

The Lower Permian 'Passage Beds' of the Kubang Pasu Formation, Perlis: facies, stratification and significance

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The Lower Permian 'Passage Beds' are the conformable clastic-carbonate transition between the Upper Palaeozoic Kubang Pasu and Singa Formations and the Permian Chuping Formation. The bedding characteristic (flat bedded, parallel laminated and lacks interbedded mudstone), the fossil content and its stratigraphic position below the Chuping limestone suggest a shallow marine environment of deposition. The presence of very well rounded quartz grains probably suggest some form of aeolian association.

The model for the deposition of mixed, shallow marine terrigenous clastics and carbonate based on present day Gulf of Elat in the Red Sea (Friedman, 1988) can be suited to the Passage Beds of the Kubang Pasu Formation. This climatic and sedimentological model requires an arid to semi-arid coastal environment. The clean, quartz rich, angular-grained sandstones probably represent deposits of flash-floods during rare heavy rain-falls within a coastal, arid to semi-arid environment. At other times, carbonate-secreting organism thrives in a warm, shallow marine environment close to the coast. The well-rounded detrital quartz grains were probably brought into the shallow sea areas during strong winds, or desert storms.
