

**Mapping and Ranking Flow Units in Reef and Shoal Reservoirs Associated with Paleohighs: Upper Jurassic (Oxfordian) Smackover Formation, Vocation and Appleton Fields, Monroe and Escambia Counties, Alabama**

By

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The objective of this study is to map and rank flow units of the Oxfordian (Jurassic) Smackover Formation in the Vocation and Appleton Fields. This will be achieved by describing porosity, pore shapes, pore throat geometry, petrology, and episodes of diagenesis from thin section analysis. These data will be combined with core descriptions, capillary pressure data, and well logs to produce a reservoir wide map of flow units. Ultimately, this project is designed to characterize and model reservoir architecture, pore systems and flow unit quality at the pore to field scale.

Geoscientists at the University of Alabama have studied the structural and stratigraphic architecture of Vocation and Appleton fields. The purpose of this study is to examine pore petrography and petrophysical properties in order to identify and rank reservoir flow units on the basis of their dominant pore characteristics. This will lead to identification of pore facies that exhibit the lowest, intermediate, and highest resistance to fluid flow. The results of this study will enable more accurate and economically viable development of the fields, and of other fields with similar geological characteristics.