

**MUD LOG**  
**WellSight Systems**  
Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Osborne #2B  
Location: Aprox. E/2 NW NE SE  
License Number: KCC #5614  
Spud Date: 04/07/13  
Surface Coordinates: 2293' FSL & 894' FEL  
Region: Mid-Continent-USA  
Drilling Completed: 04/12/13

Bottom Hole Coordinates: Same as Surface Corrdinates.  
Ground Elevation (ft): 1812' K.B. Elevation (ft): 1823'  
Logged Interval (ft): 2700' To: 3520' Total Depth (ft): 3520'  
Formation: Arbuckle at Total Depth  
Type of Drilling Fluid: Andy's Mud (Chemical Drispac)

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**OPERATOR**

Company: Hutchinson Oil Company  
Address: P.O. Box #521  
Derby, KS

**GEOLOGIST**

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**Daily Report**

- 04/06/13 MIRU and spudded the well @ 10:30 pm.
- 04/07/13 Set 8 5/8" (23#) casing @ 604' KB w/ 350 sxs. of common/A Con cement. Cement did circulate.
- 04/08/13 Drilling @ 1535' @ 9:00 am.
- 04/09/13 Drilling @ 2544' @ 9:00 am.
- 04/10/13 CFS @ 3235' @ 7:00 am. Ran DST #1(3194'-3235') covering the Lansing "B", "D" zones.
- 04/11/13 Drilled and circulated the "F", "H", "I", "J" zones. Drilling ahead @ 3370' @ 2:30 pm.
- 04/12/13 Drilled to RTD of 3520' (LTD 3522'). Ran CDL/CNL, DIL, MEL, and SONIC logs. LDDP and prepared to run casing.
- 04/13/13 Ran 84 jts. of new 5 1/2" (14#) casing, tallied @ (3520.72'), and set it @ 3521' (1' off LTD bottom). Ran an auto fill-up guide shoe, latch down baffle, and (6) turbolizers. We then cemented the well with 100 sxs. of AA2 cement (5#/sx gils, 10% salt, .5% FL, .3% FR, 1/4#/sx cellflake, .2% defoamer), and landed the plug @ 2:15 am by Basic Services.



## DSTs

DST #1 (3194'-3235') Lansing "B" & "D" zones

OP 30" - 45" - 60" - 45"

1st open: Good blow, BOB in 5 1/2 minutes

1st shut in: weak surface blow

2nd open: Strong blow, BOB 30 sec.

2nd shut in: no blow back

REC: 1640' GIP

40' GOCM (5% G, 10% O, 85% M)

120' GOCM (30% G, 30% O, 40% M)

20' CGO

IHP: 1545#

IFP: 19#-51#

ISIP: 744#

FFP: 45#-85#

FSIP: 717#

FHP: 1528#

BHT: 101 degrees

## Comments

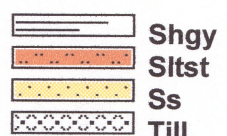
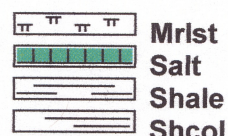
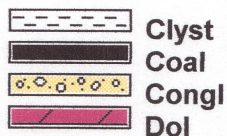
This well ran, structurally, one to two feet (1'-2') low through the Lansing Kansas City Group to the Osborne #1. Live shows were tested in the Lansing "B" & "D" zones, and those zones are considered commercial. Live shows were also noted in the Lansing "F", "G", and the "I" zones. The "F" & "I" zones were not tested because they are currently open in the Osborne #1. The "G" zone should also be checked and perforated prior to abandonment. Once the "clean" Arbuckle was encountered, the Arbuckle was deemed to low to produce.

As a result of the positive results recovered on DST #1, it was decided to set casing and further test the potential in the Lansing "B", "D", "F", "G", and "I" zones.

Respectfully submitted,

Jeffrey A. Burk

## ROCK TYPES





ACCESSORIES

MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brefracg
- Calc
- Carb
- Chtdk
- Chtlf
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau

- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

- 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

- Slststrg
- 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
- Gas show

EVENT

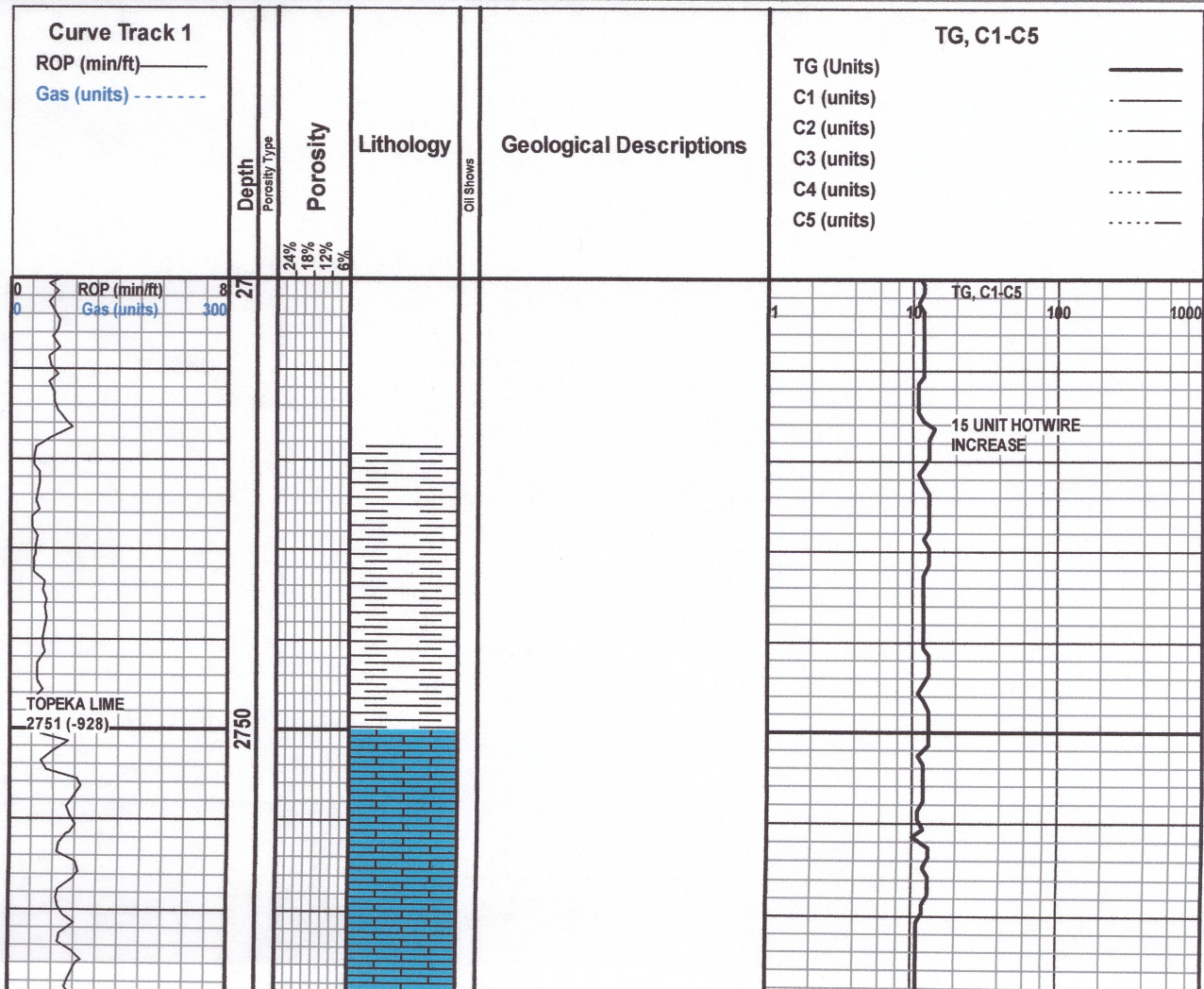
- Rft
- Sidewall

OIL SHOW

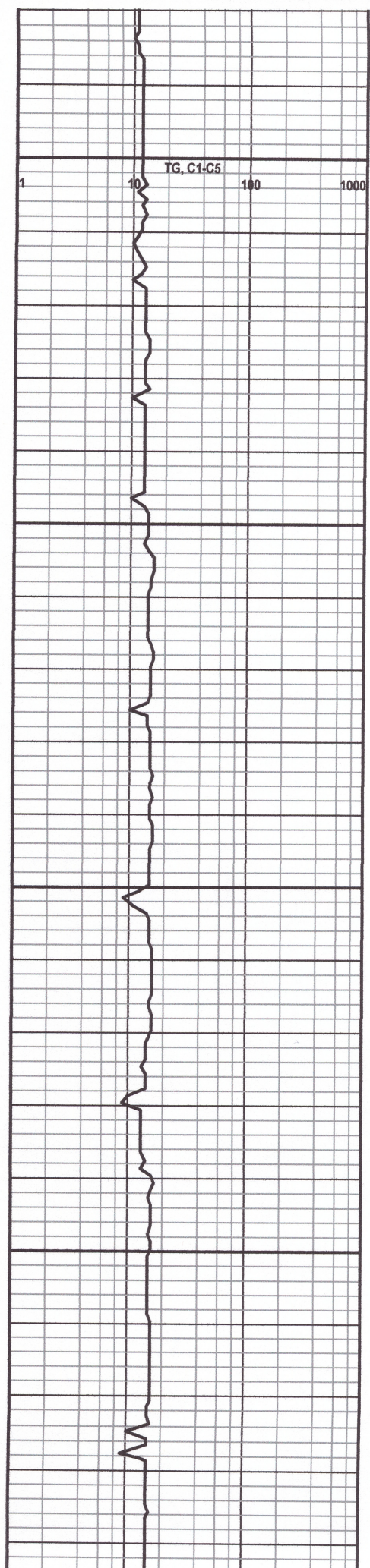
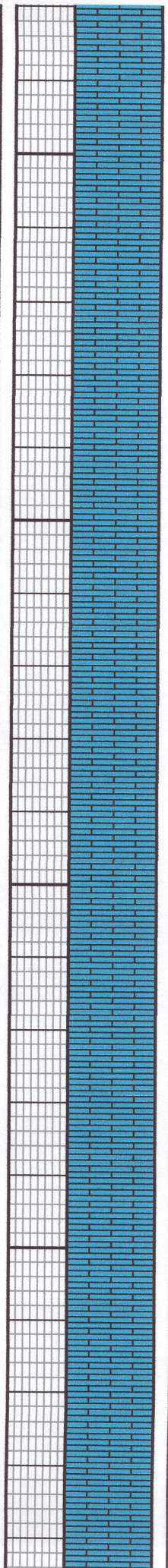
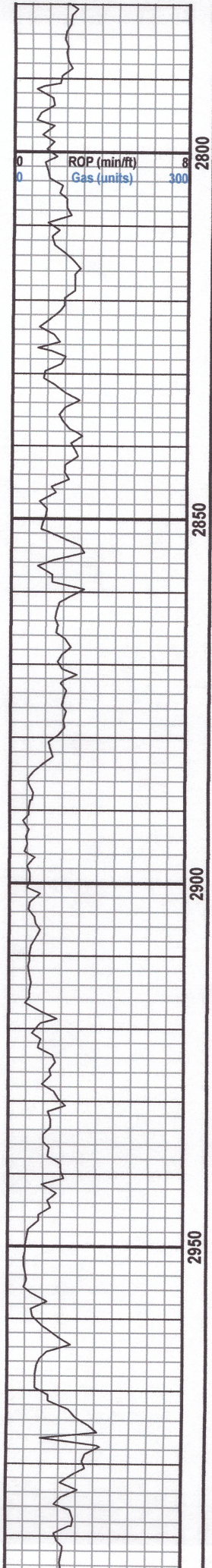
- Even

INTERVAL

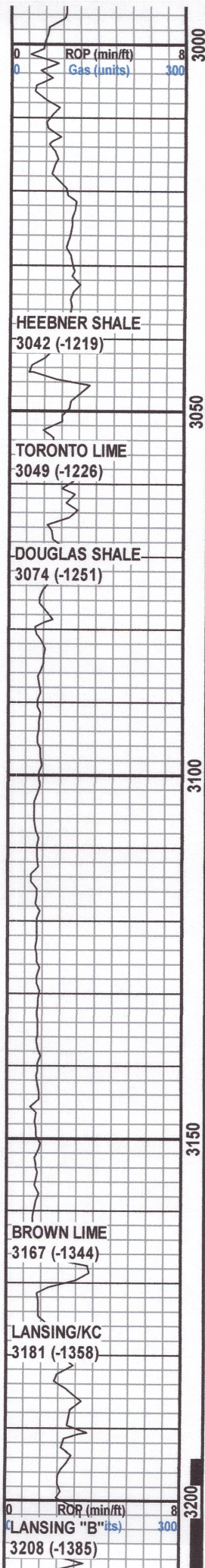
- Core
- Dst











HEEBNER SHALE  
3042 (-1219)

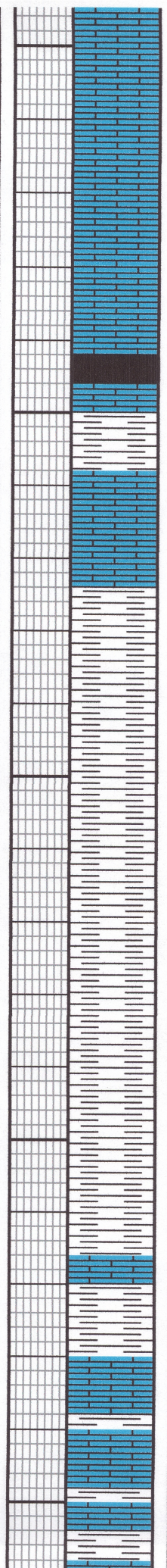
TORONTO LIME  
3049 (-1226)

DOUGLAS SHALE  
3074 (-1251)

BROWN LIME  
3167 (-1344)

LANSING/KC  
3181 (-1358)

0 ROP (min/ft) 8  
 LANSING "B" (units) 300  
 3208 (-1385)



Sh- mst blk to carb., few dns, fissle, sl sh gas bubbles

Sh- mst gry, silty to limey, tr foss

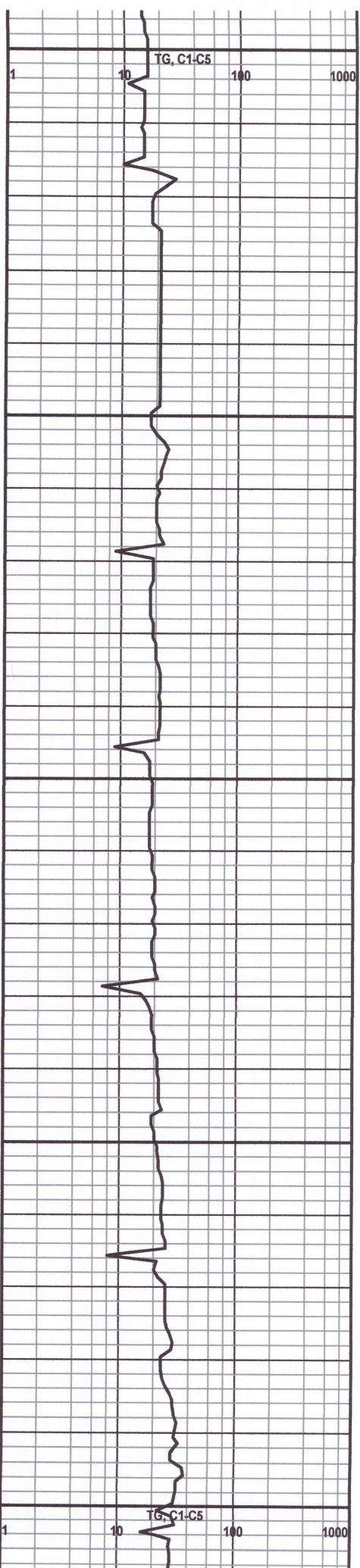
Ls- mst crm to buff, few fn xln, some scatt foss, poor dev por

Ls- mst buff, f xln, sl foss, few v chky, NS

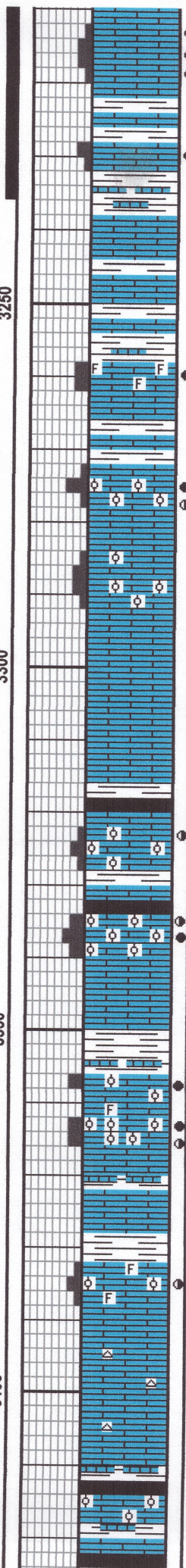
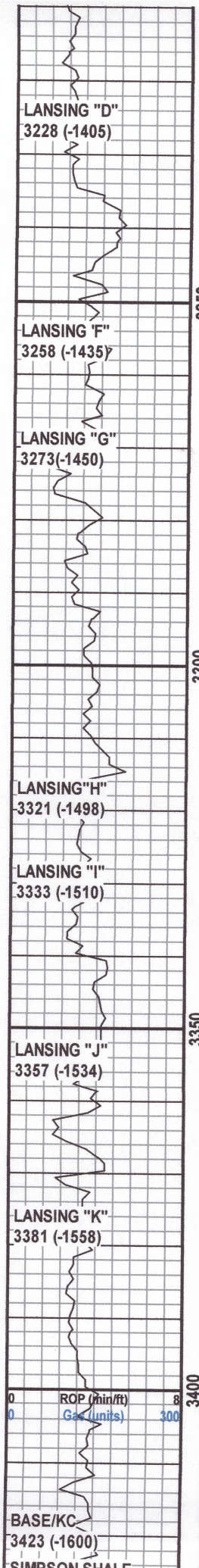
Ls- mst drk bm to gryish, v dns, f xln, sl foss, poor to no vis por.

Sh- mstly gry, few drk gry and sl limey/foss

Ls- mst dns tan, f xln, few sl foss, poor dev por, NS







IS- mst crm to grey, mst f xln w few sl foss por (drk st), few slight wea edged porosity (lt st), sl sh fr oil, faint odor, dull flor.

Ls- mst tan to gryish, f xln, few sl foss to pp edged por, few w frac edged por, fair sh lt fr oil, fair odor, dull to spty flor.

Ls- tan, v dns, few gryish and sl shly, mst w no vis por., NSFO

Ls- mst tan to gryish, f xin in most few foss w wea pp to edged por, f sh fr oil, fair odor and spty dull flor

Ls- mst crm to tan, f-med xln, fair dev ooc por, fair sh fr oil, spty 20% drk stain, faint odor, poor flor

Ls- crm to tan, few well dev ooc por, mstly barron por, NSFO

Ls- tan to gryish, v dns, v fn xln, poor to no vis por, NSFO

Sh- mst drk gry to blk carb., dns, few bleeding gas

Sh- mst drk gry, dns fissle carb sh

Ls- mst buff to crm, highly ool (small) fair inner ool por, f sh fr oil, fair odor, spty flor, few gas bubbles

Ls- mst tan to gryish, v dns, f xln, poor to no vis por, NSFO

Ls- mst crm to tan, f-med xln, foss to ool/ooc por, f sh fr oil in several pieces, fair odor, dull flor spty 30% stain

Ls- crm to tan aa, few w well dev inner ool/foss por. few w sh fr oil, few w heavy f oil, spty 20% drk stain

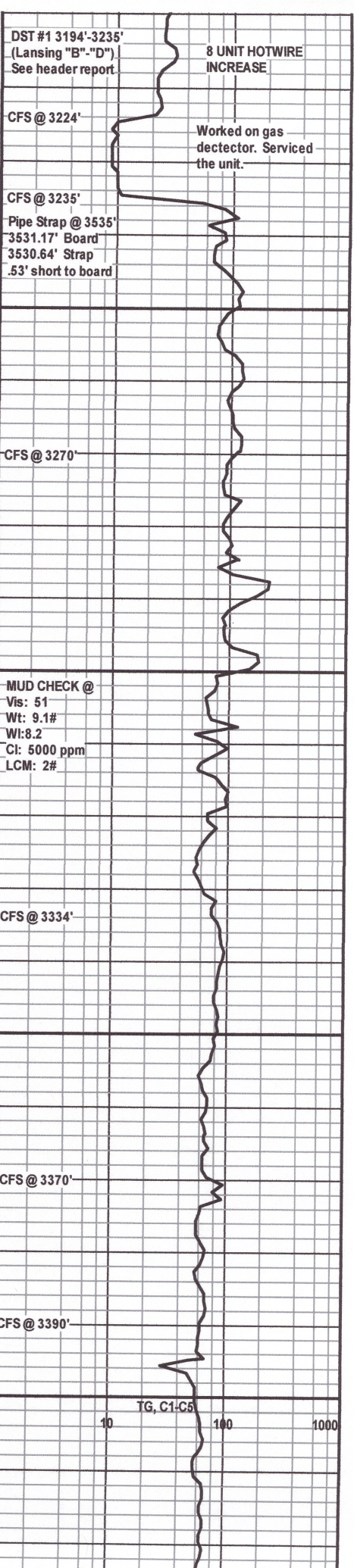
Ls- mst tan to gryish, v dns, f xln, poor to no vis por, NSFO

Ls- gry to tan, sl dev inner foss to ooc por in few, sh v heavy f oil in (2) pieces, no odor, no flor

Ls- mst gry to tan, v fn xln, v dns few micro xln, tr chert NSFO

Sh- mst dr gry to blk, few sub carb, few carb

Ls- mst gryish, v dns, f xln, few w scatt ool/ooc por, poor dev por, NSFO



BASE/KC  
3423 (-1600)  
SIMPSON SHALE



3428 (-1605)

ERO. ARBUCKLE  
3479 (-1656)

ARBUCKLE  
3490 (-1667)

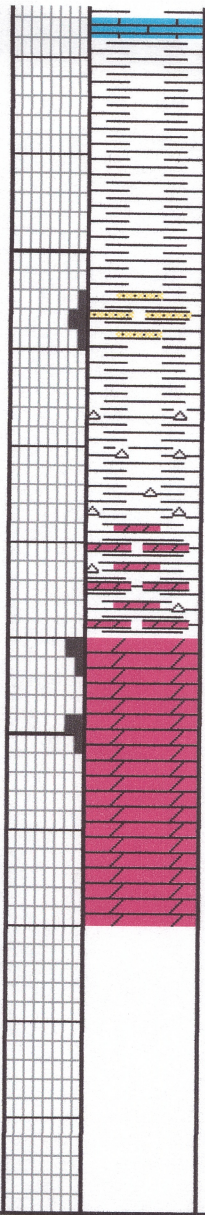
Rotary Total Depth  
3520 (-1697)

Log Total Depth  
3522 (-1699)

3450

3500

50



Sh- mst dk gry to dk, tr carb

Sh- mst med gry to sl gmish, few waxy, few tr reds

Sh- many grys w. incr in red sh, few mushy, few silty, samples washing red

SS- mst gmish to few red, poor sorting, v shly, NSFO

Sh- mstly gm to blue gm, few soft and mushy, most waxy, some ch and red sh

Dol- dns, v fn xln, abdt sh, ch, and pyrite, sample washing red

Dol- mst tan f aln, tr w pp to sl suc por, no odor or flor, NSFO

Dol- mst tan, v fn xln, poor to no vis por., no odor or flor, NSFO

Dol- mst tan, f xln w tr of med xln, mst dns w poor dev inner xln por, no odor, no flor, NSFO

CFS @ 3458'

CFS @ 3467'

CFS @ 3480'

CFS @ 3485'

CTCH @ 3520'  
for E-Logs

Survey @ 3520'  
3/4 degree