

SAN JORGE BASIN, ARGENTINA

by

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Abstract

The San Jorge basin of southern Argentina contains Upper Cretaceous Tertiary sediments which were deposited in an actively subsiding area on the Atlantic margin of the Patagonian shield. The occurrence of probable Jurassic rocks, known only from a few deep wells, is not well understood. The Upper Cretaceous rocks, 500 to 2500 ms. thick, are predominantly clastic with lenticular sandstones extensive throughout a variegated, unfossiliferous shale section. The Tertiary rocks, 0 to 800 ms. thick, are, in general, similar, but contain several true marine horizons of glauconitic sandstone and fossiliferous limestone. Ash falls from volcanic activity west of the basin characterize the entire section with "dirty sandstones", tuffaceous shales, and "bentonitic" clays. Late in the Tertiary lava flows, sills and dikes were emplaced. The normal and block faulting of the basement complex resulting in the basin development created similar structures in the sedimentary section. The oil reservoirs are faulted sandstone units and lenticular sandstone bodies, developed by fault control of the sedimentation.

Oil was discovered on the north flank of the basin in Tertiary rocks in 1907 when a government agency was drilling for a water supply for Comodoro Rivadavia. Exploration and development moved westward along the north flank drilling in successively older rocks. Production was established on the south flank in 1944. The crude is a low to medium gravity, waxy, dark, high pour-point oil. Annual production of the basin was raised to nearly 50 million barrels in 1961 - slightly more than half the country's requirements - by the contracting of foreign oil companies and drilling contractors who are assisting YPF, the government oil agency, in developing resources of the region.