

CHARACTERIZATION AND FORMATION OF FRACTURE ARRAYS IN THE CHUBUT GROUP, SAN JORGE BASIN, ARGENTINA.

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Detailed knowledge of fracture characteristics within folded units of Chubut Group, is important for the development of tuff hydrocarbon reservoirs. Tuffs generally have low matrix permeabilities and development of reservoirs in these units depends on locating secondary structures, such as fracture networks, which enhance the permeability and provide pathways for fluid migration. Examination of vertical and overturned frontal limbs of the San Bernardo's fault propagated folds was done, in order to characterize the distribution, orientation and internal architecture of the features. Systematic distribution of fractures shows variations along small scale faults. Intrusion of basic rocks also produces distinct clustering within narrow zones. Detailed mapping of centimeter to meter-scale structures at selected stations was done to document fault and fracture age relations. The units examined are viewed as structural analogs to units in the subsurface of the San Jorge Basin, and thus information gained from outcrop studies may be applied in other reservoirs in a similar tectonic setting. A detailed study of pre-stack depth migrated seismic sections located in the immediate area, was done for this purpose.