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# TECTONO-STRATIGRAPHIC MODEL FOR GHAZIJ FORMATION IN KIRTHAR FOLDBELT, PAKISTAN

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## ABSTRACT

An abrupt change in lithology and thickness of Eocene Ghazij Formation and its isochronological units, from east to west within very short distance, has been observed in Kirthar Foldbelt. This change is attributed to shelf break or tectonic hinge controlled by Kirthar Basement Fault (KBF). Surface and subsurface data provides an excellent opportunity for understanding the influence of tectonics on sedimentation and paleogeography during Eocene time. Gross lithofacies interpretation also suggests the deposition of Ghazij Fm in tectonically active basin.

In the present study seismic, stratigraphic transects and GDE mapping used to improve understanding of lithofacies variation of Ghazij Formation in the area.

KBF is possibly present between the Tangna Pusht nala section and Tangna Pusht -X1 and played critical role in controlling the thickness and lithofacies of Ghazij Fm. across the basin. Ghazij Fm has its time equivalent lithofacies of dominantly limestone to the east of KBF, where carbonate production was able to keep pace with the rate of sea level rise with limited clastic supply whereas thick basinal shales were deposited to the west of KBF. The presence of Marap Conglomerates and marginal marine facies in the upper part of Ghazij Fm, towards the western side of KBF, suggest some uplifted areas within basinal settings.

Common Risk Segment (CRS) map of Ghazij Fm as a seal based on regional lithofacies model of this unit will help in explaining the possibilities of failure and working of Dunghan / Sui Main Limestone Play in Northern part of Kirthar Fold belt. The absence of effective regional seal over SML / Dunghan increases the risk of this play in the study area.