



# AUSTIN B. KLAUS



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

**Well Name:** Morgenstern B #1  
**Location:** Barton County  
**License Number:** API #15-009-26,174-0000  
**Spud Date:** 6/5/2017  
**Surface Coordinates:** Section 13, Township 16 South, Range 14 West  
2,310' FNL & 2,310' FEL  
**Bottom Hole Coordinates:** Vertical well with minimal deviation, same as above  
**Ground Elevation (ft):** 1,906  
**Logged Interval (ft):** 2,800  
**Formation:** LKC-Arbuckle  
**Type of Drilling Fluid:** Chemical (Mud Co.)

**Region:** Kansas  
**Drilling Completed:** 6/12/2017  
**K.B. Elevation (ft):** 1,914  
**Total Depth (ft):** 3,410  
**To:** RTD

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## OPERATOR

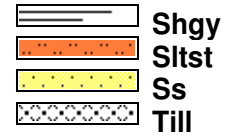
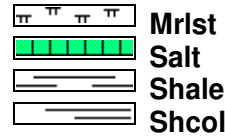
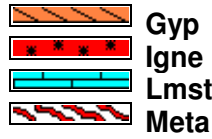
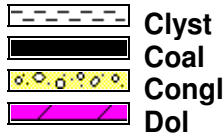
**Company:** John O. Farmer, Inc.  
**Address:** 370 W. Wichita Ave.  
Russell, KS 67665

## Comments

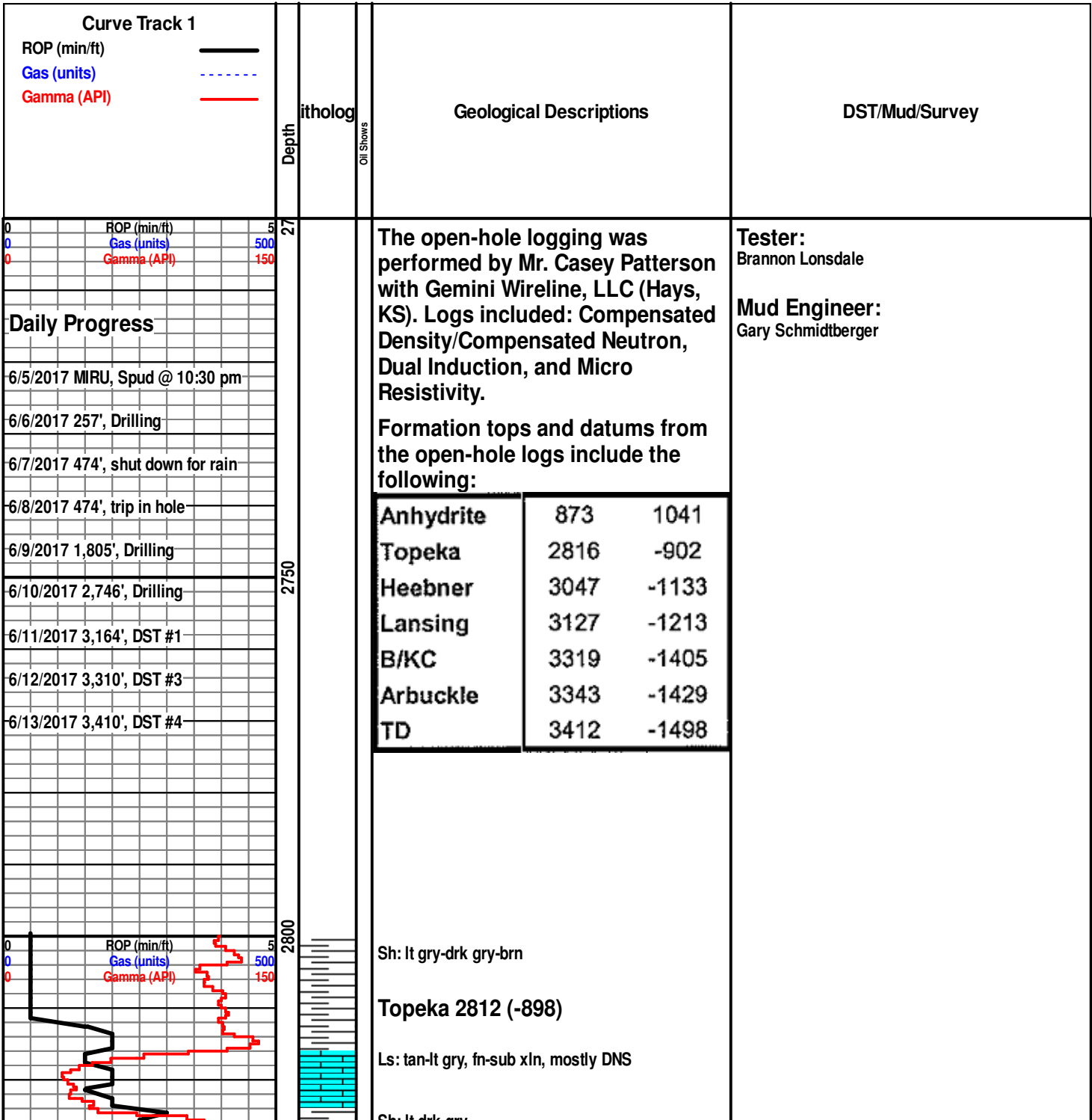
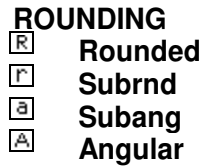
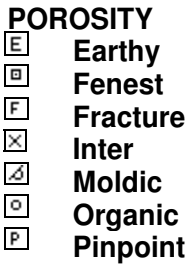
The Morgenstern B #1 well was drilled by Discovery Drilling Rig #2 (Tool Pusher: Terry Wickham).

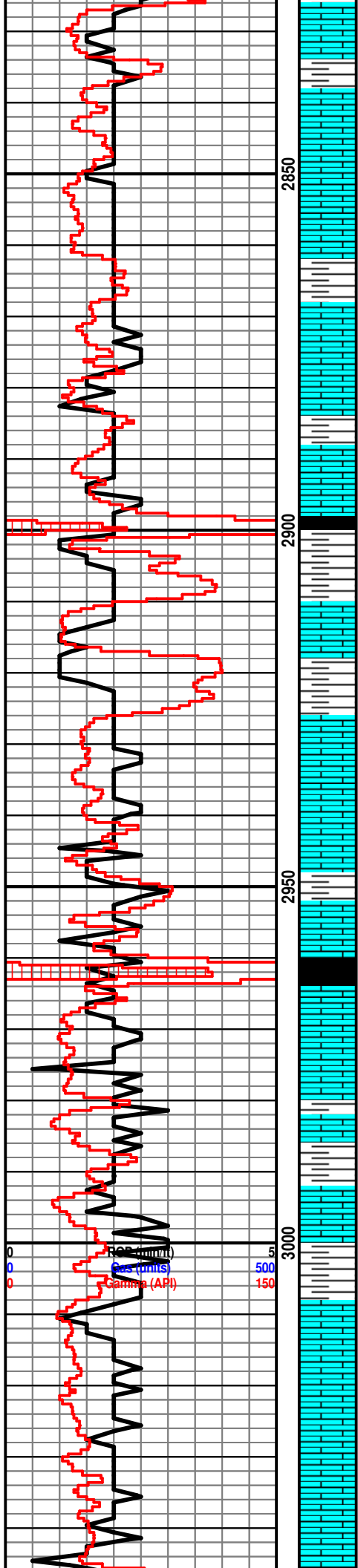
The location for the Morgenstern B #1 well was found via 3-D seismic survey. Geologic samples were collected and evaluated from 2,800'-3,410'. Three bottom-hole drill stem tests were conducted in the Lansing, one of which yielded positive results (Lansing J zone). Structurally, the Morgenstern B #1 ran 1' low at the Lansing and 8' low at the Arbuckle, to the Morgenstern A #1 (990' FNL & 1,270' FWL, Sec 13-16S-14W). Upon completion of the logging operation, a straddle test was conducted over the top 27' of the Arbuckle, which recovered significant oil with good shut-in pressures. Upon completion of the drill stem test, the decision was made to set 5 1/2" production casing to further evaluate the Morgenstern B #1 well on 6/13/17.

**ROCK TYPES**



**OTHER SYMBOLS**





Sh: lt-drk gry

Ls: tan-lt gry, fn xln, poor-fair int xln porosity, NSFO

Ls: tan-lt gry, fn-sub xln, mostly DNS, NSFO, scat fossil

Ls: ala

Sh: lt gry-drk gry

Ls: tan-gry, fn xln, scat int xln porosity, NSFO, no odor, scat chalk

Ls: ala

Sh: lt gry-drk gry, blk

Sh: lt gry-brn

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

Sh: lt gry-drk gry

Ls: tan-gry, fn-sub xln, poor int xln porosity, NSFO, no odor, scat chalk

Sh: lt gry-drk gry

Sh: lt gry-drk gry, blk

Ls: tan-gry, fn xln, scat pp vuggy porosity, dead oil stn, NSFO, no odor

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

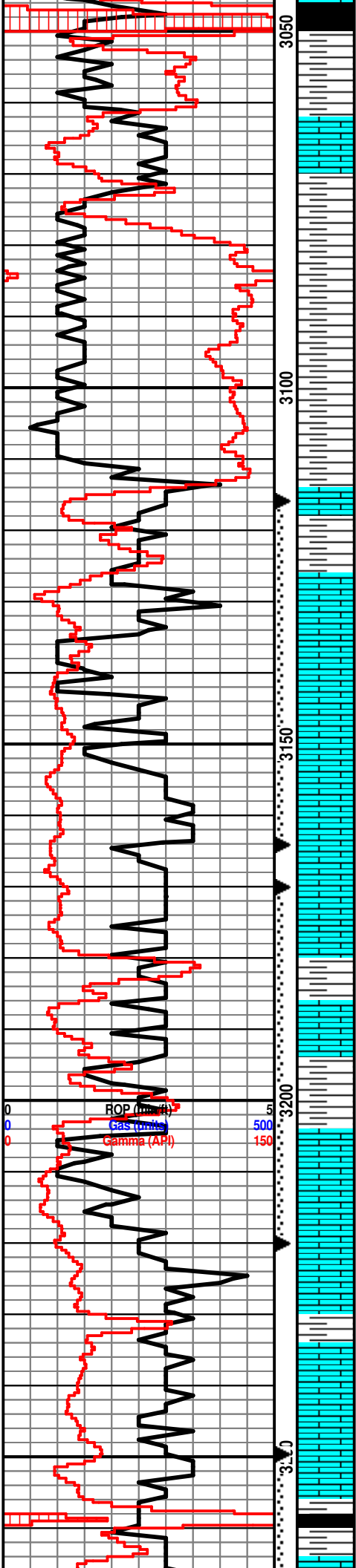
Ls: ala

Sh: lt gry-drk gry-brn

Ls: tan-gry, fn xln, poor int xln porosity, NSFO, no odor, scat chalk

Ls: ala

Heebner 3042 (-1128)



Sh: blk, carb, fissile

Sh: drk gry

Ls: off wh-tan, fn xln, poor-fair int xln porosity, lt brn oil stn in porosity, VSSFO, sl odor, dull yel fluor

Sh: lt gry-drk gry

Sh: lt gry-drk gry-brn

Sh: ala

Sh: lt gry-drk gry

**Lansing 3125 (-1211)**

Ls: off wh-tan, fn xln, ool, fair oom porosity, sl dead oil stn, NSFO, no odor

Ls: off wh-tan, fn xln, ool, fair-good oom porosity, fair oil stn in porosity, SSFO, sl-fair odor, fair yel fluor

Ls: off wh-tan, fn xln, ool, fair-good oom porosity, fair-good oil stn, SSFO, fair odor, fair yel fluor

Ls: off wh-tan, fn xln, poor int xln porosity, scat dead oil stn, NSFO, no odor

Ls: ala

Sh: drk gry

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

Ls: off wh-tan, fn xln, ool, fair-good oom porosity, fair-good oil stn, SSFO, sl odor, scat chalk

Ls: off wh-tan, fn xln, scat ool, poor-fair int xln & oom porosity, NSFO

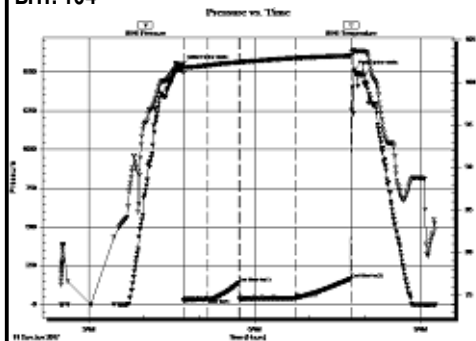
Ls: ala

Ls: tan-gry, fn-sub xln, mostly DNS, NSFO, hvy chert-off wh

Sh: drk gry-blk

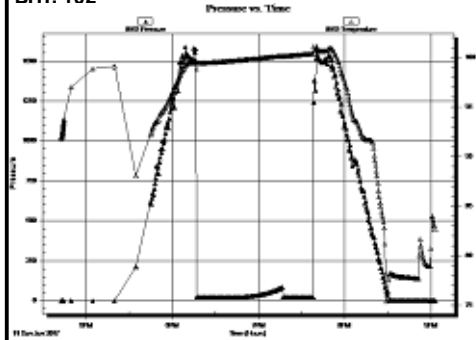
**DST #1 3,116-3,164' (LKC A-C)**

30"-30"-60"-60"  
 IF: weak blow, built to 2.5"  
 FF: weak blow, built to 1"  
 Rec: 30' Mud with oil spots  
 FP: 25-38, 32-42#  
 SIP: 142-166#  
 HP: 1,546-1,513#  
 BHT: 104



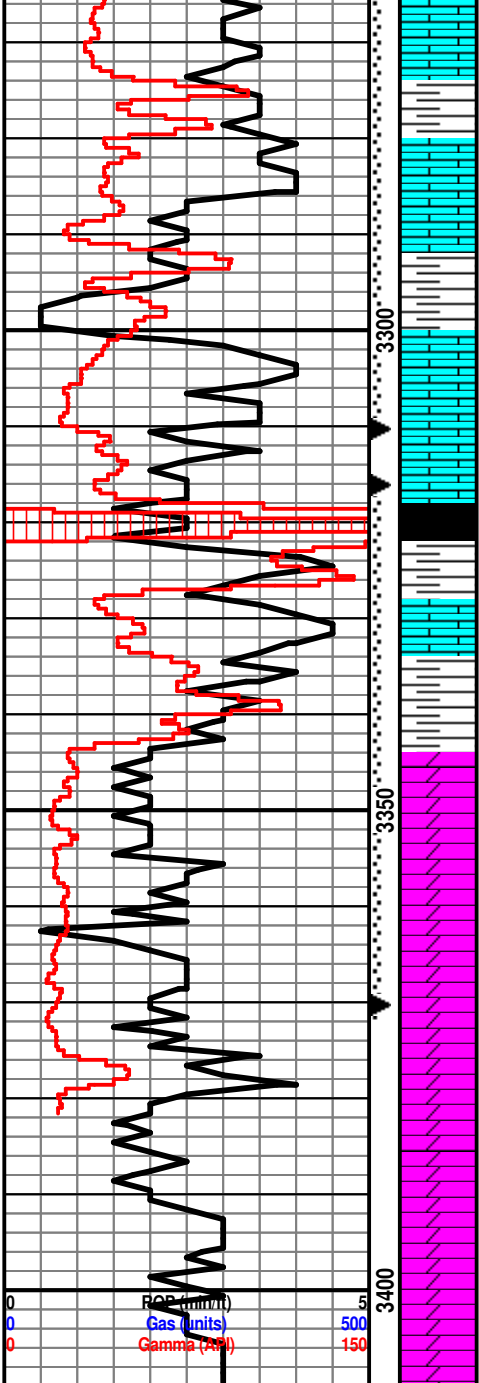
**DST #2 3,170-3,220' (LKC E-G)**

30"-30"-20"  
 IF: weak blow, died in 10 minutes  
 FF: no blow  
 Rec: 3' Mud  
 FP: 21-21, 22-22#  
 SIP: 86#  
 HP: 1,583-1,543#  
 BHT: 102



**DST #3 3,250-3,310' (LKC H-J)**

30"-30"-45"-45"  
 IF: weak blow, built to 8"; no blow on shut in  
 FF: BOB in 18 minutes; no blow on shut in  
 Rec: 180' GIP, 129' OCM (10% O, 90% M)  
 FP: 25-45, 46-72#



Ls: tan-gry, fn-sub xln, vry DNS, NSFO

Sh: lt gry-drk gry

Ls: off wh-tan, fn xln, poor int xln porosity, scat dead oil stn, VSSFO, sl odor, dull yel fluor

Sh: drk gry

Ls: off wh-tan, fn xln, ool, good oom porosity, good oil sat, F-GSFO, good odor, good yel fluor

Ls: off-tan, fn xln, poor int xln porosity, NSFO, no odor

**B/KC 3314 (-1400)**

Sh: lt gry-drk gry, scat brn, scat pyrite

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

**Arbuckle 3341 (-1527)**

Dolo: off wh-tan, fn-md xln, poor-fair int xln porosity, fair oil stn, SSFO, sl odor, dull yel fluor

Dolo: off wh-tan, fn-md xln, fair-good int xln porosity, fair-good oil sat, F-GSFO, good odor, fair yel fluor

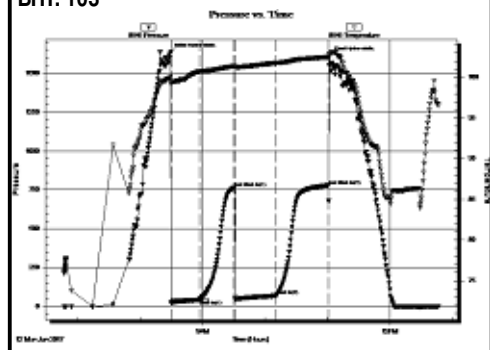
Dolo: off wh-tan, md xln, fair-good int xln porosity, fair-good oil sat, F-GSFO, fair-good odor, fair-scat good yel fluor

Dolo: off wh-tan, md-crs xln, fair int xln porosity, scat dead oil stn, NSFO, sl odor

Dolo: off wh-tan, md-crs xln, fair int xln porosity, NSFO, no odor

ROP (min/hr) 5  
 Gas (units) 500  
 Gamma (API) 150

SIP: 764-779#  
 HP: 1,632-1,609#  
 BHT: 103



**DST #4 3,316-3,370' (Top 27' of Arbuckle**

13"-15"-5"-15"  
 IF: BOB in 10 seconds; no blow on shut in  
 FF: BOB in 30 seconds; no blow on shut in  
 Rec: 95' GIP  
 815' GMCO (10% M, 25% G, 65% O) 33 API,  
 220' HOCM (20% O, 80% M)  
 FP: 219-430, 434-453#  
 SIP: 1,035-1,023#  
 HP: 1,775-1,641#  
 BHT: 107

