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Late Neoproterozoic adakitic lavas in the Arabian-Nubian shield, Sinai Peninsula, Egypt

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Abstract

The Sahiya and Khashabi volcano-sedimentary successions are exposed near the southern tip of the Sinai Peninsula, the northernmost segment of the Arabian-Nubian Shield (ANS). These Neoproterozoic successions include a series of intermediate to acidic lavas and associated pyroclastic deposits. Field observations and geochemical data reveal two distinct eruptive phases. The lavas representing each phase are intercalated with volcaniclastic greywackes and siltstones. The first eruptive phase, well exposed at Wadi Sahiya, includes basaltic andesite, andesite and dacite with minor rhyolite. The rocks of this sequence are at most weakly deformed and slightly metamorphosed. The second eruptive phase, well exposed at Wadi Khashabi, includes only undeformed and unmetamorphosed dacite and rhyolite. The two volcano-sedimentary successions were