

## High Resolution Seismic in Lankahuasa

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In 1999 PEMEX conducted a conventional 3D seismic survey over the Lankahuasa area located 14 km offshore the town of Nautla in the state of Veracruz. Data was acquired using conventional exploration streamer technology and parameters. The survey was considered state of the art at the time it was conducted, and the acquired data, containing predominant frequencies of 27 to 30 Hz, helped define sand layers thicker than 25 m. However the reservoir of this field are around to 10 meters of thickness.

To evaluate the potential of new technology to resolve the uncertainties, PEMEX conducted a pilot study using high resolution seismic over a 14-km<sup>2</sup> area. The newly acquired data with improved frequency on the order of 70 to 80 Hz resulted in the precise measurement of subtle seismic attributes and therefore provided better information about the reservoir static properties to generate a more accurate model.

Based on the results of the pilot study, PEMEX decided to conduct a study using "high resolution technology" over a 364-km<sup>2</sup> area to better determine the extent of the field, investigate the continuity of the sedimentological conditions, and explore the potential for further opportunities associated with the Lankahuasa field. This work shows the results of new data, it indicates the reservoir is more complex than originally thought; it is compartmentalized, faulted and fractured.

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