

BASIN ANALYSIS OF THE MISSISSIPPI INTERIOR SALT BASIN
AND PETROLEUM SYSTEM MODELING OF THE JURASSIC
SMACKOVER FORMATION, EASTERN GULF COASTAL PLAIN

Quarterly Report
October 1, 1999-December 31, 1999

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*“Basin Analysis of the Mississippi Interior Salt Basin and Petroleum System Modeling
Of the Jurassic Smackover Formation, Eastern Gulf Coastal Plain”*

First Quarterly Report for Year 4
October 1, 1999—December 31, 1999

Project Objectives

Part 3 (Petroleum System Modeling of the Jurassic Smackover Formation) objectives are to provide an analysis of the Smackover petroleum system in Years 4 and 5 of the project and to transfer effectively the research results to producers through workshops and topical reports.

Work Accomplished

Task 1—Fluid Flow

The 1-D burial history and thermal maturation history profiles were composited into five 2-D thermal maturation history sections using the five regional cross sections for the basin as templates. Each of these sections were then dissected into time slices to track thermal maturation through time in the Mississippi Interior Salt Basin.

Task 2—Petroleum Traps

Work on the petroleum traps has focused on collecting data on the structural configuration and petroleum reservoir characteristics of the oil fields producing from Smackover carbonates in the basin. Structure contour maps for 56 of the 130 Smackover fields are available from previous field studies and have been compiled.

Work Planned (Year 4)

Task 1—Fluid Flow

Building of the fluid flow model for the basin will continue by initiating interpretation of fluid flow in the 2-D sections constructed.

Task 2—Petroleum Traps

Characterization of Smackover petroleum traps will continue by constructing structure contour maps for the remaining Smackover fields.

Task 3—Petroleum Source Rocks

Characterization of Smackover petroleum source rocks will be initiated by compiling data available from the literature.

