# Sand thickness prediction from 3-D seismic data
# A case study of the Upper Jurassic Frisco City Sand of southwest Alabama

**by Gregory J. Halvatzis and Kevin B. Hill**

**Abstract**

As exploration for Upper Jurassic Haynesville Formation reservoirs in southwest Alabama enters a mature phase and continues into a second decade, new predictive techniques are needed to expand the play beyond the current producing areas. In addition, new methodologies will play a key role in the successful implementation of secondary recovery projects in the existing fields of this prolific oil trend. A critical element in the exploration and development of Haynesville objectives is predicting reservoir thickness. Within this trend, Haynesville sandstones demonstrate variable thickness. This is a result of a range of depositional morphologies within the context of regional tectonics.

An integrated 3D seismic and subsurface evaluation of three fields productive from the "Frisco City Sand" member of the Haynesville Formation in Monroe County, Alabama resulted in the development of a methodology to accurately determine the thickness variations of this reservoir. In concert with knowledge of depositional patterns and local structure, this quantitative technique can be carried beyond the fields studied and used regionally as an exploration tool, as well as locally in aiding exploitation and enhanced recovery projects in existent Haynesville fields.

The Leading Edge; September 2001; v. 20; no. 9; p. 950-964; DOI: 10.1190/1.1487315

© 2001 Society of Exploration Geophysicists