PALAEOENVIRONMENTAL AND STRATIGRAPHIC EVOLUTION OF WESTERN PENINSULAR MALAYSIA

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Throughout the Palaeozoic, the western belt of Peninsular Malaysia appears to have been representative of a passive rifted margin with the deeper waters to the east. The climate was seasonal to arid and the setting one of oscillatory subsidence.

In Langkawi, the Cambrian is represented by a shallow marine deltaic/ continental sequence. Despite the higher surface temperatures the weathering intensity appears to be less probably because of the absence of vegetation. Eolian activity must have been extensive but this has been masked by aqueous reworking suggesting the environment was one of a warm humid desert. The lower Setul limestones bear various evidence for meta or hypersalinity indicating an arid/semiarid climate at times in the Ordovician. The Early Palaeozoic in the mainland on the other hand is represented mainly by volcaniclastics, basinal black shales and limestones and there appears to have been uplift in the central region giving rise to carbonate banks in the Kinta-Kuala Lumpur area.

A major tectonic episode is interpreted to have take place in the Devonian and the seas retreated almost totally from the Peninsular. However, though this episode resulted in significant topographic inversion did not produce much topographic relief on land.

The Late Palaeozoic exhibits various evidence for a much colder climate, though no evidence for glaciation has been reported. This together with the significant topographic inversion with marine environments altering drastically explains the conflict in the interpretation of the diamictites in the Singa Formation. Evidence also is presented for a more arid environment in parts of the Permo-Triassic limestones of the Chuping and Kodiang Formations.

There was again significant uplift in the Permian which resulted in the closure of the basins to the east whilst sedimentation continued through the Triassic in the Semanggol Sea. A major tectonic episode in the Late Triassic occurred when the union of the eastern and western blocks convened.

The continental sediments of the Mesozoic Tembeling Group indicate environments ranging from an arid to one of a well developed seasonal climate.

During the Cenozoic vertical block and oscillatory movements and lesser volcanic activity dominated. Geomorphic studies indicate probable climatic changes may have taken place.

Preliminary palaeogeographic interpretations places Western Peninsular Malaysia in higher(Northern?) latitudes throughout the Palaeozoic and Mesozoic. Lithofacies studies also indicate that no deep oceanic sediments are present suggesting that sedimentation took place throughout on a continental and/or attenuated crust. Subsidence dominated the Palaeozoic whilst uplift appears to have been dominant in the Mesozoic and Cenozoic.