

Seismic Attributes for Lithofacies Prediction through the Use of Artificial Neural Networks Methods. A Case Study from Bloque VIII Field, Lake Maracaibo, Venezuela

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To identify and to predict from 3D seismic the lateral distribution of lithofacies in areas where no well information is available, an artificial neural network study was conducted in the C Eocene sandstones of the Bloque VIII field.

There is a large number of oil traps associated to sedimentary discontinuous sand bodies which produces a high stratigraphic complexity to the reservoirs in this field. Areal extension of the sand bodies in the C sandstone were determined from representative crossplots obtained between seismic amplitude attributes and well log data by training of the neural network. The application of this methodology to the Bloque VIII field has improved the understanding of the depositional environment by efficiently mapping these discontinuous stratigraphic sand bodies which reduces the risk of new wells, and allows identification of additional not drained plays in the development areas of this field.
