

EVIDENCE OF AUTOMETASOMATISM IN THE CONCEIÇÃO DE MUQUI COMPLEX, ES

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The Conceição de Muqui igneous Complex (around 50 km² of outcrop area) is located in southern Espírito Santo. It consists of a series of several transitional petrographic domains: 1) Mingling A zone, where medium to coarse grained monzodiorite predominates in netveined interfingering with monzonite to diorite with incipient flow layering; 2) Mingling B Zone, where finer grained diorite predominate over monzonite, showing strong planar flow cut by a network of coarse leucocratic veins;3) coarse-grained monzonite locally with well developed flow structures; 4) medium to coarse grained granitic rocks. Mesoperthite is the characteristic feldspar of the monzonite and consists of fine to coarse spongy cellular intergrowths of oligoclase and microcline. In the granite, antirapakivi feldspars are common. The complex feldspars together with mapped mingling structures suggest crystallization in mafic magma and dissolution in felsic magma. While biotite and scarcely Fe-hastingsite are main mafic minerals in monzonite and granite, hornblende mantled Fe-augite and hypersthene predominate in diorite and monzodiorite. Sphene, allanite, zircon, apatite, pyrite, magnetite and hematite are typical accessory minerals. The presence of late muscovite and large greenish scapolite (marialite) replacing pyrite are evidence of important autometasomatism in a post-magmatic episode. This intrusion is related to the late-collisional magmatism of the Araçuaí-Ribeira orogene and represents a slightly change in the composition of the predominant metaluminous high-K magmatism towards a quartz-poorer alkali-richer monzonitic series.