

**AAPG Annual Convention  
Salt Lake City, Utah  
May 11-14, 2003**

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**Heterogeneity Distribution and Sequence Evolution of Turbiditic Channel Complexes in the Pab Formation, Pakistan**

The Pab formation consists of deltaic and turbiditic sediments which were deposited during Late Maastrichtian on the Indo-Pakistani margin. In the basin setting, the Lower Pab is a sand-rich basin floor fan which consists of low-sinuosity channel complexes distally passing to sand-rich lobes. The channel complexes have a multi-storey architecture, resulting from the amalgamation of several individual turbiditic channels and their related overflow deposits. The sequence architecture and the geometry of a channel complex has first been studied along a 50 km long outcrop profile, which shows the evolution of the reservoir architecture from the canyon to the mid-fan settings. 3-D outcrops have then been studied in the canyon, at the canyon mouth and in the mid fan. A quantification of the reservoir heterogeneity is performed in these three sites after a 3-D restoration of the outcrop. Detailed geostatistical simulations are then carried out showing in 3-D the reservoir heterogeneity distribution. The reservoir heterogeneity pattern of a channel complex is function of the rate of amalgamation of the channels and to the frequency and volume of overflow deposits associated to the channels. This evolution is related to an overall backstep as the channel filled. Mud-clast layers eroded from the channel margins, coarse grained lags and thin bedded turbidites draping the channel base also make significant permeability barriers at the scale of the individual channels. The heterogeneity distribution shows significant variations between the proximal and distal settings, and vertically in a sequence.