

## KARACHAGANAK FIELD DEVELOPMENT-ONSHORE 3D SEISMIC SURVEY

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The giant Karachaganak field (16 billion BOE) discovered in Kazakhstan in 1979 was first produced by Karachaganakgazprom in 1984. Since the break-up of the Soviet Union, production has been in decline due to lack of investment. Partners Agip, BG, Texaco and Lukoil are planning development of the complex gas-condensate-oil system (1650 m hydrocarbon column). The heterogeneous reef and platform carbonate reservoirs range in age from early Permian to Late Devonian. Current development scenarios call for a combination of gas re-cycling and horizontal and vertical wells to maximize liquids production.

In 1992 Agip and BG geoscientists with little conventional core data available produced a layer cake model by correlating "porosity packets" interpreted from wireline log data within the context of the existing isolated platform model. Seventeen layers were defined, six in the Early Permian and eleven in Early Carboniferous and late Devonian. The current reservoir characterization project will result in refinement of the existing reservoir model, allowing simulation to better match static reserves and historical production. The current work involves interpretation of lithofacies and porosity types and distribution from available conventional core samples (approximately 800). Core interpretations will be integrated with wireline and petrophysical data to define flow units and fluid flow barriers and the results will be integrated with planned 3D seismic data to produce a 3D stochastic model.