
Papán Field Reservoir Rock in the Veracruz Tertiary Basin: Stacked Channel and Dike Complexes

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ABSTRACT

The Papán Field is located at 63 km southwest of Veracruz City in the Veracruz Tertiary Basin and produces dry gas in sandstones of the upper Miocene. Presently, 10 wells have been drilled, and all of them are gas producers with fluctuating deliverability, depending on the well design. In vertical wells, deliverability of 4 to 5 MMSCF/D (million standard cubic feet of gas per day) has been measured and in highly inclined wells, the deliverability has been up to 40 MMSCF/D.

The reservoir is a stratigraphic trap that dips slightly eastward and covers an area of approximately 26 km². It has estimated proven reserves of 242 BSCF (billion standard cubic feet of gas).

The sandstone sequence overlies the LS_06_98 sequence boundary in the upper Miocene, a gas producer in some fields of the basin. This sequence was divided into five principal sandstone units and named from base to top: LS_06_98_05, 10, 15, 20 and 25. From a gas reservoir point of view, LS_06_98_20 is the most important unit because it produces in all the wells with the exception of the Hauce-1 well.

From the net sand thickness maps, the cores and facies distribution maps, and the extracted amplitude maps, Papán Field has been interpreted as a model of basin floor fans. These fans were supplied by a channel complex that came from the northwestern part of the area which generated variation in terms of lateral and vertical lithologic facies.

Due to the areal extent of this fan complex and the thickness of the gas column, presently, this reservoir is considered the most important of those who rest on the 06_98 sequence boundary in the Veracruz Tertiary Basin.