Petrology and geochemistry of the fore-arc ophiolite in the Timor-Tanimbar region, Eastern Indonesia

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The Timor-Tanimbar island chain, eastern Indonesia forms non-volcanic outer arc and includes one of the world's youngest ophiolite (Late Miocene). Geological setting and age relation indicate the buoyant subduction of Australian continent jacked up the new forearc oceanic lithosphere. Major and trace element data on the lavas and dolerites are mainly "transitional-type basalt" between arc tholeiite and N-MORB (Al2O3, LILE, LREE). Minor presence of high-Mg andesite is also confirmed. Such petrogeneses can be matched off against that of initial stage of back-arc spreading which some authors set up a hypothesis.