

New Application Designed to Enhance the Petrophysical Evaluation of the Mississippian and Other Complex Carbonate Systems

Bill Boykin¹, Britt Hill¹, and Mark Przywara²
¹*NuTech Energy Alliance, Oklahoma City, OK*
²*TriTech Energy Capital, Humble, TX*

Carbonate reservoirs have always been a very complex and difficult system to evaluate with respect to the effective identification of hydrocarbons and associated formation water. The combination of multiple porosity systems, complex mineralogy and oftentimes independent bound versus movable formation waters has made optimum petrophysical evaluations difficult to attain.

In an effort to better understand the complexities related to such reservoirs, NuTech Energy has taken their carbonate evaluation capabilities to another level with their introduction of Complex Vision. This petrophysical analysis approach has incorporated proven texturally based algorithms with new log derived information to create a model that is significantly more robust in its capabilities of unraveling the hydrocarbon versus water issues associated with complex carbonate systems.

This presentation will present several examples of this application and how it has been used to “uncover” hydrocarbons where previously unrecognized potential had been missed. This tool has been effectively applied to multiple formations in areas ranging from West Texas to the Ark-La-Tx as well as the Mid Continent area.