



# AUSTIN B. KLAUS



**Cell 785.650.3629**  
**Work 785.483.3145**  
**Ext 225**

**PO BOX 352**  
**Russell, KS 67665**  
**austin.klaus@johnofarmer.com**

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

**Well Name:** Harder #1  
**Location:** Lyon County  
**License Number:** API #15-111-20547-0000  
**Spud Date:** 7/21/2019  
**Surface Coordinates:** Section 11, Township 17 South, Range 10 East  
**Bottom Hole Coordinates:** Vertical well w/ minimal deviation, same as above  
**Ground Elevation (ft):** 1,320  
**Logged Interval (ft):** 2,300  
**Formation:** Miss-Arbuckle  
**Type of Drilling Fluid:** Chemical (Andy's Mud Co.)

**Region:** Kansas  
**Drilling Completed:** 7/28/2019  
**1,300' FNL & 2,245' FWL**  
**K.B. Elevation (ft):** 1,328  
**Total Depth (ft):** 3,200  
**To: RTD**

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

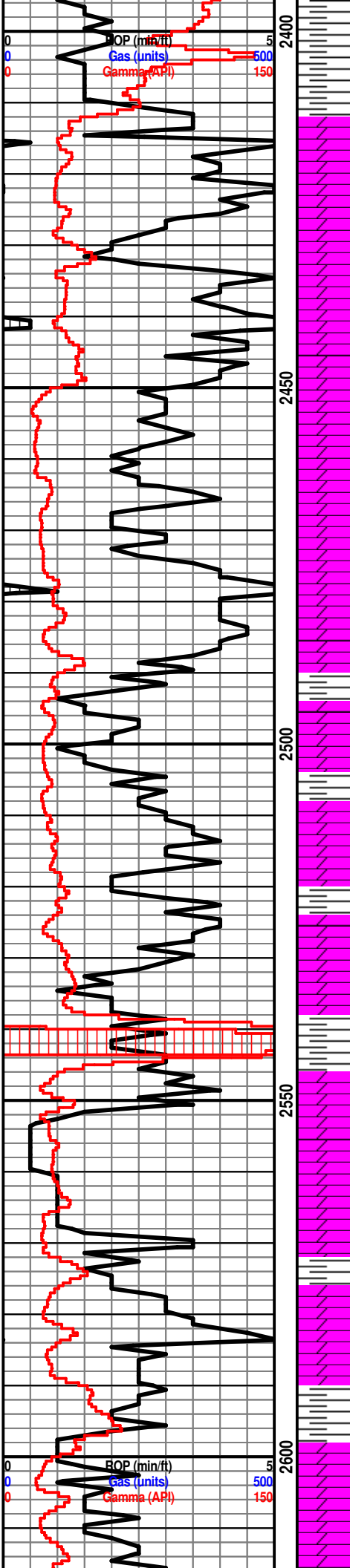
## Comments

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

The location for the Harder #1 was discovered via 3D seismic. Rock samples were gathered and evaluated from 2,300' - 3,200'. Oil shows were encountered in the Hunton and Simpson Sand. Structurally, the Mississippian top was picked 11' low to the comparison well, Weller #1 (Woods Oil & Gas). Structural thinning occurred through the Mississippian, which resulted in a Kinderhook picked 13' high to the comparison well. The primary pay zone (Simpson Sand) was picked 8' high to the comparison well. Drill stem tests were conducted over the Hunton & Simpson Sand, both of which were negative. After evaluation of all oil shows, DST results, & electric logs, it was decided that the Harder #1 be plugged and abandoned on 7/28/2019.



# Mississippian 2394' (-1066)



Dolo: off wh-tan, fn-sub xln, mostly DNS

Dolo: ala

Dolo: off wh-tan, fn xln, scat foss, poor int foss porosity, NSFO, scat qtz

Dolo: ala

Dolo: off wh-tan, fn-md xln, poor-fair int xln porosity, scat sh: lt-drk gry

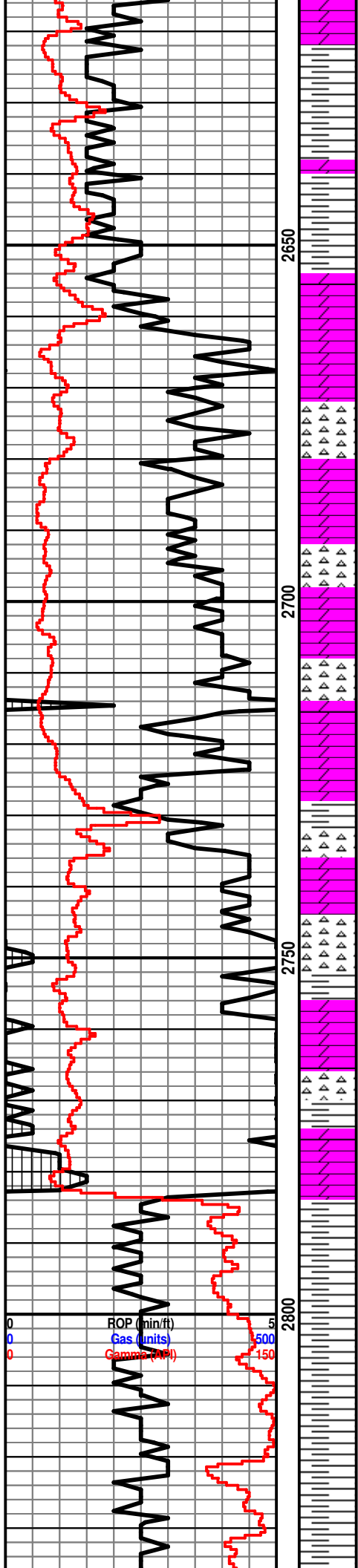
Wt: 8.7  
Vis: 49

Dolo: off wh-tan, fn-sub xln, mostly DNS, barren

Sh: drk gry-blk

Dolo: off wh-tan, fn-sub xln, mostly DNS

Sh: lt-drk gry-blk



Sh: ala

Sh: drk gry

Dolo: tan-gry, fn-sub xln, mostly DNS, barren, chert-off wh

Dolo: off wh-tan, fn-md xln, mostly DNS, barren, scat chert: off wh

Dolo: tan-gry, fn-sub xln, DNS, hvy chert-off wh, scat sh: drk gry

Dolo: ala

Dolo: off wh-tan-gry, fn xln, DNS, chert: off wh, scat sh: lt-drk gry

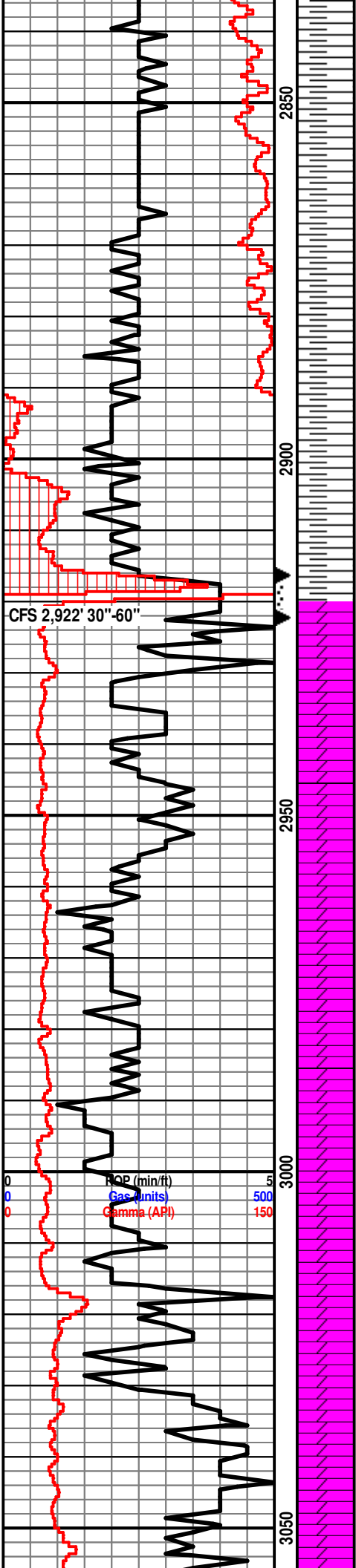
**Kinderhook 2783' (-1455)**

Sh: lt-drk gry

Sh: lt-drk gry-brn

Sh: lt gry

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



Sh: lt-drk gry, soft

Sh: ala

Sh: drk gry

**Hunton 2917' (-1589)**

Dolo: off wh-lt gry, fn-md xln, fair int xln & vuggy porosity, scat hvy oil stn in porosity, scat chert-off wh

Sh: lt-drk gry

Dolo: off wh-lt gry, fn xln, fair int xln & vuggy porosity, hvy tarry oil in porosity

Dolo: off wh-lt gry, fn-md xln, fair-good int xln porosity, barren

Dolo: ala

Dolo: off wh-lt gry, md xln, fair-good int xln porosity, barren

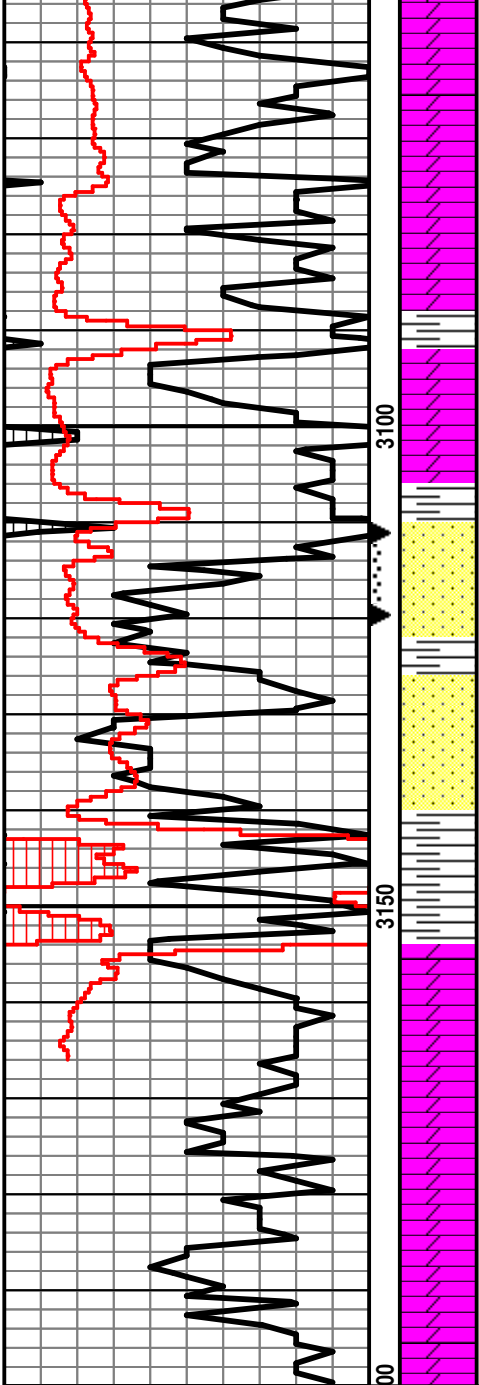
Dolo: ala

**Viola 3017' (-1689)**

Dolo: off wh-lt gry, fn-md xln, fair-good int xln porosity, barren, scat sh: drk gry

Dolo: tan-brn, fn-sub xln, mostly DNS, barren, scat sh: drk gry

Wt: 9.2  
Vis: 49



Dolo: tan-brn, fn xln, scat int xln porosity, NSFO

Dolo: tan-brn, fn-md xln, scat-poor int xln porosity, barren, scat sh: drk gry

**Simpson Dolo 3088' (-1760)**

Dolo: tan-brn, fn xln, fair-good sucrosic xln porosity, fair oil stn, fair-good odor

Sh: drk gry-brn

**Simpson Sand 3112' (-1784)**

Ss: qtz, off wh-clr, vry fn-md grn, fairly well rnd, fair-poor sorting, poor-fair cement, fair-good int grn porosity, S-FSFO, hvy tarry oil in porosity, fair-good odor

Sh: lt-drk gry

Ss: qtz, off wh-clr, fn-md grn, rnd, poorly sorted, fairly well cemented, fair int grn porosity, fair odor, dead oil stn

Sh: lt-drk gry

**Arbuckle 3156' (-1828)**

Dolo: tan-brn, fn-sub xln, mostly DNS, barren, scat sh: drk gry

Dolo: tan-brn, fn-sub xln, mostly DNS, scat chert: off wh, scat sh: drk gry

Dolo: tan-brn, fn-sub xln, DNS, chert: off wh