

## **SOUTH MAZARI FIELD A BRIEF DEVELOPMENT GEOLOGICAL STUDY**

**Muhammad Wasimuddin and S. M. Sayeed Ahmad**

*BP Pakistan Exploration & Production Inc. 17th Floor Habib Bank Tower, Blue Area, Islamabad*

*Phone 92 (0) 51 2206487, Fax 92 (0) 2824198*

The South Mazari field discovered oil in the Lower Goru A and B Sands in 1985. These reservoirs were correlated across the field. The B Sand within South Mazari field consists of four reservoir flow units, and thin shaly units separate the units. The Turk Shale conformably overlies the B sand and contains two units. The A Sand conformably overlies the Turk Shale, has two reservoirs flow units separated by a shaly unit. The bottom two units of the B sand are very well developed and were encountered in all the wells. The South Mazari- 3 and 4 wells encountered additional one upper flow units of the B Sand. South Mazari-5 encountered all the four reservoir units in the B Sand. It is apparent that B Sand units progressively truncate to the south. The upper units are probably eroded in South Mazari- 1, 2, and 6. The Turk Shale units and the A sand units are readily traceable throughout the field. Based on the petrophysical properties, the hand-digitized net original oil pay, average porosity and average oil saturation maps were generated for all these layers. The structure map based on 3D seismic was used as a base map. Grid maps were used to generate hydrocarbon pore Volume (HPV) maps for each of the reservoir flow units.

The A and B sand cumulative hydrocarbon pore volume for the entire field is calculated to be 28.21 million reservoir barrels. These maps depicted hydrocarbon sweet spots and proved helpful in choosing South Mazari-7, 8, 9, and 10 development wells drilling locations that were drilled successfully in 2000 and 2001.