

The Mesozoic of the Central Belt of Malay Peninsula — Part II: Basin configuration and tectonism

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The Central Basins infillings are divided into 2 megasequences. They are the Permo-Triassic Semanggol-Semantan Megasequence and the overlying Latest Triassic to Cretaceous Tembeling Megasequence. These infillings can further be divided into 3 depositional sequences. The first two is predominantly marine and the third predominantly continental. They represent a complete transgressive-regressive cycle that marks the opening and closing of the Permo-Triassic basin and the initiation of the Latest Triassic to Cretaceous intermontane basins.

The first depositional sequence (Permian-Early Triassic) consists of continental sediments at its base that grades into shallow marine and then to deeper marine at the top. The sequence marks the opening of the basin. The second sequence (Middle Triassic to Late Triassic) begins with deep marine turbidites and volcanoclastics that grades into shallow marine sediments to the top. It marks the rifting of the basin and then followed by the initiation of the gradual closure of the basin.

From the sedimentological and structural characteristics, the Permo-Triassic basin can be considered to have a graben-like configuration. The graben have a roughly N-S trend. The nature of the margin fault zones with steeply dipping faults that have downthrown side into the basin and exhibiting dextral transpressive and transtensive character suggest that the basin is a strike-slip control basin.

The third sequence (Latest Triassic to Cretaceous) marks the closure of the basin and the initiation of new successor basins. The basins although small, are characterized by a wide variety of depositional facies, from fluvial to deltaic to lacustrine facies. Facies changes can be abrupt. Locally, acid extrusive rocks are found. These suggest a syn-sedimentary tectonic control on the deposition.

The overall synclinal nature and asymmetric character of the basin together with their occurrences along the Lebir Fault Zone may be taken to indicate that these small Latest Triassic to Cretaceous basins are also strike-slip fault control inter-montane basins.
