PETROLOGY OF SOME DOLERITES FROM THE PRECAMBRIAN VIJAYAN COMPLEX OF SRI LANKA

Kapila Dahanayake *and* **Tara Tampoe**
(*Dept. of Geology, University of Peradeniya*)

Precambrian Vijayan Complex of Sri Lanka consists of widely occurring hornblende biotite gneiss, microcline granite/gneiss, augen gneiss, migmatite, calc gneiss, quartzite and dolerites. Geological studies in the Eastern Vijayan covered by 1 inch topographic sheet of Polonnaruwa, Vakaneri, Rukam and Elahera reveal the frequent occurrence of basic doleritic bodies, for the most part, discontinuous in character. These bodies, whose exposure sometimes is confined to distinct cobble-like rubble characterized by spheroidal weathering, occur in conformity or as cross cutting structures in association with hornblende biotite gneiss.

Petrological studies of some cross cutting dolerites reveal the existence of ophitic texture characteristic of dolerites *sensu stricto*. In such rocks, plagioclase laths are seen associated with augite and rare olivine. However in the conformable type, which is more common, the mineralogy is dominated by green hornblende, plagioclase and garnet with accessory augite, quartz, magnetite and zircon. The replacement of augite to hornblende is common and corona structures characterize these rocks. The coronas show a central clinopyroxene or garnet body surrounded by amphibole and magnetite in a plagioclase groundmass.

Mineralogical observations suggest that some of the dolerites have been subjected to retrograde metamorphism, in the process obliterating their mineralogy, texture and structure. As such, most of the initially cross-cutting bodies could get rotated during metamorphism into structural parallelism. The doleritic bodies unaffected by metamorphism probably exist as cross cutting bodies which retain the initial ophitic texture. However the conformable doleritic bodies with evidence of retrograde metamorphism would represent the metamorphosed equivalents and these could properly be referred to as meta-dolerites.