

KANDHKOT GAS FIELD, GEOLOGICAL MODELING OF SUI MAIN LIMESTONE RESERVOIR

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Kandhkot Gas Field comprises three separate subsurface domes as delineated by seismic. Gas is encountered in three Eocene reservoirs namely Habib Rahi, Sui Upper and Sui Main limestones, with Sui Main Limestone (SML) being the main gas reservoir. To date a total of 22 wells have been drilled in the mining lease. Results of drilling and electric log correlation indicated the possibility of two stratigraphic barriers within SML reservoir, which subdivide SML into three separate gas compartments. The compartmentalized model based on the first four wells was proved to be correct by the subsequent drilling of 18 wells. The two barriers are found to be present across the field and one of them has a regional extent. The commercial gas accumulations in the three domes have been encountered in different stratigraphic compartments with each having not only a structurally different gas water contact (GWC) but of different type too.

The subsurface reservoir model of SML indicates that the three gas compartments may not be in full communication due to the presence of the two barriers, which may have a bearing on the reservoir depletion behavior over the life of the field.