

**GEOCHEMISTRY OF THE PROTEROZOIC MAFIC DYKES FROM NORTH  
KERALA, INDIA: SOME INFERENCES ON THE NATURE OF SUB  
CONTINENTAL MANTLE**

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Mafic dyke intrusives in Kerala region along the west coast of India are widely known. Although the dykes have been generally related to the Mesozoic rifting of the Gondwanaland, two dykes from North Kerala have yielded Proterozoic age (1600-1400 m.y.) by K-Ar method. These dykes have a broad geochemical affinity to the continental tholeiites and their major and trace element chemistry is within the range observed for the Phanerozoic dykes of the region. However, individual dykes are characterised by discrete absolute values of incompatible trace elements and ratios. Petrogenetically, such variations are explained by derivation from variably enriched (especially in LIL elements) mantle sources. Crystal fractionation has played only a minor role.