Sedimentary facies of the middle Triassic Semantan Formation and their significance

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The middle Triassic Semantan Formation and its lithostratigraphic correlatives, composed of coarse to fine grained volcanogenic sandstones and minor conglomerates interbedded with black shales, occur extensively within the Central Belt of the Malay Peninsula. However good exposures are limited to new road cuts and earth quarries, in particular in the region between Karak and Temerloh.

The coarser clastics exhibit a wide variety of sedimentary structures from lenticular and wavy beds, through graded bedding, sheet and channel sand body, slumps and mass flow deposits. Environmental interpretations of these features suggest that the Semantan Basin had steep-sided margins with limited shallow wave-influenced environments. Sedimentation were predominantly by sediment gravity flows of the volcanogenic clasts into a semi-enclosed basins via submarine channels or by collapse of its margins. This interpretation is supported by the variable and opposing directions determined for paleocurrents and paleoslope study.

Thick sequences of conglomerates are found in the vicinity of Karak, Raub, Mentakab and Jerantut. In Karak and Raub, other clasts of older metasediments and limestones are found together with clasts of volcanic origin. These areas possibly represent the western margin of the Semantan Basin. The clasts in the conglomerates exposed in Mentakab and Jerantut are predominantly volcanics with lesser amount of limestones. These are probably erosional products of volcanoes and the limestones, that grew near their top of these volcanoes, within the Semantan Basin.

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