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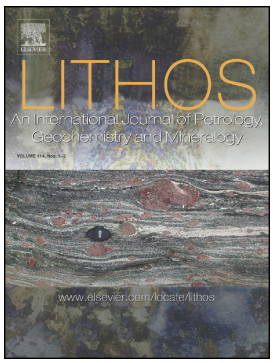

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A Late Mesozoic short-lived shift from fluid-dominated to sediment-dominated mantle metasomatism in the northeast South China Block and its tectonic implications

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ABSTRACT

Early Cretaceous northwest (NW)-trending dolerite and amphibole lamprophyre dykes exposed in NW Zhejiang Province provide a number of new insights into the nature of the subcontinental mantle on the northeast (NE) South China Block (SCB). These dykes have a high Al_2O_3 (14.04–17.89 wt. %) and K_2O (0.66–2.69 wt. %) contents but relatively low Na_2O (2.48–4.61 wt. %) and TiO_2 (1.33–2.79 wt. %) makeup alongside moderate K_2O/Na_2O ratios between 0.26 and 1.04. These amphibole lamprophyre dykes also have higher MgO, Cr, and Ni contents than those of comparable dolerites that have SiO_2 content ranging from 46.32 to 49.87 wt. %. The most striking feature of these intrusions is that they contain higher contents of Rb, Th,

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