

# AUSTIN B. KLAUS



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

**Well Name:** Morgenstern #1  
**Location:** Barton County  
**License Number:** API #15-009-26,102-0000  
**Spud Date:** 6/10/15  
**Surface Coordinates:** Section 13 Township 16 South Range 14 West  
990' FNL & 1,270' FWL  
**Bottom Hole Coordinates:** Vertical well with minimal deviation, same as above  
**Ground Elevation (ft):** 1,935'      **K.B. Elevation (ft):** 1,943'  
**Logged Interval (ft):** 2,800'      **To:** 3,440'      **Total Depth (ft):** 3,440'  
**Formation:** LKC-Arbuckle  
**Type of Drilling Fluid:** Chemical (Andy's)

**Region:** Kansas  
**Drilling Completed:** 6/15/15

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

## OPERATOR

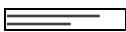
**Company:** John O. Farmer, Inc.  
**Address:** 370 W. Wichita Ave.  
Russell, KS 67665

## Comments

The Morgenstern #1 well was drilled by Discovery Drilling Rig #2 (Tool Pusher: Terry Wickham).

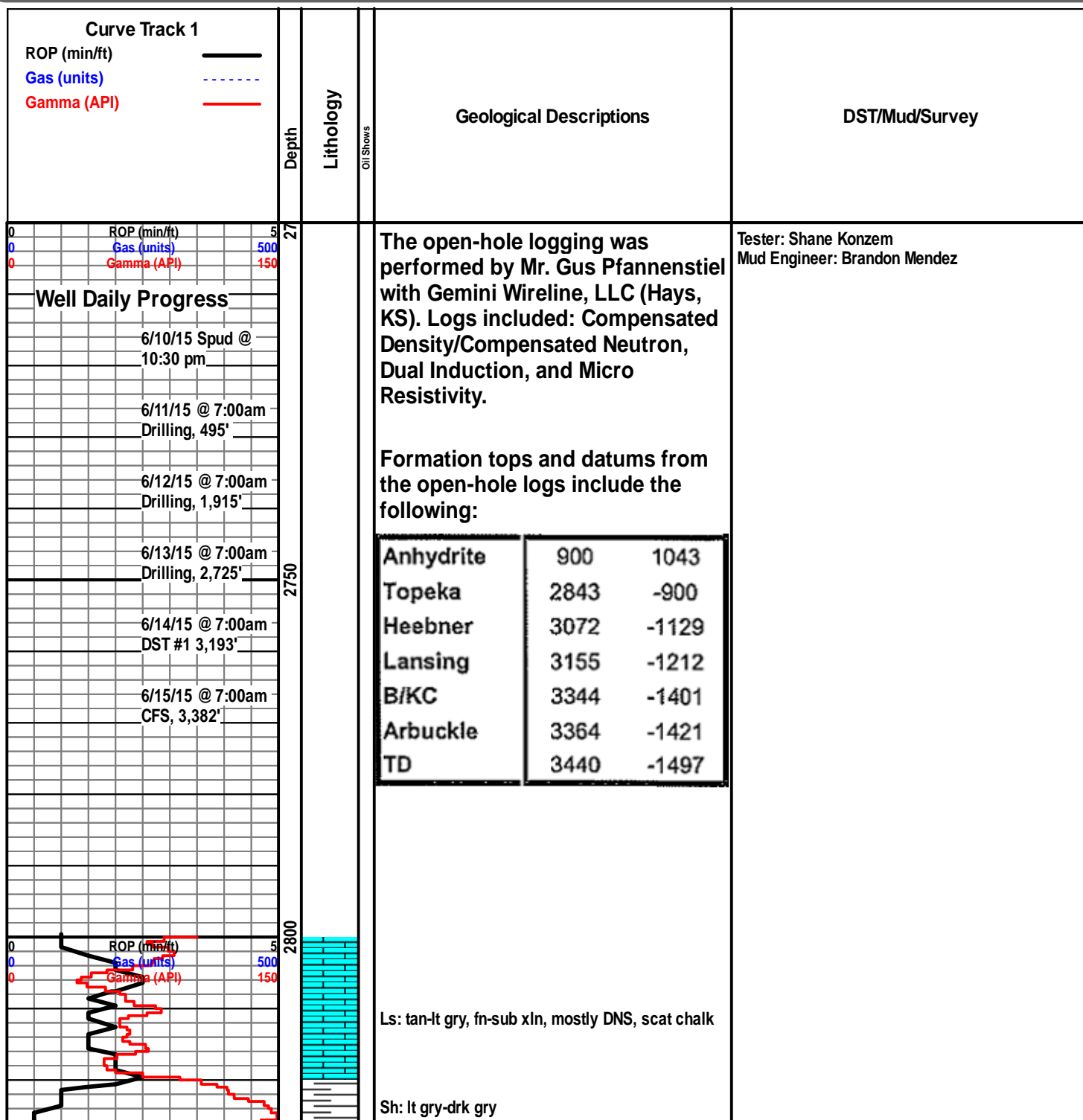
The location for the Morgenstern #1 well was found via 3-D seismic survey. Geologic samples were collected and evaluated from 2,800'-3,440'. Structurally, the Morgenstern #1 ran 8' high, at the Lansing and Arbuckle, to the Sausen A #1, 770' to the northeast. Upon completion of the logging operation a straddle test was conducted over the top 11' of the Arbuckle, yielding positive fluid recovery and good shut-in pressures. Upon completion of the drill stem test, the decision was made to run 5 1/2" production casing to further evaluate the Morgenstern #1 well on 6/16/15.

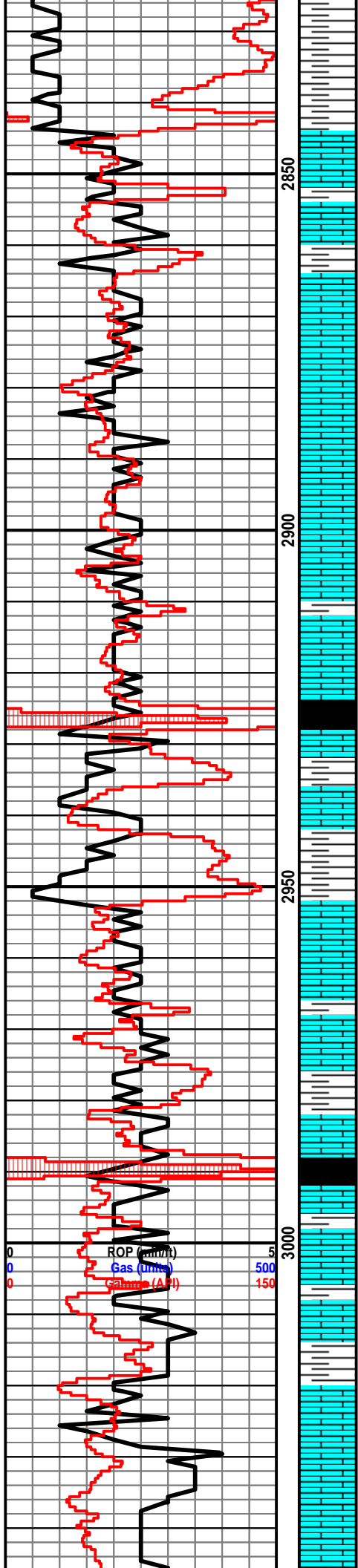
**ROCK TYPES**

 Anhy	 Clyst	 Gyp	 Mrlst	 Shgy
 Bent	 Coal	 Igne	 Salt	 Slstst
 Brec	 Congl	 Lmst	 Shale	 Ss
 Cht	 Dol	 Meta	 Shcol	 Till

**OTHER SYMBOLS**

<b>POROSITY</b>	<input checked="" type="checkbox"/> Vuggy	<b>ROUNDING</b>	<input checked="" type="checkbox"/> Spotted	<b>EVENT</b>
<input type="checkbox"/> E Earthy	<b>SORTING</b>	<input type="checkbox"/> R Rounded	<input type="checkbox"/> Ques	<input type="checkbox"/> Rft
<input type="checkbox"/> F Fenest	<input type="checkbox"/> W Well	<input type="checkbox"/> S Subrnd	<input type="checkbox"/> D Dead	<input type="checkbox"/> Sidewall
<input type="checkbox"/> Fr Fracture	<input type="checkbox"/> M Moderate	<input type="checkbox"/> A Subang	<b>INTERVAL</b>	
<input type="checkbox"/> X Inter	<input type="checkbox"/> P Poor	<input type="checkbox"/> A Angular	<input checked="" type="checkbox"/> Core	
<input type="checkbox"/> M Moldic		<b>OIL SHOW</b>	<input type="checkbox"/> Dst	
<input type="checkbox"/> O Organic		<input checked="" type="checkbox"/> Even		
<input type="checkbox"/> P Pinpoint				





Sh: ala

**Topeka 2845' (-902)**

Ls: off wh-lt gry-brn, fn-md xln, mostly DNS, no visible porosity, scat chert-off wh

Sh: lt gry-drk gry

Ls: off wh-tan, fn xln, scat int xln porosity, scat dead oil st, vry lt odor

Ls: tan-gry, fn-sub xln, mostly DNS, no visible porosity, NSFO

Ls: ala

Ls: tan-lt gry, fn-md xln, mostly DNS, no visible porosity, NSFO, scat chert-off wh

Ls: ala

Sh: drk gry-blk

Sh: lt gry-drk gry-brn

Sh: lt gry-drk gry

Ls: off wh-tan-lt gry, fn-md xln, scat int xln porosity, NSFO, no odor

Ls: tan-gry-brn, fn-md xln, mostly DNS, scat chalk, chert-off wh

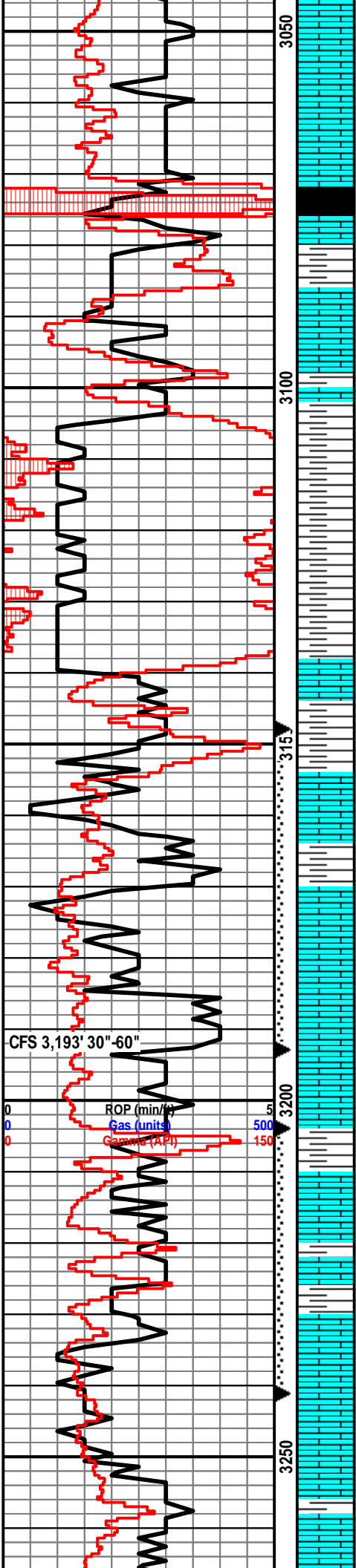
Sh: drk gry-blk

Ls: tan-gry, fn xln, mostly DNS, NSFO

Ls: ala

Ls: off wh-tan, fn xln, poor-fair int xln porosity, scat oil st, SSFO, vry lt odor, scat chalk

Ls: off wh-tan, fn-sub xln, mostly DNS, no visible porosity, NSFO, no odor



Ls: ala

**Heebner 3074' (-1131)**

Sh: blk, carb, fissile

Sh: drk gry-brn-grn

Ls: off wh-tan-brn, fn xln, poor-fair int xln porosity, VSSFO, lt odor

Sh: vry lt gry, vry soft

Sh: ala

Sh: lt gry-brn-rd, vry soft

**Brown Lime 3141' (-1198)**

Ls: off wh-tan, fn xln, poor int xln porosity, mostly barren, NSFO

**Lansing 3154' (-1211)**

Ls: off wh-tan, fn xln, fair int xln porosity, fair oil sat, SSFO, sl odor

Sh: drk gry

Ls: off wh-tan, fn xln, ool, fair-good ool porosity, fair-good oil sat, SSFO, fair odor

Ls: off wh-tan, fn xln, ool, fair ool porosity, poor-fair oil sat, SSFO, sl-fair odor, scat fossil

CFS 3,193' 30"-60"

Ls: off wh-tan, fn xln, mostly DNS, poor int xln porosity, NSFO, no odor, scat fossil, chalky

Sh: drk gry

Ls: off wh-tan, fn xln, poor-fair int xln porosity, scat oil st, SSFO, sl odor, scat fossil

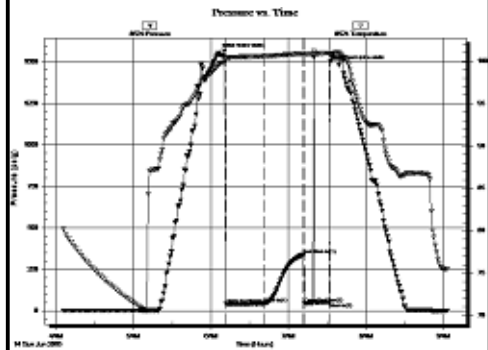
Ls: off wh-tan, fn xln, poor-fair int xln porosity, fair oil sat, SSFO, fair odor, scat fossil, chalky

Ls: off wh-tan, fn xln, ool, fair-good ool porosity, mostly barren, NSFO, no odor, scat sh: drk gry

Ls: off wh-tan, fn xln, poor int xln porosity, mostly barren, NSFO, no odor, hvy chalk, sl fossil

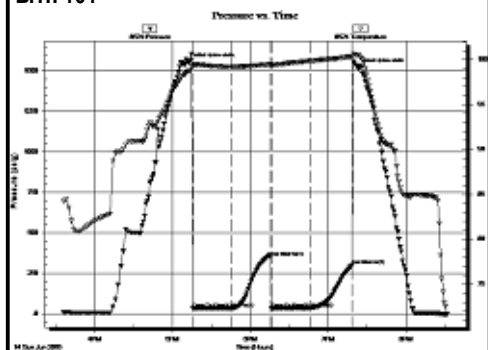
DST #1 3,148-3,193' (LKC A-C)  
30"-30"-20"

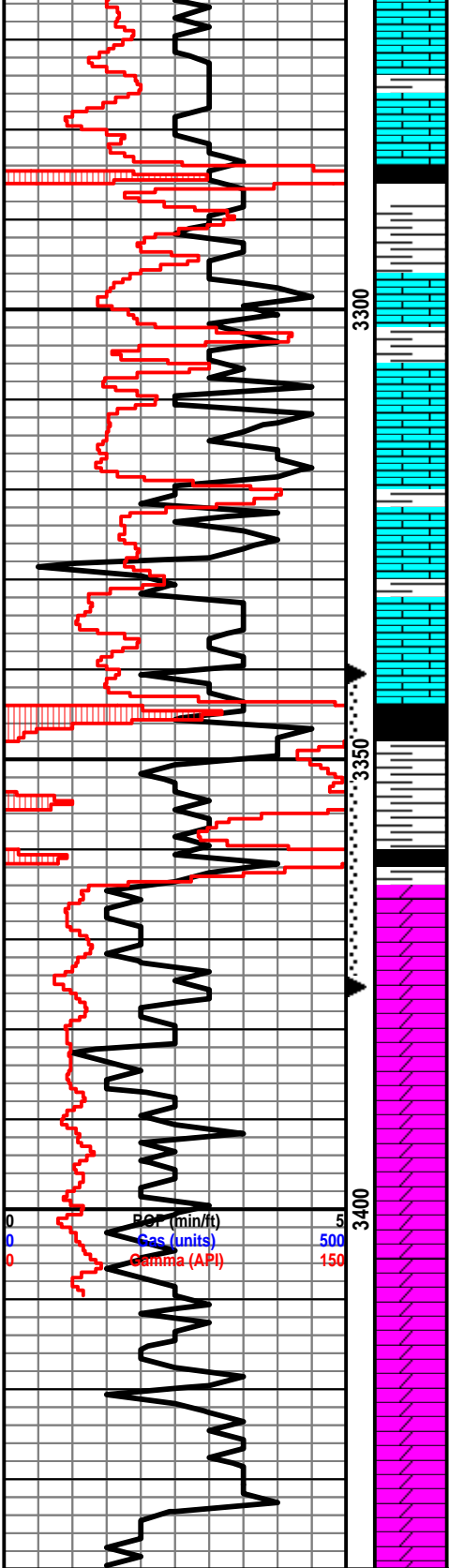
IF: weak blow built to 1.75"  
FF: no blow, flushed tool, no blow, pulled tool  
Rec: 15' Mud  
FP: 40-45, 47-52#  
SIP: 339# - (no FSIP)  
HP: 1,552-1,479#  
BHT: 101



DST #2 3,204-3,241' (LKC E-F)  
30"-30"-30"-30"

IF: weak surface blow  
FF: no blow  
Rec: 2' Mud  
FP: 34-35, 36-37#  
SIP: 353-302#  
HP: 1,551-1,515  
BHT: 101





Ls: tan-lt gry, fn xln, mostly DNS, poor int xln porosity, scat chalk, sl chert-off wh, NSFO, no odor

Sh: drk gry-blk, carb

Ls: tan-lt gry, fn-sub xln, mostly DNS, vry poor int xln porosity, NSFO, no odor

Sh: drk gry

Ls: off wh-tan, fn xln, mostly DNS, poor visible porosity, dead oil st, lt odor, scat cher-off wh

Sh: drk gry

Ls: off wh-tan, fn xln, ool, poor-fair ool porosity, fair oil sat, SSFO, fair odor, scat fossil

Ls: off wh-tan, fn xln, mostly DNS, NSFO, no odor, scat chalk

Sh: drk gry-blk, carb

**BKC 3364' (-1421)**

Sh: drk gry-blk

**Arbuckle 3368' (-1425)**

Dolo: off wh-tan-brn, fn-vry fn xln, poor int xln porosity, fair-good oil sat, FSFO, good odor

Dolo: off wh-tan-brn, fn xln, fair int xln porosity, fair-good oil sat, FSFO, good odor

Dolo: off wh-tan, fn xln, poor int xln porosity, fair oil sat, VSSFO, sl odor

Dolo: off wh-tan, fn-md xln, poor-fair int xln porosity, fair oil sat, SSFO, fair odor, scat chert-off wh

Dolo: ala

Dolo: off wh-tan-brn, fn-md xln, fair-poor int xln porosity, mostly barren, NSFO, no odor

Dolo: ala

DST #3 3,340-3,375' (Top 11' of Arbuckle)  
 20"-30"-20"-30"

IF: BOB in 16 minutes, 1/2" blow back on shut it  
 FF: Fair blow built to 8", 1 1/2" blow back on shut in

Rec: 158' Gas in Pipe, 126' Clean Gassy Oil (41 API), 94' Gassy Mud Cut (15% G, 35% M, 50% O)  
 FP: 47-604, 853-675#  
 SIP: 1,033-1,022#  
 HP: 1,632-1,613#  
 BHT: 103

