Introduction

The U.S. Geological Survey (USGS) recently completed an assessment of the undiscovered oil and gas potential of the Lower Cretaceous Travis Peak and Hosston Formations in the East Texas Basin and Louisiana-Mississippi Salt Basins Provinces of the northern Gulf Coast region (fig. 1) as part of a national oil and gas assessment effort. The assessment of the petroleum potential of the Travis Peak and Hosston Formations was based on the general geologic elements used to define a total petroleum system (TPS), which includes hydrocarbon source rocks (source-rock maturation, and hydrocarbon generation and migration), reservoir rocks (sequence stratigraphy and petrophysical properties), and hydrocarbon traps (trap formation and timing). Using this geologic framework, the USGS defined three assessment units (AU)—Travis Peak–Hosston Gas and Oil AU, Travis Peak–Hosston Updip Oil AU, and Travis Peak–Hosston Hypothetical Updip Oil AU—that combine to form a single TPS, the Jurassic Smackover Interior Salt Basins TPS. A fourth AU, Hosston Hypothetical Slope-Basin Gas, was not quantitatively assessed because of a lack of geological data.

Figure 1. Map of Louisiana-Mississippi Salt Basins Province 5049 and East Texas Basin Province 5048 of the northern Gulf Coast region showing geographic distribution of the Travis Peak and Hosston Formations assessment units in the Jurassic Smackover Interior Salt Basins Total Petroleum System.
Resource Summary

The USGS assessed undiscovered conventional oil and gas for each of the AUs, resulting in total estimated means of 1,135.72 billion cubic feet of nonassociated gas and associated gas in oil fields, 28.92 million barrels of oil, and 21.54 million barrels of natural gas liquids in the Jurassic Smackover Interior Salt Basins TPS of these two provinces (table 1). All of the undiscovered resources are conventional. The Travis Peak–Hosston Gas and Oil AU contains 1,085.35 billion cubic feet of gas, about 95 percent of the total mean undiscovered gas resource (1,135.72 billion cubic feet) estimated for the Travis Peak and Hosston Formations in these two provinces.

For Further Information

Supporting geologic studies of total petroleum systems and assessment units and reports on the methodology used in the Travis Peak–Hosston assessment in the East Texas Basin and Louisiana-Mississippi Salt Basins Provinces of the northern Gulf Coast region are available at the USGS Central Energy Team Web site: http://energy.cr.usgs.gov/oilgas/noga/

Travis Peak–Hosston Assessment Team