

UNLOCKING AZERBAIJAN'S GIANT ONSHORE OIL FIELD RESERVES: A CASE HISTORY OF THE KURSENGE AND KARABAGLI FIELDS

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In December of 1998, Frontera Resources and partners signed a Production Sharing Contract covering 459 sq km in and around Kursenge and Karabagli fields. These giant fields, discovered by SOCAR in 1961, have produced over 100 MMSTBO. Current production rates exceed 4000 BOPD with 50% water cut coming from a total of 290 active wells. Initial estimates of 2000 MMSTBOIP have been made, with expected ultimate recoveries of 10-20%.

The oil within the fields is sourced by the Maykop Fm, generated, migrated and trapped 5-7 MMYBP. The 26-degree API oil has a GOR ranging between 200 to 1000 and is low in sulfur, trace metals, paraffin and asphaltenes. There are 20 productive horizons within the fields, found between depths of 2500 to 5500 m, each containing several productive reservoirs that range between 6-20 meters in thickness. Biostratigraphy suggests that these sands were deposited in a lacustrine environment. Reservoir temperatures and pressures range between 120-200 degrees F, and 4500-12000+ psi (9 to 18 ppg MWE). Net pay within the field ranges between 30-200 m, using petrophysically derived pay cutoffs from 100 wells, with an average of 800 productive hectares for each reservoir level.

Currently, Frontera and its partners are conducting field studies incorporating geology, geophysics, petrophysics and reservoir engineering. A 3D survey across each field is being designed. Reservoir modeling using both deterministic and probabilistic methods is being utilized to optimize a depletion plan to awaken these sleeping giants.

