

**Report Title**

Basin Analysis and Petroleum System Characterization and Modeling, Interior Salt Basins,  
Central and Eastern Gulf of Mexico

**Type of Report**

Third Quarterly Progress Report for Year 1, Phase 2

**Reporting Period Start Date**

October 1, 2006

**Reporting Period End Date**

December 31, 2006

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**Date Report was Issued**

January 8, 2007

**DOE Award Number**

DE-FC26-03NT15395

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## **Abstract**

The principal research effort for Year 1 of Phase 2 (Concept Demonstration) of the project is Smackover petroleum system characterization and modeling. The necessary software applications have been acquired to accomplish this work. No major problems have been encountered to date, and the project is on schedule.

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# **Basin Analysis and Petroleum System Characterization and Modeling, Interior Salt Basins, Central and Eastern Gulf of Mexico**

Third Quarter Report for Year 1, Phase 2  
October 1, 2006—December 31, 2006

## **Introduction**

The University of Alabama and Louisiana State University have undertaken a cooperative 5-year, fundamental research project involving sedimentary basin analysis and petroleum system characterization and modeling of the North Louisiana Salt Basin and Mississippi Interior Salt Basin. According to the USGS, the hydrocarbon volume of these basins ranks them in the top 8% of the most petroliferous basins of the world.

## **Executive Summary**

The principal research effort for Year 1 of Phase 2 (Concept Demonstration) of the project is Smackover petroleum system characterization and modeling. The necessary software applications are being acquired to accomplish this work. No major problems have been encountered to date, and the project is on schedule.

## **Project Objectives**

The principal objectives of the project are to develop through basin analysis and modeling the concept that petroleum systems acting in a basin can be identified through basin modeling and to demonstrate that the information and analysis resulting from characterizing and modeling of these petroleum systems in the North Louisiana Salt Basin and the Mississippi Interior Salt Basin can be used in providing a more reliable and advanced approach for targeting stratigraphic traps and specific reservoir facies within a geologic system and in providing a refined assessment of undiscovered and underdeveloped reservoirs and associated oil and gas resources.

## **Experimental**

### Work Accomplished

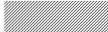
*Smackover Petroleum System*—Work to characterize and model the Smackover petroleum system in the North Louisiana Salt Basin continues. Petromod software applications have been acquired by the UA to accomplish the hydrocarbon migration pathway flow modeling. The additional Smackover samples acquired by LSU to support the source rock characterization work are being analyzed.

Work Planned

*Smackover Petroleum System*—Work to characterize and model the Smackover petroleum system will continue.

*Other Mesozoic Petroleum Systems*—Work to characterize and model other Mesozoic petroleum systems in the North Louisiana Salt Basin will be initiated.

**Table 1**  
**Milestone Chart—Year 4**

	M	J	J	A	S	O	N	D	J	F	M	A
Smackover Petroleum System												
Mesozoic Petroleum Systems												

Work Planned   
Work Accomplished xxx

**Results and Discussion**

No major problems have been encountered at this point.

**Conclusions**

The project work is on schedule.

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