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Application of 3D Visualization Techniques for Definition of Depositional Geometries in the Cañadón Yatel,Golfo San Jorge Basin, Argentina

The Golfo San Jorge is one of the oldest productive basins of Argentina, with high accumulative production from the Bajo Barreal Formation (k).

The study area of the Cañadón Yatel block is located in the Western Flank of the basin. The hydrocarbon present in this region are found in fluvial system reservoirs that are extremely heterogeneous in geometry and lithology.

The area was characterized structural and stratigraphically after obtain 2D seismic data and well data, wich allowed the definition of the structural and geological environment.

Explorations well data demonstrated the presence of fluvial channels, of good reservoir quality and also proved the need to define in detail the geometry and sedimentary environment to make development possible. With 2D seismic definition it was not possible describe depositional geometries, because of reservoir thickness and spatial distribution.

The registration of 3D seismic allowed the definition of the various geometries and was fundamental in the confirmation of the geological model.

The use of 3D visualization techniques combined with a series of seismic attributes obtained from the cube process, allowed the recognition, for both productive units in the area (Fm. Bajo Barreal y Fm. Castillo), independent fluvial environments. These show different geometries and stacking patterns of importance, for exploration and development.

The methodology applied to obtain the model may be used in the other areas of the basin that show similar geological complexity.