

# STEVEN P. MURPHY, P.G.

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

Well Name: Bender #3  
Location: Russell County  
License Number: API #15-167-23921-00-00  
Spud Date: 12/12/13  
Surface Coordinates: 2160' FSL & 330' FEL (Approx S/2 NE NE SE)  
Section 21-T15S-R14W  
Bottom Hole Same as above  
Coordinates: (vertical well with minimal deviation)  
Ground Elevation (ft): 1887' K.B. Elevation (ft): 1892'  
Logged Interval (ft): 2750' To: TD Total Depth (ft): 3346'  
Formation: Topeka through Arbuckle  
Type of Drilling Fluid: Chemical (Mudco - Mud Engineer Gary Schmidtberger)

Region: Kansas

Drilling Completed: 12/18/13

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

## OPERATOR

Company: K&B Norton Oil & Investments, LLC  
Address: PO BOX 860891  
Shawnee, KS 66286-0891

## GEOLOGIST

Name: Steven P. Murphy, P.G.  
Company: Consulting Petroleum Geologist (KS #228)  
Address: 3365 CR 390  
Otis, KS 767565

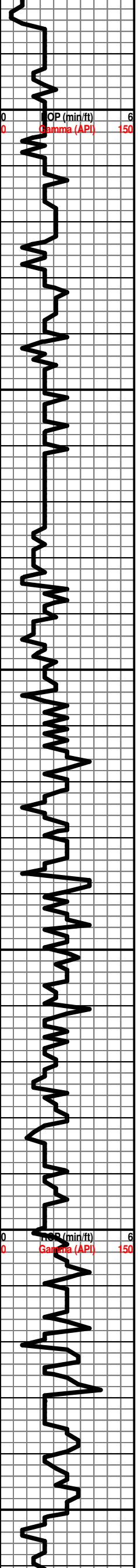
## LogTops (Datum)

No logs were run on this well, the following are sample tops:

Topeka - 2783 (-911)  
Heebner - 3018 (-1146)  
Toronto - 3036 (-1164)  
Lansing - 3081 (-1209)  
Arbuckle - 3331 (-1459)

Rig Total Depth - 3346'





**TOPEKA 2783 (-911)**

LS: crm-gry, fxlIn, foss, chalky, NS

LS: as above

LS: crm-gry, vfxIn, foss, chalky, NS

LS: as above

LS: tan-gry, vfxIn, dense, foss, NS

LS: as above

LS: gry, vfxIn, dense, foss, NS

LS: as abvoe

SH: gry-blk-grn

LS: crm-tan, vfxIn, dense, foss, sl chalky, NS

LS: as above

LS: wht-tan-gry, vfxIn, dense, foss, chalky, NS

LS: as above w/abund gr shale

SH: blk, gry

Δ LS: wht-tan-brn, fxlIn, sl chalky, dense, rare pr ppt por, nsfo, tr dead stn, no odor

LS: crm-gry, fxlIn, foss, dense, sl chalky, NS

LS: crm-tan, vfxIn, foss, dense, chalky, NS

LS: as above

LS: as above

LS: crm-gry, vfxIn, dense, sl foss, NS

LS: as above

**HEEBNER 3018 (-1146)**

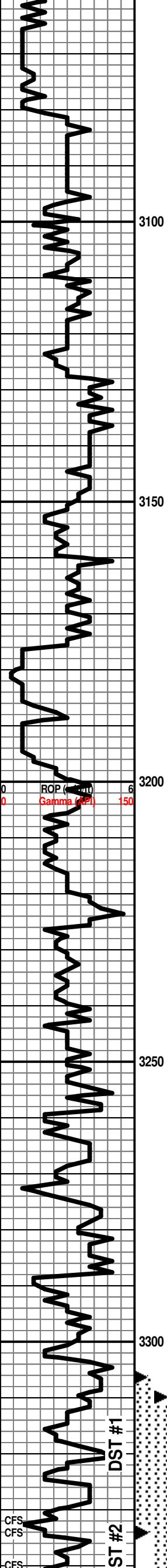
SH: blik, carb

SH: gry-grn-brn

**TORONTO 3036 (-1164)**

LS: crm-tan, vfxIn, dense, NS

SH: dk gry-brn-grn-red



SH: as above

**LANSING 3081 (-1209)**

LS: crm-tan, vfxln, dense, foss, sl chalky, NS

SH: gry-grn-rust

● LS: wht-gry, fxlIn, foss, dense, rare fr vug por, vssfo, spotty stn, sl odor

LS: wht-tan-brn, vfxln, sl foss, dense, sl chalky, NS

LS: as above

LS: wht-tan-gry, vfxln, dense, sl chalky, NS

LS: tan-gry, vfxln, dense, mottled, chalky, NS

LS: as above

● LS: crm-tan, fxlIn, ool, gd ooc por, ssfo, spotty lite stn, fr odor

● LS: as above

LS: crm-gry, vfxln, oolitic, dense, NS

SH: blk-gry-rust

LS: wht-tan-gry, vfxln, dense, sl ool, sl chalky, NS

SH: blk-gry-grn-red

LS: crm-tan-gry, vfxln, dense, minor chert, sl chalky, NS

LS: as above (tr stn, nsfo, no odor, NVP)

SH: blk, carb

● LS: wht-tan, fxlIn, mostly dense, rare mxln w/fr inxln por, nsfo, lite spotty stn, sl odor

LS: crm-tan, vfxln, dense, sl chalky, NS

SH: gry-grn-red

● LS: wht-tan, fxlIn, oolic in pt, vssfo on brk, spotty lite stn, fr odor

SH: gry-grn-red

LS: crm-tan, vfxln, dense, NS

SH: grn-red, brn and LS: as above

**ARBUCKLE 3331 (-1459)**

● DOL: tan-gry, mxln, fr-gd inxln por, ssfo, even sat stn, gd odor

DOL: as above w/pr por/show

**DST #1 3306-3334 (Arbuckle)**

**30:30:30:30**

**IF: 1/8" blow, NR**

**FF: Wk surf blow, NR**

**Recovery: 5' Mud**

**IHP: 1640 FHP: 1601**

**IFP: 15-16 ISIP: 31**

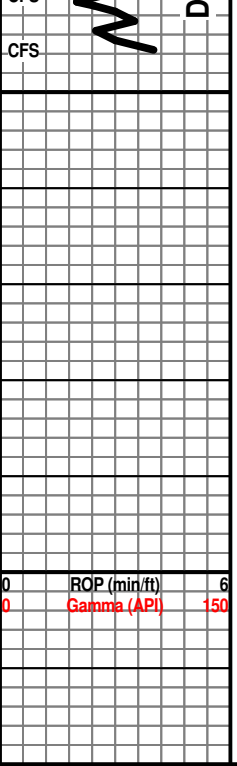
**FFP: 17-17 FSIP: 24**

**BHT - 90 F**

**DST #2 3310-3346 (Arbuckle)**

**30:30:30:30**

**IF: BOB 9 min. NR**



- DOL: crm-tan, mxln, gd inxln por, fsfo, even sat str, str odor

FF: BOB 12 min, NR  
 Recovery: 1' Free oil,  
 120' VSOWCM (2%O, 10%W, 78%M)  
 120' VSOMCW (2%O, 30%W, 48%M)  
 346' MCW (80%W, 20%M)  
 IHP: 1643      FHP: 1613  
 IFP: 23-196    ISIP: 1112  
 FFP: 201-290   FSIP: 1112  
 BHT - 102 F  
 Chlorides - 40,000 ppm