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Exploration in the Land of the Maya: New Developments and New Technologies yield New Opportunities in the Yucatan

The Yucatan Peninsula holds the largest concentration of giant oil and gas fields in the Western Hemisphere. However, large portions of the peninsula, which is also known as the Mayan Biosphere, remain underexplored. Oil and gas companies have sought Mexican-sized fields throughout the Yucatan for more than thirty years but remote operations, political climate, and poor data have slowed their efforts. These things have changed.

Recently, however, the removal of much of the rain forest by the Mayan population for wood fuel and agriculture has uncovered important rock outcrops. These newly exposed rock outcroppings confirm that reef and reef talus rocks similar to those that contain the supergiant reserves of Mexico are present in other areas of the peninsula. Detailed surface mapping in the area of these new exposures along with satellite imagery has improved surface structure data and has uncovered previously unknown oil and gas seeps.

Using modern processing algorithms, older vintage seismic data can yield superior images that integrate well with the new surface information. Newly acquired data illustrate that areas previously believed to be of poor data quality, can be effectively imaged with new acquisition and processing techniques.

These new technological and cultural developments have helped to provide improved definition of critical components to the oil migration and entrapment sequence, and point to the presence of significant untapped oil reserves.