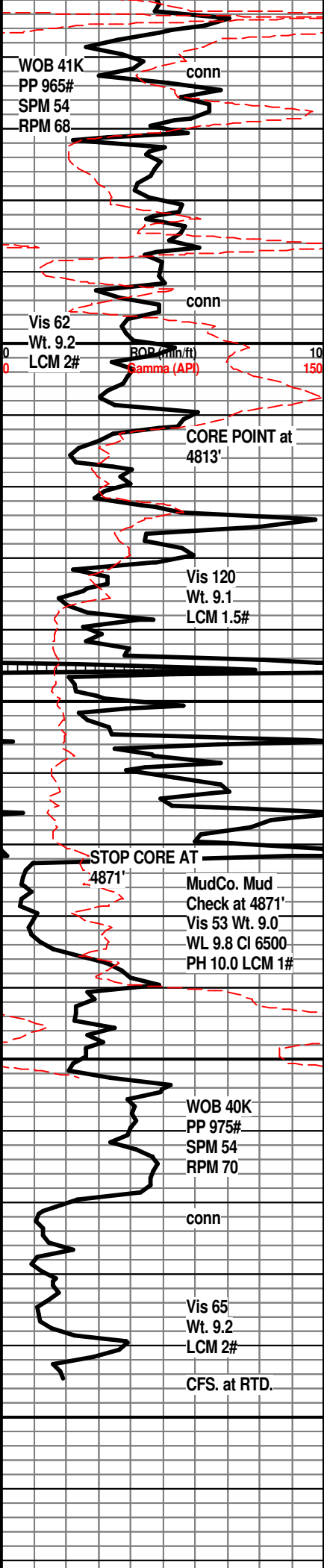
BIT TRIP AT 4728' - Run Junk Basket

LM; lt brn, foss ip, most dense, scat tan/amber cht, no vis por, no fluor, ns.

SH; blk, carb ip, scat pyr

LM; tan, lt brn, foss - finely pelletal ip, well cem, hd, some micritic, dull yel min fluor, no vis stn, no odor





CHEROKEE SHALE 4754(-2525)

SH; blk, grn, gy grn, foss ip, platy

LM; lt brn, buff, micritic, blocky, lt yel min fluor, no vis por, no stn, ns.

LM; tan to lt brn, micritic, scat fracs w/spar calc on faces, some healed fracs, occ blk tar/gils in fracs, dull to lt yel fluor, no live shows, no odor

SH; dk gy - blk, pyr ip.

LM; tan to cream, buff, fxln w/scat foss mat, most well cem, rare blk tar/gils stn, no live shows, no odor, scat med yel fluor, no apparent gas kick, trc sandy lmst that looks tite

SH; varic, grn, maroon, yel, brn, sandy w/med gr qtz gr in shale, trc weathered nodular lmst

MISS. UNCONFORMITY 4812(-2583)

CHT; off wh, wh, trip and fresh, fracs w/fair p-p (trip) por, fair gas/oil odor, fresh cht w/occ blk tar/gils, med yel fluor, spotted med brn stn, some grn gritty dolomitic cht

SH; varic, much grn, pyr ip.

CHT; wh, opaque, grn, some grainy text dolomitic cht w/gd interxln por, fracs, spotted/ even med brn stn, fair oil/gas odor, few pcs. w/GSFO, med/brite yel fluor, sev. cse qtz xtals w/trc vug por and med brn stn, rare bld gas

First CORE from 4813' - 4845', Core Barrel jammed at 4845', Cut 32', Rec. 31.0'

CHT; wh, off wh, fresh and trip, sev. fracs vis w/some vug por, fair odor, scat med/brite yel fluor, SSFO and gas bubbles

CHT; wh, off wh, rare tan, most fresh, scat vug por w/lt brn live oil stn, trc F.O. and gas

Second Core from 4845' - 4871', Core Barrel jammed at 4871', Cut 26', Rec. 26'

CHT; wh, off wh, fresh, fracs w/ vug por, rare lt brn in vugs and fracs, porc, most barren of show, rare lt yel fluor, no odor

LM; med brn, red brn, oxidized ip, occ nodular

KINDERHOOK SHALE 4890(-2661)

SH; grn, gy grn, red/brn, some varic sh, interbdd pale grn of off wh vf to f gr qtz ss strngs, interbdd sandy sh

SH; med gy grn, firm, sandy ip.

KINDERHOOK SAND 4918(-2689)

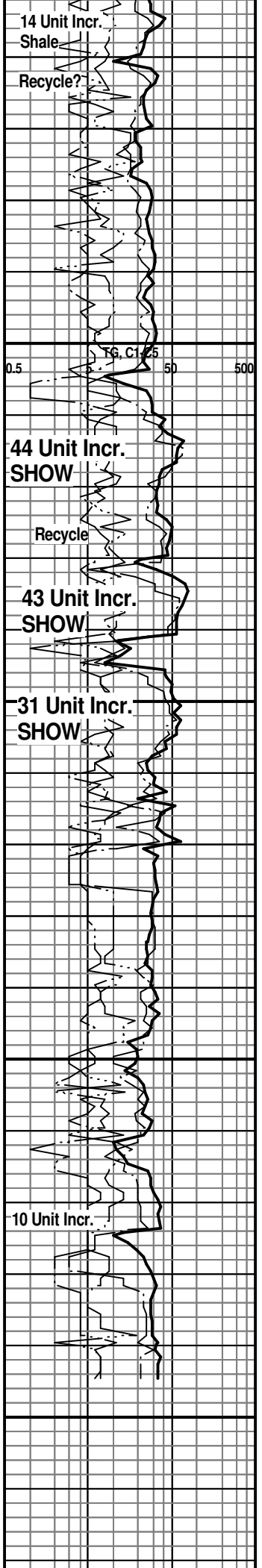
SS; off wh, clr, all f gr qtz, clusters, most fri w/fair to gd intergran por, calc, rare grn glau inclusions, no fluor, no stn or odor, ns.

SS; clr, off wh, pale grn, f to rarely med gr, qtz, clusters, glau ip w/poss. chlorite incl, interbdd hd qtzitic tite ss, no fluor, no stn or odor, ns.

RTD. 4945' at 3:50 PM. 10/23/13

LTD. 4945'

Halliburton DIL, NEU/DEN w/PE.



Microlog, MRIL

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

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