

## **An Integrated Approach for Establishing Sequence Stratigraphic Framework of Lower Goru Succession in Bobi, Chak 5 Dim South and Mithrao Fields**

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### **Abstract**

The Bobi Field is located in the Lower Indus Basin. Eleven (11) wells in all have been drilled in the Bobi Field. The primary target horizon in Bobi Field is the Basal sands and Middle Sand. The depositional sequence constitutes of clastic progradational sands with some transgressive events. The objective of this study is to integrate the sequence stratigraphic framework from core to log for the most prolific clastic succession i.e. Lower Goru Sands for the Middle and Lower Indus Basins, Pakistan. It is also worth mentioning that previously no such integration exists for the Lower Goru succession in terms of sequence stratigraphic framework.

The Lower Goru interval in the Bobi Field is divided into several productive units; these mainly include the following:

- Middle Sand – productive units 4A, B & C
- Basal Sands – productive units 5A, B & C

Based on this study, the Lower Goru sands have been interpreted into several sequence stratigraphic events. Sequence stratigraphic framework and conceptual depositional models were constructed for the productive intervals of Middle Sands and Basal Sands. The Middle sands represent transgressive sand events except 4C, which shows a progradational package. The Basal sand units 5A and 5C represent progradational events while the middle unit 5B represents a transgressive event.

The Middle sands sequence represents three units of sandwiched sands i.e. 4A, B and C. Units 4A and B represent two “Hot Sand” intervals. Unit 4A and B represent transgressive sands, in the deep marine Upper Shale Succession, which shows very high intensity of localized slumping / small-scale debris flow confirming the Upper Shale to be a deep water setting with two prominent transgressive events of 4A and 4B Middle Sands.

The Basal sands based on regional information and log based sequence stratigraphy represent a series of Highstand to Transgressive Systems Tracts, where the prominent sand units are related to a highstand systems tract (HST) while the shales represent prominent transgressive systems tract (TST) in addition the basal sands also show some influence of transgressive systems tract (TST). The Basal Sand units 5A, B & C have been interpreted into at least two cyclic sequences.