

Exploration for Gas in Frontier Area, Lamprea-Gulf of Mexico, Eastern Offshore Mexico

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Abstract

A new 1300 sq km 3D survey has been recently obtained in an area devoid of any wells in offshore eastern Mexico in water depths ranging from 30 to 200 m. The area is between Tampico and the Delta del Bravo in the western Gulf of Mexico. Within the Tertiary section, the area contains abundant hydrocarbon indicators (DHI) and shows the same complete spectrum of traps and plays observed in the productive U.S. portion of the Gulf of Mexico. The survey area shows hundreds of gas chimneys, shallow amplitude anomalies and a variety of traps. Several shallow detachment surfaces exist, below which buried mini-basins of approximate Miocene age exist. The traps within the area range from structural (rollover anticlines and thrust folds) to stratigraphic pinchouts in buried mini basins and purely stratigraphic traps (basin floor fans, submarine channel complexes). Some salt was probably present in the area at the time of deposition, but very little salt remains today. One of the primary prospects (Nu-1) has an amplitude anomaly that covers an area of over 15 sq km with a flat spot at 3.95 seconds and a change of amplitude and velocity depression due to overlying gas-charged channels. The trap is a combination structural/stratigraphic with lateral pinchout of the reservoir. More than 50 opportunities have been identified.