

# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: Peters "D" #3-10  
Location: 950' FSL & 1940' FWL, Sec. 10-T16S-R26W, Ness Co., KS.  
Licence Number: 15-135-25390-0000 Region: Unice NE  
Spud Date: 6/7/2012 Drilling Completed: 6/17/2012  
Surface Coordinates: 950' FSL & 1940' FWL, Sec. 10-T16S-R26W, Ness Co.

Bottom Hole Same as above  
Coordinates:  
Ground Elevation (ft): 2621' K.B. Elevation (ft): 2632'  
Logged Interval (ft): 3800' To: 4625' Total Depth (ft): 4625'  
Formation: Mississippian at Total Depth  
Type of Drilling Fluid: Freshwater/Gel to 3359'; Chemical Gel 3359' to 4625'

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(L/KC. 'H' + 'I' zones) 4104' - 4154'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Weak Blow built to 4.5", FFP Fair Blow built to 8", no Blowback on SI's; REC: 15' Drilling mud w/rainbow SO, 280' SW(CI 95,000, Mud 2400); IFP 24-78#, ISIP 1214#, FFP 86-155#, FSIP 1192#, IHP 2020#, FHP 1953#, BHT 119 Deg. F.

DST #2(Fort Scott/Upper Cherokee Lmst). 4434' - 4482'(Corrected Depth to Log) Test Times 15"-45"-30"-60" IFP Weak surface Blow died in 11", FFP no Blow, no Blowback on SI's; REC: 30' Drlg mud, no shows; IFP 17-18#, ISIP 272#, FFP 18-20#, FSIP 75#, IHP 2276#, FHP 2133#, BHT 119 Deg. F.

DST #3(Miss. Dolomite) 4543' - 4564'(Corrected Depths to Log) Test Times 30"-60"-30"-60" IFP Weak Blow built to 4", FFP Dead at open, after 15" had Weak Surface Blow that built to 1/8" in 30"; no Blowback on SI's; REC: 15' CGO(5%G, 95%O - 37 Deg. API), 60' OCM(10%O, 90%M), 75' GHOCWM(25%G, 55%O, 10%W, 10%M) not enough water to determine CI; IFP 20-60#, ISIP 973#, FFP 101-100#, FSIP 877# and Building; IHP 2337#, FHP 2165#, BHT 124 Deg. F.

## Comments

6/6/12 MIRU Sterling Drilling Rig #2; 6/7/12 Spud at 1:00 AM., TD. 352' - W/O welder to weld Surface Casing straps; 6/8/12 Drilling at 1269'; 6/9/12 Drilling at 2033'; 6/10/12 Drilling at 2804'; 6/11/12 Drilling at 3305'; 6/12/12 Drilling at 3525'; 6/13/12 Drilling at 3990'; 6/14/12 TD. 4156' - DST #1; 6/15/12 Drilling at 4391'; 6/16/12 Drilling at 4495'; 6/17/12 RTD. 4625' at 6:15 AM., CCH for Logs, LTD. 4625'; 6/18/12 RTD. 4625', LTD. 4625' - Cementing Production Casing.

Set new 8 5/8" 23# Surface casing at 352' with 215 sx. of Cement(Basic Energy Services). Cement did Circulate. PD. 10:00 AM. 6/7/12.

Set new 5 1/2"(15.5#) Production Casing at 4623' with 150 sx. of "Loeb Blend"(Basic Energy Services). Port Collar at 2080'. PD. 7:45 AM. 6/18/12.


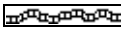
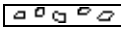
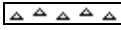
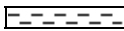






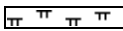

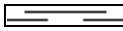
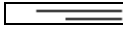
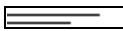



Surveys: 1 Deg. at 352'(Surface Casing); 0.25 Deg. at 4156'(DST #1); 0.75 Deg. at 4484'(DST #2); 0.50 Deg. at 4625' RTD.

After review of the Superior Logs, DST data and positive indications of commercial amounts of hydrocarbons, the operator elected to set new 5 1/2" (15.5#) Production Casing for completion in the Mississippi Warsaw dolomite.








































































LOG TOPS: Anhydrite 2065(+567), Base Anhydrite 2104(+528), Heebner Shale 3905(-1273), Toronto 3921(-1289), Lansing 'A' 3946(-1314), Lansing/KC 'H' 4114(-1482), KC 'I' 4138(-1506), Stark Shale 4191(-1559), Base Kansas City 4244(-1612), Marmaton 4288(-1656), Pawnee 4385(-1753), Fort Scott 4449(-1817), Cherokee Shale 4474(-1842), Miss. Unconformity 4537(-1905), Miss. Warsaw dolomite 4544(-1912).

NOTE: This log was shifted upward by 1' to 2' for correlation purposes with the Superior Well Service 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

<b>MINERAL</b>  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	<b>FOSSIL</b>  Algae  Amph  Belm  Bioclst  Brach  Bryozoa  Cephal  Coral  Crin  Echin  Fish  Foram  Fossil  Gastro  Oolite	 Ostra  Pelec  Pellet  Pisolite  Plant  Strom  <b>STRINGER</b>  Anhy  Arg  Bent  Coal  Dol  Gyp  Ls  Mrst	 Sltstrg  Ssstrg  <b>TEXTURE</b>  Boundst  Chalky  Cryxln  Earthy  Finexln  Grainst  Lithogr  Microxln  Mudst  Packst  Wackest
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OTHER SYMBOLS

- POROSITY**
- E Earthy
  - F Fenest
  - X Fracture
  - Inter
  - Moldic
  - Organic
  - Pinpoint

V Vuggy

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

- ROUNDING**
- R Rounded
  - Subrnd
  - Subang
  - Angular

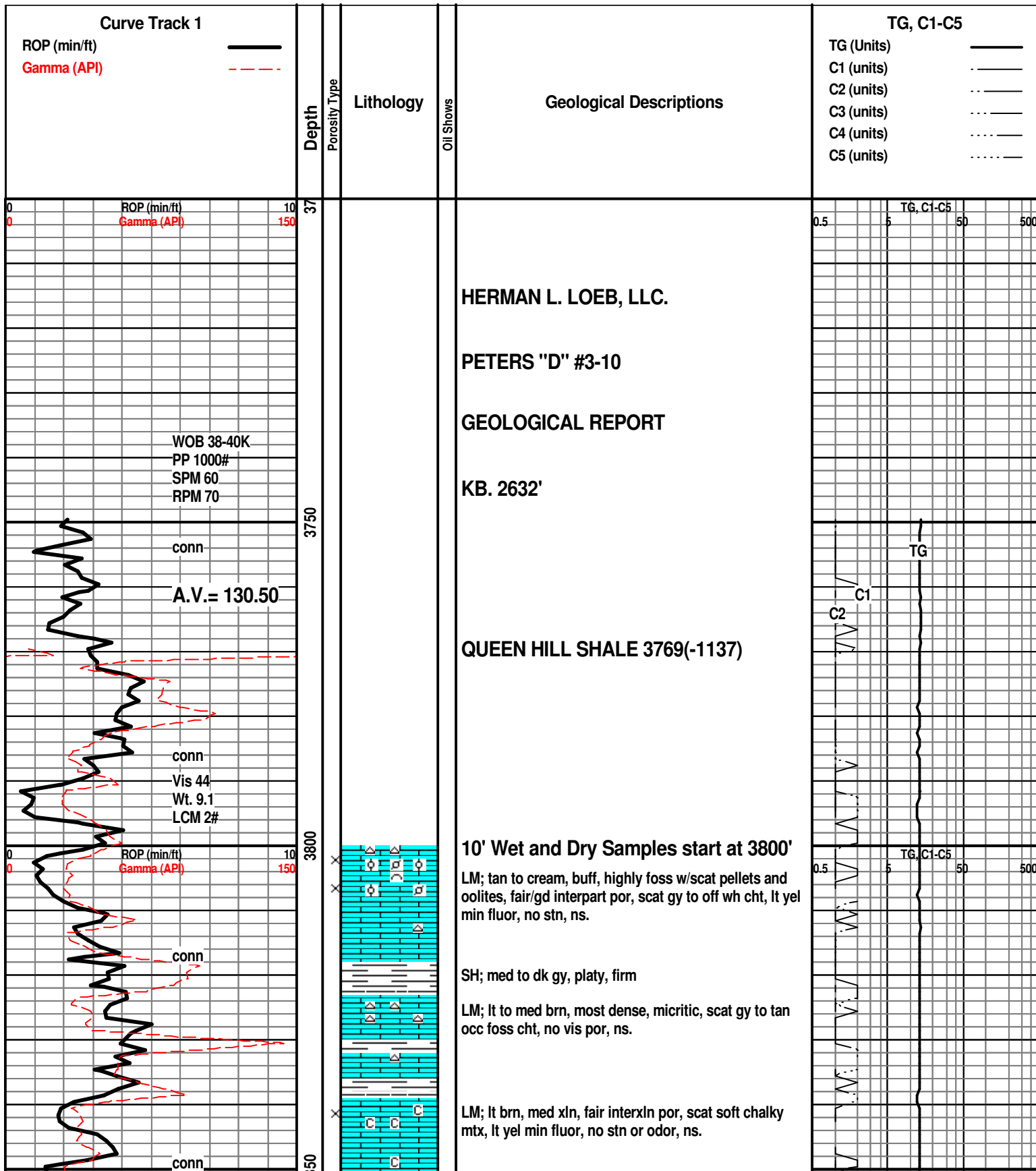
**OIL SHOW**

- Even

- Spotted
- Ques
- Dead

- INTERVAL**
- Core
  - Dst

- EVENT**
- Rft
  - Sidewall



Curve Track 1

ROP (min/ft) ———  
Gamma (API) - - - - -

TG, C1-C5

TG (Units) ———  
C1 (units) - - - - -  
C2 (units) . . . . .  
C3 (units) . . . . .  
C4 (units) . . . . .  
C5 (units) . . . . .

ROP (min/ft) 10  
Gamma (API) 150

TG, C1-C5 0.5 5 50 500

WOB 38-40K  
PP 1000#  
SPM 60  
RPM 70

conn  
A.V.= 130.50

conn  
Vis 44  
Wt. 9.1  
LCM 2#

ROP (min/ft) 10  
Gamma (API) 150

TG, C1-C5 0.5 5 50 500

conn

conn

HERMAN L. LOEB, LLC.

PETERS "D" #3-10

GEOLOGICAL REPORT

KB. 2632'

QUEEN HILL SHALE 3769(-1137)

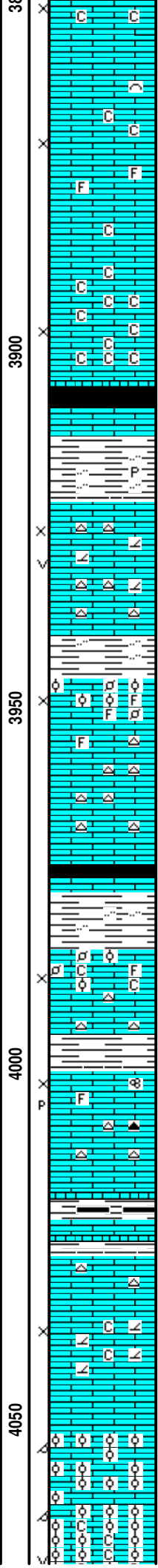
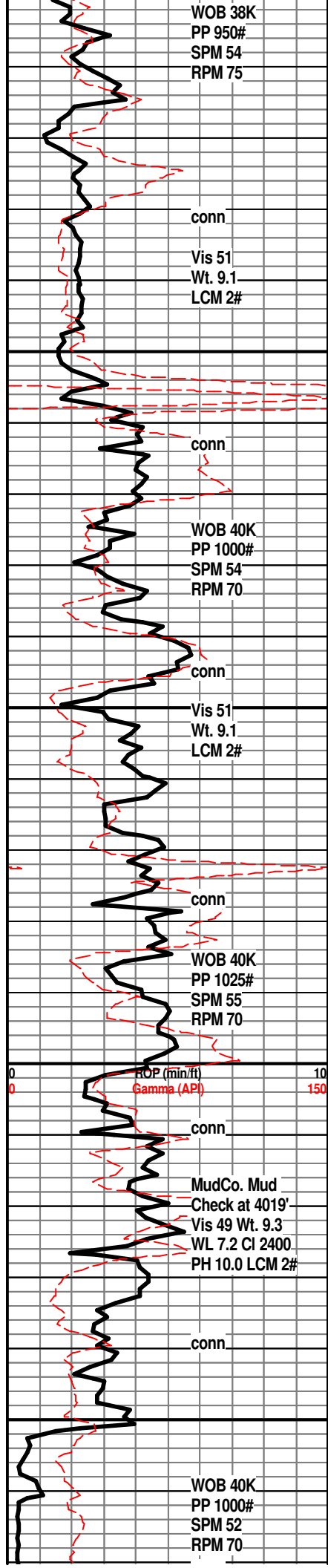
10' Wet and Dry Samples start at 3800'

LM; tan to cream, buff, highly foss w/scat pellets and oolites, fair/gd interpart por, scat gy to off wh cht, lt yel min fluor, no stn, ns.

SH; med to dk gy, platy, firm

LM; lt to med brn, most dense, micritic, scat gy to tan occ foss cht, no vis por, ns.

LM; lt brn, med xln, fair interxln por, scat soft chalky mtx, lt yel min fluor, no stn or odor, ns.



LM; off wh, tan, buff, fxlN w/fair interxln and scat p-p por, occ chalky mtX, dull yel fluor, no stn or odor, ns.

LM; tan to off wh, med xln w/scat cse xln, occ spar calc xtals, minor foss mat, fair to occ gd interxln por, chalky ip, lt yel fluor, ns.

LM; wh, off wh, tan, med xln w/abnt soft chalk and chalky mtX, med yel min fluor, poor to fair interxln por, no stn or odor, ns.

**HEEBNER SHALE 3905(-1273)**  
SH; blk, v. dk gy, soft to blocky, carb ip.  
LM; med brn, blocky, dense

SH; med grn, silty ip, firm, rarely pyr

**TORONTO 3921(-1289)**  
LM; lt gy, wh, off wh, med xln, scat sucrosic text, partly dolomitic, interbdd wh to off wh fresh cht, scat lt yel fluor, poor to fair interxln w/occ small vug por, no stn or odor, ns.

SH; grn, gy, rust red, platy, occ silty

**LANSING 'A' 3946(-1314)**  
LM; off wh, tan, buff, highly foss/party oolitic at top w/gd interpart por, most dense, blocky, scat off wh to wh cht, dull yel fluor, no vis stn, no odor, no gas kick, ns.

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

SH; dk gy, blk, platy  
LM; med to dk brn, blocky, hd

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

LM; tan to off wh, foss - partly oolitic/pelletal, fair interpart por, minor soft chalky mtX, lt yel min fluor, no stn or odor, scat tan/wh cht, ns.

LM; tan to lt brn, buff, med xln, scat foss mat, fair interxln w/poor p-p por also, dull to occ lt yel fluor, no vis stn, interbdd wh to org cht, no gas kick, ns.

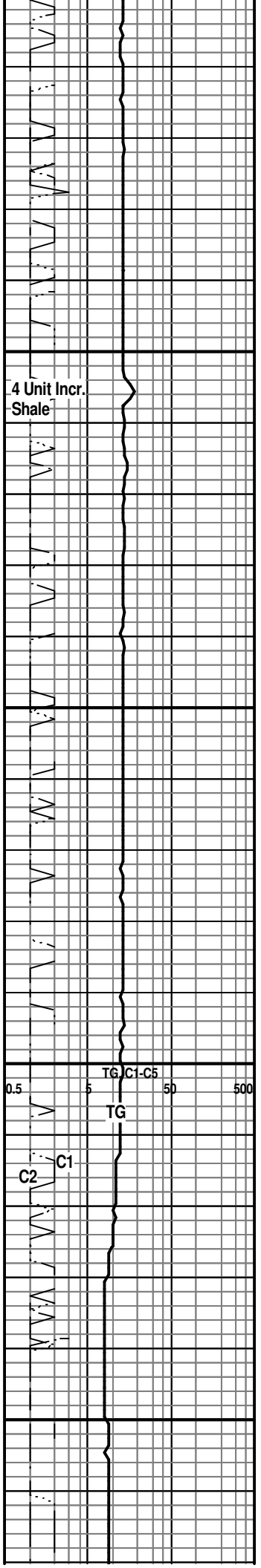
SH; dk gy, trc blk, platy  
LM; med gy, hd, blocky, dense

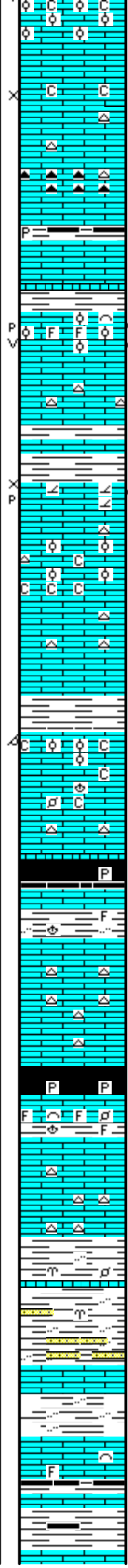
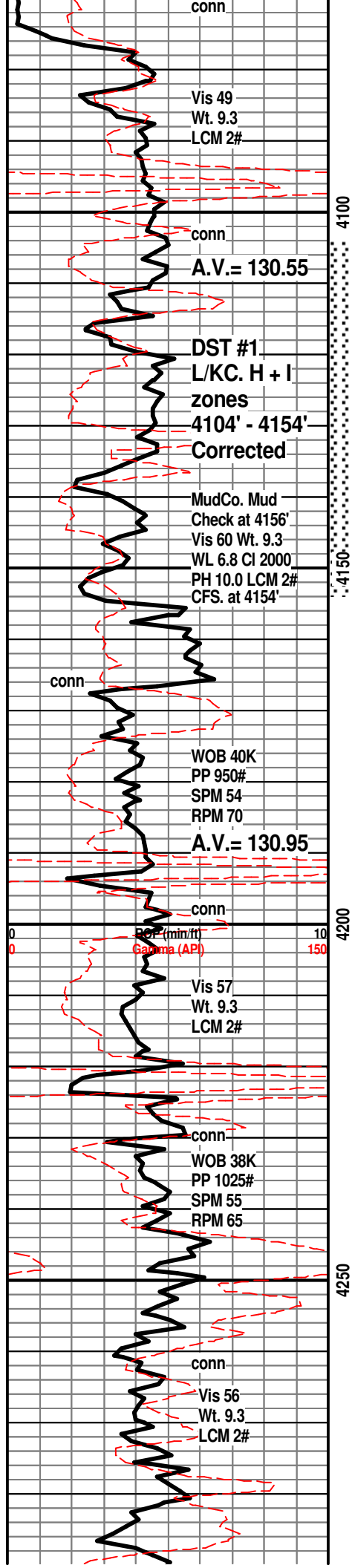
LM; off wh, tan, f to med xln, interbdd dense micrite, hd, no vis por, cherty ip, ns.

LM; tan to buff, off wh, fxlN to sucrosic text, partly dolomitic, gd interxln por, occ soft chalky mtX, lt to med yel fluor, no stn or odor, ns.

LM; lt to med brn, oolitic, most small to med size moldic por, brittle ip, most w/gd oomoldic and occ vug por, med yel min fluor, no stn or odor, barren, no gas kick, ns.

LM; lt to med brn, oolitic, med to occ lrg moldic por,





scat brn mtx, med to occ brite yel flur, no stn or odor, ns.

LM; tan to cream, buff, fxlN to micritic, scat poor interxln por, minor soft chalky mtx, most dense, occ wh cht, no fluor, ns.

LM; med brn, hd, micritic to litho, dense, scat amber to tan cht, tite

SH; blk, dk gy, platy, pyr ip.

**LANSING/KC. 'H' 4114(-1482)**  
LM; tan to lt brn, foss - partly oolitic, occ med xln/gran text, spotted to even golden brn oil stn, fair p-p and occ small vug por, Trc. FO droplets, fair/gd odor, brite yel fluor, fair/gd cut

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

**KC. 'I' 4138(-1506)**  
LM; off wh, fxlN w/sucrosic text, partly dolomitic, spotted med brn stn, faint odor, poor to fair interxln/p-p por, some very tite, med to brite yel fluor, poor/ fair cut

LM; off wh, finely oolitic ip, chalky, no stn, ns.

**DST #1: L/KC. 'H' + 'I' 4104' - 4154' Corrected Depths to Log**  
LM; tan to lt brn, buff, most dense, occ cherty, tite

SH; med gy grn, firm

LM; off wh, tan, buff, oolitic ip w/gd oomoldic por, much soft chalky mtx, med yel min fluor, no stn or odor, no gas kick, barren, ns.

LM; off wh, tan, lt gy, f to med xln, scat foss mat, most well cem, occ gy/off wh cht, minor soft chalky mtx, lt yel min fluor, ns.

**STARK SHALE 4191(-1559)**  
SH; blk, carb ip, soft to blocky, pyr ip.

SH; grn, gy, silty ip, foss

LM; tan to cream, buff, off wh, most hd, micritic, dense, interbdd wh/off wh cht, no vis por, no fluor, ns.

LM; med brn, hd, blocky, tite

SH; blk, v. dk gy, platy, carb ip, scat pyr

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

LM; lt gy, lt gy brn, fxlN, sucrosic to gritty text, v. hd, blocky, no vis por, scat gy to off wh cht, no fluor, no stn or odor, ns.

**BASE KANSAS CITY 4244(-1612)**  
SH; med gy, grn, occ varic, silty ip, thin shaly ss strngs, firm to soft

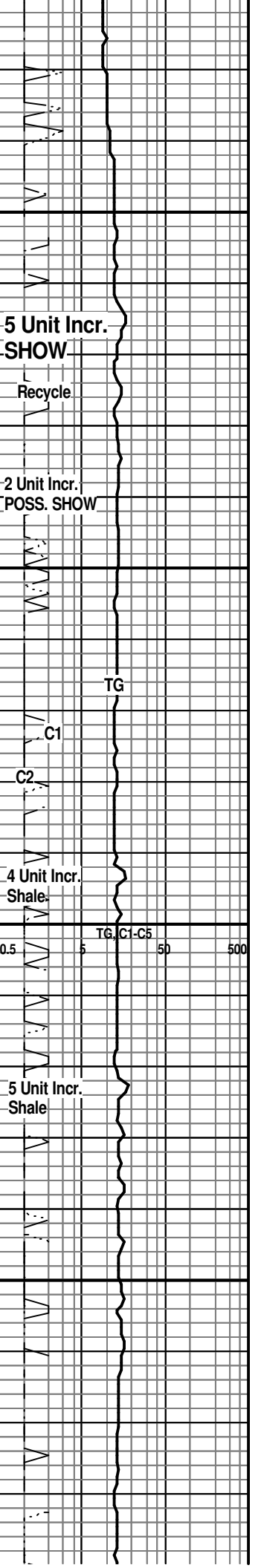
LM; med brn, hd, micritic, blocky, tite

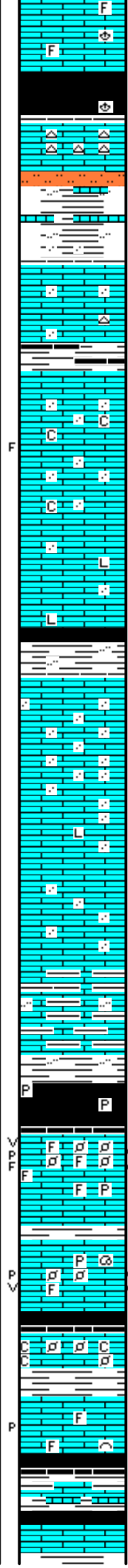
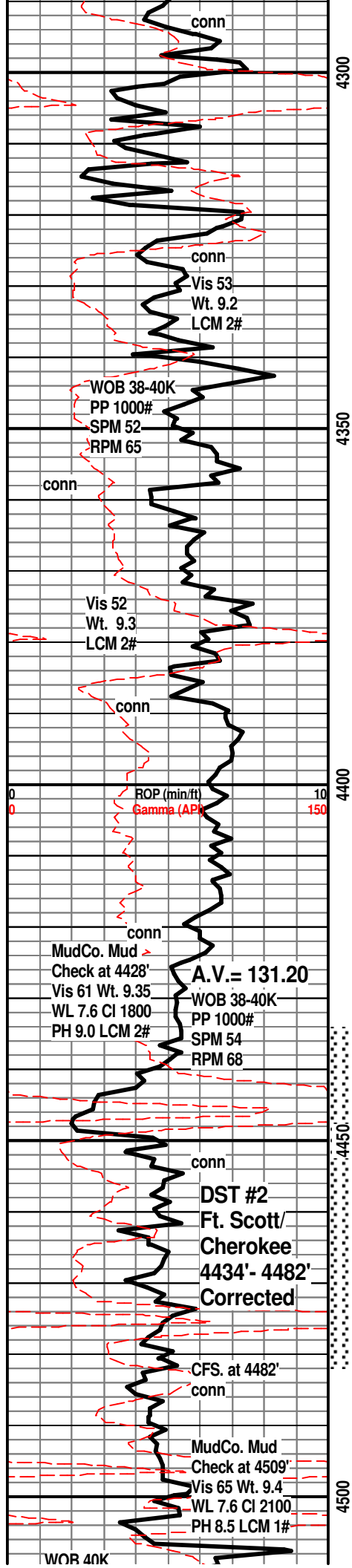
SH; gy, grn, some varic, firm, silty ip.

LM; lt gy, gy brn, fxlN, scat well cem foss mat, no vis por, no fluor, ns.

SH; med to dk gy, rare blk, platy

**MARMATON 4288(-1656)**





LM; tan to lt brn, occ red/brn tint, foss ip, most well cem, hd, no vis por, dull yel min fluor, no stn or odor, no gas kick, ns.

SH; blk, varic, foss ip, platy

LM; tan to off wh, buff, fxln to micritic, some litho, dense, blocky, scat off wh cht, no vis por, dull yel fluor, ns.

SH; varic, soft red siltst, interbdd lt brn shaly lmst strngs.

LM; tan to off wh, dense, blocky, most micritic, tite, some sandy text

SH; maroon, varic, trc blk, platy

LM; off wh, buff, sandy text/siliceous w/interbdd f gr qtz in lmst mtx, most dense, minor chalky mtx, lt yel min fluor only, trc frags, faint odor, no vis stn, no gas kick, ns.

LM; med brn, occ gy brn, sandy ip, most dense, blocky, litho ip, hd, no vis por, no stn, ns.

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

**PAWNEE 4385(-1753)**  
LM; med brn, rare dk brn, sandy - gritty text ip, hd, no vis por, no fluor, ns.

LM; lt brn, tan, rare off wh, sandy ip, hd, most micritic to litho, no fluor, ns.

LM; med brn, gy brn, rare tan, gritty text, sandy ip, dense, no vis por, ns.

LM; med to dk gy, occ gy brn, argil, gritty text ip.

SH; dk gy - blk, platy, carb ip, occ pyr

**FORT SCOTT 4449(-1817)**  
LM; lt brn, foss - scat pellets, fair p-p w/scat gd vug por, trc frags w/edge stn, sev. pcs. w/live even med golden brn stn, SSFO, few gas bubbles, med/ brite yel fluor, gd oil odor, instant cut, many pcs. tite - bleeding oil/rainbow

LM; lt brn, foss, med xln, fair p-p and small vug por, fair oil odor, med/brite yel fluor, spotted to even lt brn stn, SSFO. fair/gd cut. some tite

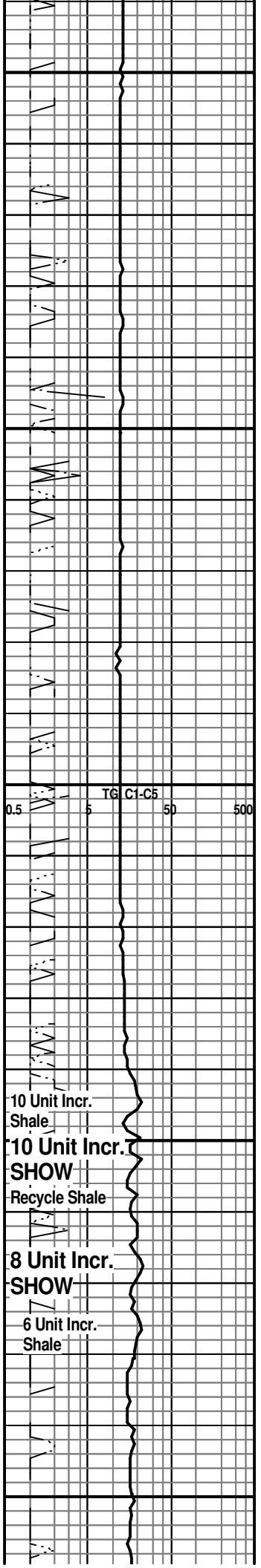
**CHEROKEE SHALE 4474(-1842)**  
SH; blk, carb ip, platy

LM; off wh, tan, foss ip, finely pelletal, soft chalky mtx ip, lt yel fluor, no vis stn, no odor

**DST #2: Ft. Scott/Cher. 4434' - 4482'**  
LM; tan to lt brn, foss ip, scat poor p-p por, v. spotted dk brn oil stn, faint odor, med yel fluor, looks tite, no gas kick

SH; grn, gy grn, some blk, platy, interbdd argil lmst strng.

LM; off wh, tan, med xln w/scat cse opaque spar calc xtals, most dense, no vis por, ns.



WOB 101  
PP 975#  
SPM 53  
RPM 65

conn  
Vis 57  
Wt. 9.3  
LCM 2#

A.V.= 131.30

CFS. at 4551'  
**DST #3**  
**Miss. Dolo.**  
**4543' - 4564'**  
**Corrected**

CFS. at 4564'

conn

ROP (min/ft)  
Gamma (A<sup>ph</sup>)

Vis 57  
Wt. 9.5  
LCM 2#

conn

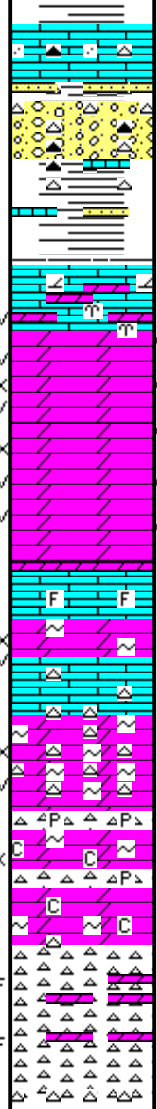
CFS. at RTD.

4550

4600

4650

00



LM; off wh, sandy w/embdd med to cse rnd qtz gr in mtx, hd, trc blk tar/gils, looks tite, occ dk brn/off wh cht

SH; varic, mustard yel, sandy ip w/varic cherts - org, yel, wh, some conglom. weath lmst, unconsol. f gr qtz ss

**MISS. UNCONFORMITY 4537(-1905)**

**MISS. DOLOMITE 4544(-1912)**

DOL; off wh, med brn(oil stn), lmy dolo/dolo lmst at top, foss ip, sucrosic to med rhombic, much gd vug por, SFO, gd odor, med golden brn spotted to even stn, med yel fluor, some lrg vug por w/oil sat, cse calc. xtals w/v. gd interpart por

CFS. at 4565': DOL; lt to med brn, sucrosic to med rhombic, well dev. vug and interxln por, GSFO, gd odor, med/brite yel fluor, streaming cut, even med brn oil stn w/some gd oil sat.

**DST #3: Miss. Dolomite 4543' - 4564' Corrected Depth to Log**

DOL; tan to lt gr, sucrosic, gd interxln w/vug por, occ grn glau, lt brn even stn, SFO, gd odor

LM; off wh, wh, tan, fxln, scat off wh cht, tite

DOL; wh, off wh, sucrosic, abnt wh to gy fresh cht, grn glau common, fair interxln/scat small vug por, trc v. spotted lt brn stn, most barren, dull yel fluor, no odor

DOL; wh, off wh, tan, gy, sucrosic, occ chalky - soft, interbdd off wh to gy occ pyr cht, poor to fair interxln por, no stn, lt yel fluor, no odor, glau ip.

CHT; lt gy, off wh, fresh, fracs ip, partly dolomitic with interbdd wh sucrosic dolo, no fluor, no stn or odor, no sample shows

RTD. 4625' at 6:15 AM. 6/17/12

LTD. 4625'

Superior Well Services DIL, NEU/DEN with PE, Microlog

NOTE: This log was shifted 1' to 2' for correlation purposes with the Superior Well Service logs.

C1 TG

5 Unit Incr. SHOW

6 Unit Incr. SHOW

15 Unit Incr. Poss. SHOW

Recycle

7 Unit Incr.

0.5 TG, C1, C5 50 500