

## **ZAUR STRUCTURE A COMPLEX TRAP IN A POOR SEISMIC DATA AREA**

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Zaur field is located in the northwestern part of Badin II Block. The Zaur-1 well, drilled in 1993 on a poor quality 2D seismic data, discovered gas in the Lower Goru Upper A, B and C sands and oil in the D sand with a very thick hydrocarbon column. After encountering a thick column of hydrocarbons in the Upper Sand, Zaur Deep-1 was drilled in 1995 with deeper objectives of Middle and Basal Sands. The well discovered gas in the Middle Sand and was water wet in the Basal Sand. Zaur-2 well drilled in the extreme north to delineate the field, and was P & A as a dry hole in 1995.

The Geoscientists strongly believed that the potential of finding an oil rim in the area were still bright. Further field development plan was deferred due to surprise in Zaur-2 until the availability of the 3D seismic data. The 3D seismic data was acquired over the Zaur field in 1998 and found to be relatively better than 2D. The mapping of 3D seismic data suggested that the Zaur field is a very complex structure at the Top Lower Goru (TLG) level and is divided into three different fault blocks. The interpretation of deeper levels suggested that Zaur Deep Field being a large horst block forming a crotch trap in the south by the intersection of two opposing faults and is a continuation of the Upper Sand trapping mechanism. A splay fault divides Zaur Deep field into two main fault blocks. Based on 3D seismic data Zaur-3, 4, 5 and 6 wells for the Upper Sand and Zaur Deep-2 and 3 wells for the Middle Sand were drilled successfully and proved different fluids in the different fault blocks with several compartmentalization of hydrocarbon accumulation.

Placing future development wells to recover oil and gas from this narrow faulted horst block and downthrown blocks is a challenge. 3D seismic data resolved the structural complexity and helped to precisely target the B Sand oil rim and gas development of the Middle Sand in the Zaur area.