

# Neogene Deformation of the North West Shelf, Australia

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## Abstract

Changing angles of collision between the Indo-Australian and Eurasian plates result in a variety of reactivation structures along the North West Shelf. Specific reactivation patterns vary depending on the convergence angle at any point around the Shelf relative to the orientation of reactivated basement structures. Several strain regimes related to plate collision affect the North West Shelf, with the overall result being that zones of high strain and reactivation are strongly partitioned into discrete areas, with adjacent areas showing little or no effects of reactivation. An understanding of how changing plate motions affect local strain fields allows prediction of areas of intense reactivation. Neogene deformation has had a major impact on petroleum accumulations throughout the region, both enhancing or breaching earlier traps.