

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: Yost #2-28
Location: 1866' FSL & 549' FWL, Sec. 28-T27S-R18W, Kiowa Co., KS.
Licence Number: 15-097-21816-00-00 Region: Einsel
Spud Date: 3/23/2015 Drilling Completed: 3/30/15
Surface Coordinates: 1866' FSL & 549' FWL, Sec. 28-T27S-R18W

Bottom Hole Same as Above
Coordinates:
Ground Elevation (ft): 2212' K.B. Elevation (ft): 2225'
Logged Interval (ft): 3900' To: 4840' Total Depth (ft): 4840'
Formation: Kinderhook Shale at Total Depth
Type of Drilling Fluid: Freshwater/Gel to 3287'; Chemical Gel 3287' to 4840'

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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(Kansas City 'I' Zone) 4413' - 4431'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair to Strong Blow BOB/7.5 Min., FFP Strong Blow BOB/Immed, no Gas to Surface, 2" Blowback on FSI; REC: 3368' Gas in Pipe, 20' GOCWM(29%G, 34%O, 3%W, 34%M), 60' GOCWM(50%G, 35%O, 10%W, 5%M), CI 5100, Mud 5100; IFP 16-25#, ISIP 1331#, FFP 20-40#, FSIP 1353#, IHP 2193#, FHP 2274#, BHT 114 Deg. F.

DST #2(Kansas City 'J' zone) 4455' - 4470'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Strong Blow Gas to Surface in 10 Min., Gauged Max. 105.9 MCFG/15" of IFP, FFP Gas to Surface throughout, BOB Blowback on both SI's; REC: 3456' CGO(Est. 60%G, 40%O), 61' Drlg. Mud, NO WATER, Dropped Bar and broke Circ. Sub pin, reversed approx. 15 BBL oil to tanker; IFP 102-153#, ISIP 1281#, FFP 360-671#, FSIP Invalid due to Shut-in tool malfunction, IHP 2213#, FHP 2218#, BHT 124 Deg. F.

DST #3(Miss. Chert) 4756' - 4806'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Strong Blow BOB/1 Min., 1" Blowback on ISI, FFP Strong Blow Gas to Surface in 10 Min. Gauged 38.7 MCFG in 45 Min. of FFP(10# on a 0.25" Choke), No Blowback on FSI; REC: 40' GCM with oil specks(5%G, 95%M), no water; IFP 42-50#, ISIP 1338#, FFP 39-46#, FSIP 1336#, IHP 2525#, FHP 2373#, BHT 121 Deg. F.

Comments

3/23/15 MIRU Sterling Drilling Co. Rig #5, Spud at 6:15 PM. , 3/24/15 TD. 553' - Cementing Surface Casing; 3/25/15 Drilling at 1500'; 3/26/15 Drilling at 3545'; 3/27/15 Drilling at 4300'; 3/28/15 TD. 4434' - TIH/CCH after DST #1; 3/29/15 Drilling at 4555'; 3/30/15 TD. 4810' - Make up Test tool for DST #3, Reached Total Depth of 4840' at 6:35 PM.; 3/31/15 RTD. 4840', LTD. 4839' - Logging, set 5 1/2" Production Casing.

Set new 8 5/8"(24#) Surface Casing at 549' KB. with 550 sacks cement(Basic Energy Services). Cement did Circulate. PD. at 10:30 AM. on 3/24/15.

Set new and used 5 1/2"(15.5#) Production Casing at 4836' with 200 sacks of "Loeb Blend" cement(Basic Energy Services). PD. at 9:30 PM. on 3/31/15.

Surveys: 0.50 Deg. at 553'(Surface Casing); 2.0 Deg. at 4211'(Bit Trip); 2.0 Deg. at 4434'(DST #1); 1.0 Deg. at 4810'(DST #3).


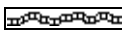
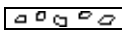
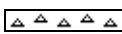
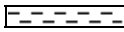







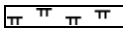

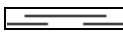
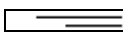
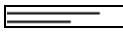



Pipe Strap at 4211'(Bit Trip): Strap 0.10' Short to the Board, no correction made to the Board.

After review of the Halliburton Logs, DST data, and positive indications of commercially recoverable hydrocarbons, the operator elected to set 5 1/2" Production Casing for completion in the Miss. Chert, and Kansas City 'I' and 'J' zones.







































































LOG TOPS: Chase 2453(-228), Stotler Lmst. 3404(-1179), Howard 3608(-1383), Heebner Shale 4051(-1826), Toronto 4066(-1841), Brown Lmst. 4204(-1979), Lansing 'A' 4213(-1988), Kansas City 'I' 4419(-2194), Kansas City 'J' 4461(-2236), Stark Shale 4512(-2287), Hertha 4572(-2347), Base Kansas City 4603(-2378), Marmaton 4643(-2418), Cherokee Shale 4732(-2507), Miss. Chert 4780(-2555), Kinderhook Shale 4820(-2595).

NOTE: This log was shifted upward by 2' 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  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
 - [I] Inter
 - [M] Moldic
 - [O] Organic
 - [P] Pinpoint

[V] Vuggy

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

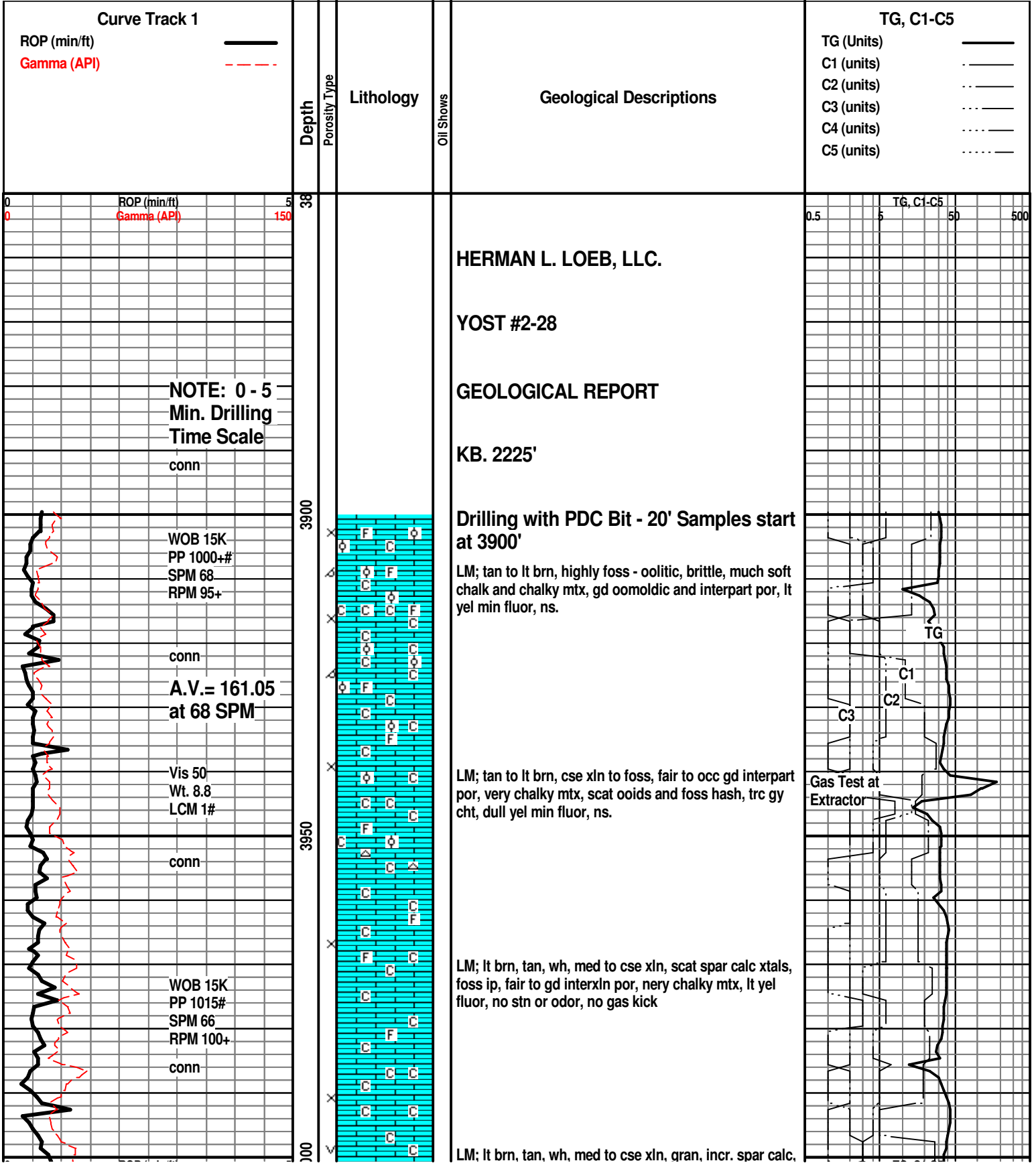
- ROUNDING**
- [R] Rounded
 - [r] Subrnd
 - [a] Subang
 - [A] Angular

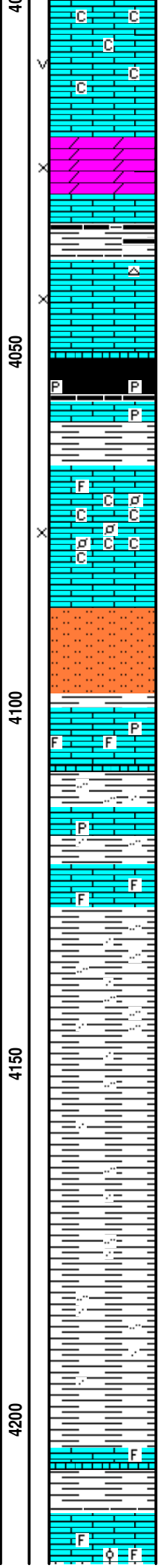
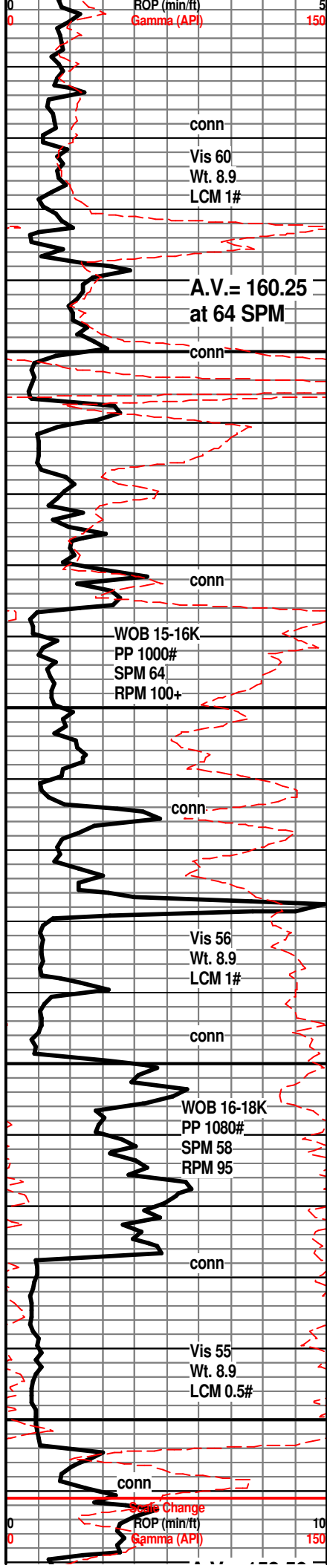
- [S] Spotted
- [Q] Ques
- [D] Dead

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

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

- OIL SHOW**
- [Even] Even





scat vul por, very chalky, lt yel min fluor, ns.

DOL; tan to lt brn, sucrosic, fair interxln por, lt yel fluor, no stn or odor, ns.

SH; dk gy - blk, carb ip, platy

LM; lt to med brn, fxl, most dense, rare interxln por, trc lt gy cht, dull yel fluor, ns.

HEEBNER SHALE 4051(-1826)
 SH; blk, carb, pyr ip.
 LM; med to dk brn, pyr ip, hd.

TORONTO 4066(-1841)
 LM; off wh, wh, lt gy, fxl w/scat foss - small pellets, much soft chalk and chalky mtx, poor to fair interpart/interxln por, no vis stn, no odor, ns.

DOUGLAS SHALE 4086(-1861)
 SLTST; lt gy, mica, sandy ip, soft

LM; med brn, foss ip, hd, no vis por, occ pyr, ns.

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

LM; lt to med brn, blocky, occ pyr, tite

LM; med gy, med brn, dense, foss ip, well cem, tite

PLUGGED BIT JETS

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

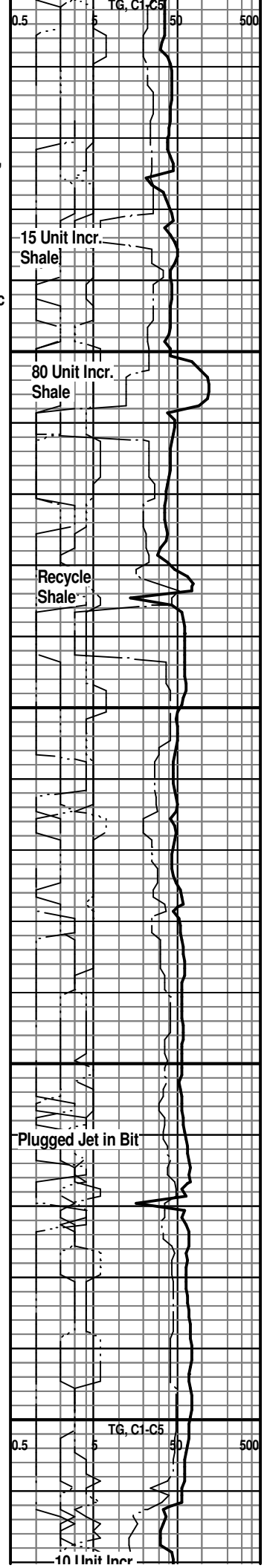
SH; lt to med gy, platy, silty to occ sandy

SH; med gy, platy, smooth

BROWN LMST 4204(-1979)
 LM; med brn, hd, foss ip, tite

BIT TRIP AT 4211'

LANSING 'A' 4213(-1988)
 LM; lt brn, lt gy brn, foss - partly oolitic, most well cem,



A.V.= 153.50
at 58 SPM

conn

WOB 42K
PP 930#
SPM 59
RPM 70

conn

MudCo. Mud
Check at 4284'
Vis 52 Wt. 9.1
WL 8.8 Cl 5100
PH 9.5 LCM 1#

conn

WOB 40-42K
PP 960#
SPM 60
RPM 70

conn

Vis 55
Wt. 9.2+
LCM 1#

conn

WOB 40K
PP 990#
SPM 60
RPM 72

conn

ROP (min/ft) 10
Gamma (A) 150
A.V.= 153.75
at 60 SPM

DST #1
K.C. "I"
4413' - 4431'
Corrected
CFS. at 4431'

conn

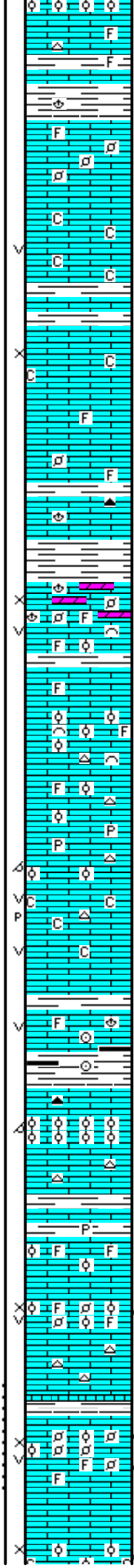
A.V. = 152.00

4250

4300

4350

4400



blocky, poor interpart por, trc poor oomoldic por, lt yel fluor, no stn or odor

SH; med gy, grn, foss ip.

LANSING 'B' 4237(-2012)

LM; tan to off wh, buff, foss w/scat small pellets, most well cem, occ cse spar calc xtals, dull yel fluor, poor to no vis por, no gas kick

LM; lt gy, lt gy brn, med xln ip, scat fair vug por, occ chalky mtx, some rextalized, lt yel min fluor, no stn or odor, ns.

LM; tan to buff, fxln w/fair to gd interxln por, soft, minor chalky mtx, no fluor, no stn or odor, ns.

LM; lt to med brn, hd, scat well cem foss mat, no vis por, no fluor, ns.

LM; med to dk brn, foss ip, hd, rare dk gy cht

LM; tan to lt brn, buff, foss w/scat dolomitic lmst interbdd, fair to occ gd interpart and vug por, rare oolitic lmst, lt yel fluor, no vis stn, no odor, no gas kick

LM; tan to lt brn, buff, foss ip - well cem ooids and occ hash, interbdd off wh foss cht, minor chalky mtx, no fluor, ns.

LM; off wh, buff, lt gy, fxln, foss w/scat oolitic lmst, fair p-p and occ fair vug por, minor chalky mtx, no fluor, no stn, ns.

LM; med brn, foss ip, scat gd vug por, lt yel fluor, no stn or odor, no gas kick, ns.
SH; dk gy, some blk, platy, foss ip.

LANSING/K.C. 'H' 4373(-2148)

LM; lt brn, oolitic, small to med size molds, gd oomoldic por, brittle ip, dull yel fluor, no stn or odor, no gas kick, barren

SH; med gy, grn, platy, occ pyr

LM; tan to lt brn, foss - partly oolitic, upper zone has no show, lower break has spotted lt brn stn, fair/gd odor when broken, fair interpart w/scat vug por, med yel fluor, fair/gd cut

LM; tan to lt brn, dense, scat gy cht, tite

KANSAS CITY 'I' 4419(-2194)

LM; lt brn, tan, foss - some finely pelletal, fair to rarely gd interpart por, some vug por, minor chalky mtx, mostly spotted lt brn stn, gd odor, scat brite yel fluor, SSFO, trc gas bubbles

DST #1: Kansas City 'I' 4413' - 4431'

LM; off wh, wh, foss - finely oolitic, gd interpart w/scat vug por. few pcs w/live oil stn and trc. F.O. most barren



Gas Test at Extractor

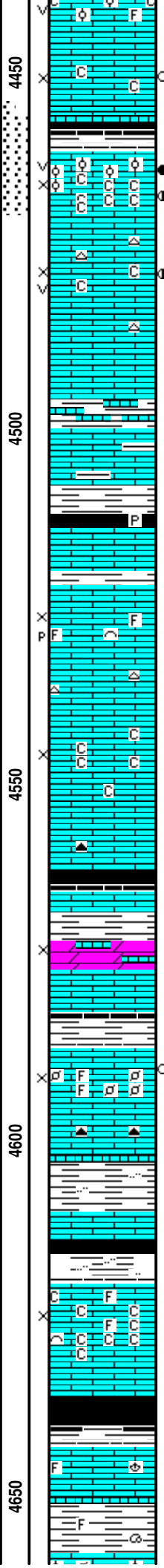
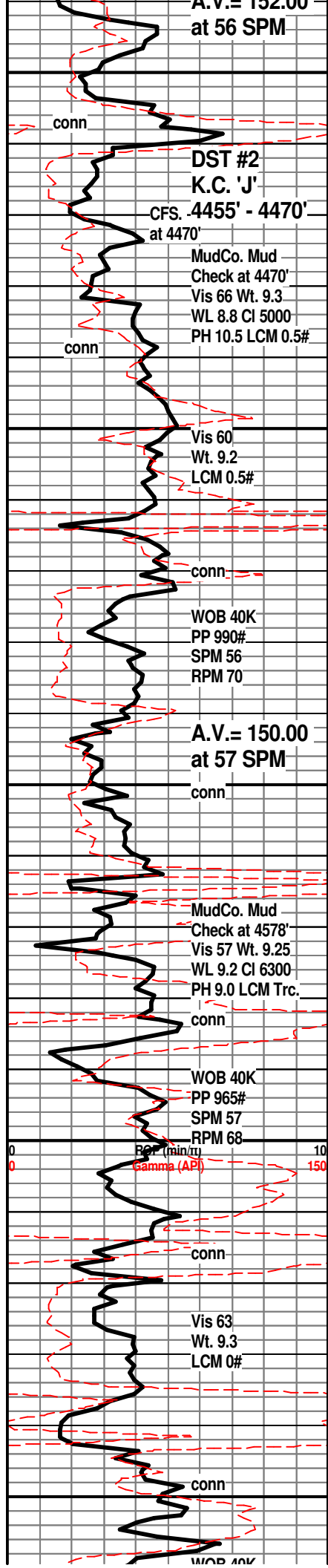
16 Unit Incr. SHOW

Recycle

80 Unit Incr. SHOW

Mud gassy after DST #1

10 Unit Incr.



veg por, low pos white on stn and trc. P.C., most barren por, lt yel fluor, gas odor from gassy mud, minor chalky mtx

LM; med xln, rare foss mat, fair interpart por, minor chalky mtx, poss. show from upper zone, questionable faint odor, most barren por

KANSAS CITY 'J' 4461(-2236)
LM; lt brn, foss - oolitic, scat vug w/fair interpart por, much brite yel fluor, fair odor, some chalky mtx - some chalk with fluor, SFO, gas bubbles

DST #2: K.C. 'J' 4455' - 4470' Corrected Depths to Log
LM; off wh, buff, f to med xln, fair interxln w/scat vug por, trc lt brn spotted oil stn, poss. faint odor, minor chalky mtx, dull yel fluor, occ wh to off wh cht, no cut

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

LM; med gy brn, hd, blocky, tite, some argil

STARK SHALE 4512(-2287)
SH; blk, carb ip, rare pyr

SWOPE 4522(-2297)
LM; tan to buff, off wh, foss ip, poor vis interpart w/rare poor p-p por, no fluor, no stn odor, no sample shows

LM; off wh, buff, tan, med xln, fair interxln por ip, scat soft chalky mtx, occ spar calc xtals, dull yel to no fluor, no vis stn, no odor, ns.

LM; med to dk brn, hd, micritic, trc amber cht

SH; blk, carb ip, platy

HERTHA 4572(-2347)
DOL LMST; off wh, buff, sucrosic ip, soft, fair interxln por, some chalky mtx, dull yel fluor, no stn or odor, ns.

LM; med brn, foss - finely pelletal, fair interpart por, dull yel fluor, quest. gas bubbles, trc rainbow show, no odor, some very tight litho lmst w/dk gy cht

BASE KANSAS CITY 4603(-2378)
SH; med gy, gy grn, maroon, silty ip.

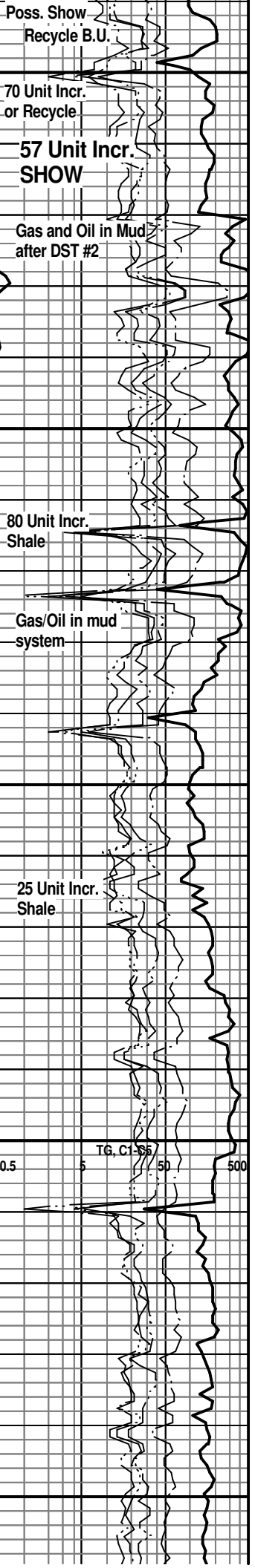
LM; med gy, hd, blocky, tite

PLEASANTON 4619(-2394)
LM; off wh, tan, buff, foss ip, occ med xln, trc poor interpart/interxln por, much wh soft chalk and chalky mtx, lt yel fluor, no stn or odor, no apparent gas kick

SH; dk gy - blk, platy, smooth

MARMATON 4643(-2418)
LM; lt brn, occ pale grn tint, foss ip, tite

SH; med gy grn, platy, foss ip



WOB 40K
PP 1025#
SPM 57
RPM 73

conn

Vis 63
Wt. 9.3
LCM 1.5#
conn

A.V.= 150.00
at 56 SPM

conn

Vis 58
Wt. 9.4
LCM 2#

conn
CFS. at 4775'
**DST #3
Miss. Chert
4756' - 4806'**
Corrected
Depths to
Log

ROP (min/ft)
Gamma (AP)
CFS. at 4806'

Vis 62
Wt. 9.2
LCM 2#

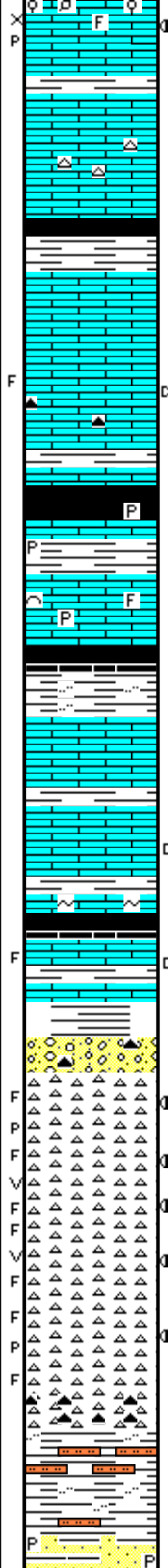
CFS. at RTD.

4700

4750

4800

4850



LM; tan, buff, lt brn, foss partly oolitic, well cem, w/fxln lmst, dk brn spotted oil stn, med yel fluor, poor p-p and interxln por, faint odor, fair to gd cut when crushed

LM; med brn, hd, blocky, micritic, scat gy cht, no vis por, scat lt yel fluor, ns.

SH; dk gy, blk, platy
PAWNEE 4690(-2465)

LM; tan to lt brn, dense, most micritic, lt yel min fluor only, no stn or odor, tite, ns.

LM; lt to med brn, most dense, litho ip, scat amber to brn cht, few pcs w/blk tar/gils on edges, frags, lt yel fluor in some, no live shows

SH; blk, carb, gassy, pyr ip.

LM; tan to lt brn, hd, pyr ip, rare foss mat, no vis por, no fluor, ns.

CHEROKEE SHALE 4732(-2507)

SH; blk, med gy grn, platy, occ silty

LM; tan to lt brn, hd, blocky, dense - micritic, no vis por, no fluor, ns.

LM; tan to buff, lt brn, fxln ip, most micritic, hd, rare blk tar/gils, no vis por, no fluor, ns, interbdd speckled brn/grn tite lmst.

CHEROKEE LMST. 4765(-2540)

LM; lt brn, fxln, scat frags, occ blk tar/gils, lt yel fluor, no odor, most looks tite

SH; varic, platy, some congl. weath. cht, org, blk

MISS. CHERT 4780(-2555)

CHT; yel/org, wh, fresh, frags, scat weathered edges w/interbdd tripolite, lt/med yel fluor, SSFO, occ p-p por, faint odor, spotted lt brn stn

CHT; wh, incr. tripolite, frags w/weathered edges, trc vug por, incr. in spotted oil stn, med to occ brite yel fluor, SSFO, v. faint odor

CHT; wh, some blue-wh, most fresh, some vug por, frags, few gas bubbles in weathered areas, SSFO, no odor, med/rare brite yel fluor

DST #3: Miss. Chert 4756' - 4806'

CHT; wh, off wh, most fresh, scat frags w/v. spotted lt brn oil stn, no odor, interbdd brn, grn, org chts at base of zone

KINDERHOOK SHALE 4820(-2595)

SH; med gy, gy grn, silty, v. firm, interbdd sltst

SS; lt gy, pale grn, vf gr qtz, pyr ip, soft, argil

RTD. 4840' at 6:35 PM. on 3/30/15

LTD. 4839'

Halliburton ACRT, NEU/DEN, Microlog, MRIL

40 Unit Incr.
Poss. Show

Change Extractor
filter and Glycol

70 Unit Incr.
Shale

Recycle

45 Unit Incr.
Shale

30 Unit Incr.
Poss. Show

100 Unit Incr.
Max.
SHOW

TG, C, C5
0.5 5 50 500

Mud is very gassy
after
DST #3

**NOTE: This log was shifted upward by
2' to 4' for correlation purposes with the
Halliburton Logs.**

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