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## **Implementing a Geostatistical Stochastic Modeling Methodology to Compute Volumetrics and Original-Oil-in-Place**

The offshore Cantarell Complex is one of Mexico's most important oil fields, and the sixth largest in the world. Daily production is 1.56 million barrels (bpd) of Mayan-type heavy crude oil. Estimated oil in place is 35 billion bbl (Bbo) in fractured carbonates of Cretaceous and upper Jurassic formations.

In a recent audit and certification of the Cantarell reserves, PEMEX Exploracion y Produccion, Region Marina Noreste, included previously unbooked reserves from the younger age Paleocene reservoirs, which are in communication with the deeper Cantarell reservoirs via faults and fractures.

This study presents the geostatistical stochastic modeling methodology used to compute risked original-oil-in-place (OOIP) for Paleocene age reservoirs of the Cantarell Complex, Akal oil field. Additional proved OOIP is 791 million bbl, with 1.11 billion probable and 1.49 billion bbl possible. However, this is not recoverable as the Paleocene reservoir is above the current gas-oil contact.