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The Petrology Of The Metavolcanic Rocks Of Tobago And Trinidad: A Comparison

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Abstract

Mesozoic low-grade metamorphosed volcanic rocks outcrop in the Northern Range of Trinidad and in the Main Ridge of Tobago. Those that occur in Tobago form a major part of the North Coast Schist Group, while in Trinidad the metavolcanic rocks are confined to the Sans Souci Group and the Maracas Formation. These volcanic rocks have undergone deformation and low-grade metamorphism but the timing of these events is different for each island. In Tobago penetrative deformation and metamorphism took place in the middle Cretaceous while in Trinidad it occurred during the Tertiary.

The North Coast Schist Group contains an island arc suite of rocks composed of meta-basalts, -andesites and –dacites that show island arc tholeiitic (IAT)/primative island arc (PIA) affinities. The meta-tuffs in the Maracas Formation and the meta-basalts and meta-gabbros of the Sans Souci Group compare to N-MORB and represent remnants of an ocean floor. The latter are related to sea floor spreading that commenced in the Late Jurassic and extended into the Cretaceous, whereas the rocks of the North Coast Schist Group of Tobago are part of the first phase of intraoceanic arc activity that took place in the Early Cretaceous in the proto-Caribbean.

Manuscript Not Submitted