

ABSTRACT

Petrographic and geochemical techniques were employed in studying geology of the Khao Sammun area. The purposes were to perform a detailed geologic study and to define any mineralization, if present, and also to study petrologic and mineralogic significances as well as their genetic relationship. A plate tectonic model was proposed to explain petrogenesis and tectonic evolution.

Petrographic studies indicate the major rock types of the area to be volcanic rocks of calc-alkaline series, andesitic and rhyolitic in composition, which overlie limestone of the Ratburi Group. The volcanic rocks are believed to be Permo-Triassic age accumulated on a continental margin as a result of westward subduction of oceanic crust.

Trace element studies (Cu, Pb, Zn, Ag, and Mn), using atomic absorption spectrophotometry, show no significant mineralization directly associated with the volcanic group. This is believed to be a result of an unfavourable environment of deposition, i.e. subaerial volcanism.

Small occurrences of manganese and copper sulphide mineralization are located at Khao Sai hill. They were epigenetically emplaced in Permian limestone by hydrothermal solutions apparently associated with an andesite dyke.

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