



# Oklahoma Geology Notes

Volume 71, No. 2 • 2011

A NEWSLETTER OF THE OKLAHOMA GEOLOGICAL SURVEY  
The University of Oklahoma MEWBOURNE COLLEGE OF EARTH & ENERGY

## Mississippian Play Workshop a Sellout!

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One of the Oklahoma Geological Survey's primary missions is the dissemination of information necessary to assist operators in the development of the State's oil and natural gas resources. Towards that end the Survey hosted a workshop dedicated to one of the most actively sought reservoirs in Oklahoma. The Mississippian Play Workshop that was held on May 18<sup>th</sup> was bittersweet for Survey staff. Although we obviously selected a topic of tremendous interest to our audience, we unfortunately could not begin to accommodate the number of people that wanted to attend this workshop. On the plus side, *an audience of approximately 300 was able to attend the workshop, which received excellent reviews for its fresh and varied look at the Mississippian Play.*

Due to the overwhelming popularity of this workshop, the Survey is offering it again on August 2<sup>nd</sup>. This has been made possible through the kindness and assistance of Kurt Rottmann, the workshop's technical coordinator, and several other speakers from the May workshop who graciously committed to present their material for a second time.

The Mississippian of northern Oklahoma, often called the Mississippi Lime, has long been an important producing horizon. In some areas, such as the Sooner Trend, which is located on the shelf of the Anadarko Basin in north-central Oklahoma, it has been the primary producing formation since the 1960's. However, in most other areas it has been regarded as little more than a convenient 'bail out' zone for wells that were unproductive in their primary objective. The fact that it was almost always oil-saturated gave it the ability to produce almost anywhere. Unfortunately, its low matrix permeability meant that while it could usually produce enough to pay for the completion, this was rarely sufficient to pay for an entire well.

Usually appearing on well logs as a massive limestone, in places the Mississippian contains zones that are siliceous. The most prolific of these cherty intervals, which often have excellent reservoir properties, occurs at the very top of the interval and is usually referred to as the Mississippi Chat. It was this facies that was developed first. The limestone beneath consists of alternating porous and impermeable strata that are often barren. Difficulties in correlating various facies within the limestone made them appear in an erratic and seemingly random pattern. This led to a fundamental misunderstanding of the reservoir's potential, which in turn has led to bypassed reserves.

Operators today, armed with modern horizontal drilling and completion techniques and the benefit of high crude oil prices, have been able to breathe new life into this reservoir's development. Horizontal wells are ideally suited to Mississippian reservoirs that are usually

