

**AAPG Annual Meeting  
March 10-13, 2002  
Houston, Texas**

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## **Significant New Hydrocarbon Find within a Mature Province: Results of Reexploration Efforts Along the South Lama Trend, Lake Maracaibo**

The central portion of Lake Maracaibo has been the focus of an integrated exploration study by a multidisciplinary team of geoscientists from PDVSA. This study, aimed at identifying remaining exploration opportunities, used over 900 km<sup>2</sup> of recently-merged 3D seismic. The seismic was calibrated with approximately 930 wells to make a detailed structural and stratigraphic interpretation. Prospective areas identified in the study were evaluated in detail using petrophysical, reservoir and engineering data. Prospect evaluation parameters were tightly constrained by data from adjacent, look-alike reservoirs. Although the area is highly mature, the study identified the possibility of discovering as much as 300 MBO in 10 prospective areas.

This paper presents the results of drilling in one of these areas, the South Lama trend, starting in mid-2001. The prospect, located within a faulted, south-dipping monoclinical structure and surrounded by water-bearing wells, was highlighted by the use of seismic attribute analysis. An exploration well based on this analysis encountered several light oil zones within the Eocene Misoa Formation. Three of these zones were tested, with combined maximum flow rates of over 10,000 BOPD and 15 MMCFD. Preliminary reserves estimates are 80MMBO and 240BCFG. This paper will present the work leading to this important discovery in a highly mature area, as well as results and implications of the exploration program.