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**3D Structure of the El Portón Oil Field at the Andean Thrust Front (Neuquén Basin, Argentina)**

The El Portón field is located at the thrust front zone of the Andean fold and thrust belt along the Neuquén Basin where significant hydrocarbon reserves have been discovered.

The El Portón oil field is characterized by a doubly-plunging uplift detachment anticline, 10,5km long and 2,5km wide. This N-S trending structure has no expression at surface as outcrop only reveals the overlying east-dipping beds detached above the salts of the Huitrín Fm.

About 35 exploration and development wells have been drilled in the field. We have taken advantage of this available dataset together with 2D and 3D seismic data not only to document the 3D structure of a productive thrust front but also to develop a workflow of 3D model construction. The surfaces of the model have been constructed in 3D from the structural analysis of dip data with the aid of Microstation SE, GoCad and 3DMove. Special attention has been paid to the correct projection of data given the disharmony of the structure as well as the compartimentalization of the major detachment anticline by minor thrusts and backthrusts.

The 3D structural model will be the basis for the exploration of deeper prospects in the oil field as well as for the evaluation of fractured reservoirs.