

## **TRANSFER ZONES NORMAL AND OBLIQUE TO RIFT TREND: EXAMPLES FROM THE PERTH BASIN, WESTERN AUSTRALIA**

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The Perth Basin represents one of the major tectonic provinces along the western margin of the Australian continent. Basin morphology is controlled by northerly striking faults formed during Permian rifting and reactivated during later tectonic events, notably during continental breakup in Late Jurassic-Early Cretaceous. Transfer structures, including those normal and oblique to the major faults, compartmentalised basin segments of distinctive feature. East-west transfer faults, perpendicular to the basin trend, were active throughout the rift stage of basin development and are only recognised in the northernmost onshore part of the Perth Basin, corresponding with the Permian depocentre. They separate northerly trending normal faults into segments of distinct characteristics, limit the along-strike extension of some normal faults, and transfer displacement across normal faults. The NW striking transfer zones influenced deformation features formed during the Late Jurassic-Early Cretaceous breakup although no continuous fault plane associated with these zones has been identified within the sedimentary sequences. They are characterized by the termination and swinging of major normal faults within the transfer zones with sinistral strike-slip movement of at least 16 km across the Abrolhos Transfer Zone. The orientation, age of activation and position of these zones is similar to transform faults in the adjoining Indian Ocean suggesting that the two structures are contiguous.