Petrology and petrochemistry of the granites in the Gunung Ledang area, Johore

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The Gunung Ledang pluton, a northeast trending elliptically shaped body covers an area of about 100 sq. km. It can be broadly divided into two types, viz: the predominant Ledang-type (medium-grained, quigranular pink granite) and the minor Bekoh-type (microgranite). Generally, the Bekoh-type occurs as enclaves ranging in size from several m to 100 m in diameter within the Ledang -type. It is believed that these two types were emplaced during the same episode with slight differences in their histories of crystallization, assimilation and enrichment of residuals.

The chemical variation diagrams show that this pluton can be termed as oversaturated (acidic) granite with relatively high silica contents (73.8 - 77.1%) and high differentiation indices (88 - 94). It can be classified as an S-type granite with characteristically high values for normative corundum, ALMO, SiO_2 and Sr ratio, thus indicating that the pluton may have been formed by the process of partial melting or anatexis of metasedimentary rocks.

The pluton is epizonal in nature based on the major and trace elements, the contact metamorphic aureole and the colour of the rock itself (pink). Age determinations done by the previous workers suggested that this pluton was emplaced during the Late Cretaceous.

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