

# Mesaverde exploration objectives in the Red Desert and Washakie Basins, southwestern Wyoming

Michael L. Hendricks  
Hendricks and Associates, Inc.  
Denver, Colorado 80203

## Abstract

*Detailed outcrop evaluations of the Mesaverde Group on the east flank of the Rock Springs uplift, Sweetwater County, Wyoming, provide oil and gas exploration models for the Red Desert and Washakie Basins. The lower and middle Mesaverde Group (Blair and Rock Springs Formations, and Ericson Sandstone) is comprised of a series of prograding or forward-stepping detrital sequences. The Almond Formation, at the top of the Mesaverde Group, is a transgressive or back-stepping detrital sequence. Mesaverde sequences reflect tectonic and eustatic changes which occurred along the western margin of the Cretaceous seaway.*

*The best Mesaverde petroleum reservoirs in the Red Desert and Washakie Basins are upper Almond sandstones. Sandstones at the top of the formation are transgressive or back-stepping shoreface deposits. Delineation of shoreline trends, therefore, is an important exploration parameter.*

*Petroleum potential in these basins also exists in the lower and middle Mesaverde. The Rock Springs Formation and Ericson Sandstone contain thick sandstone beds which are inadequately tested. Reservoirs in the Rock Springs Formation are delta front and distributary channel sandstones. Sandstone reservoirs in the Ericson were deposited in meandering channels with high rates of avulsion.*