THE CAMPINAS INTRUSIVE SUITE: NEOPROTEROZOIC HYBRID GRANITIC MAGMATISM AND TIN MINERALIZATION IN THE EASTERN DOM FELICIANO BELT

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The late- to post-transcurrent Campinas Intrusive Suite is characterized by tin mineralization and the presence of wall rocks microxenoliths including granitoids, schists, mylonites, tourmalinites and greisens. The original composition of the Campinas granitoids was therefore changed by the assimilation of rocks with biotite, quartz, muscovite, tourmaline and plagioclase. Nevertheless a narrow chilled margin is present and may represent the original composition of the magma. The chilled margin (original magmatism) is characterized by high TiO2, FeO, CaO, P2O5, MnO, Y, Nb, Ni, and REE contents when compared to microxenoliths-bearing granitoids, characterized by higher Al2O3, Na2O, Rb, Sr, Cs, and Ga, with B and Sn enrichments. The chilled margin has also strongly fractionated Mg, Zr, Sr, and Cu.LILE, HFSE and REE contents indicate that the chilled margin is more alkaline than zones with microxenoliths. The fractionation and the contents of these elements are characteristics of sources such as the sub-continental lithospheric mantle with contamination by continental crust.Therefore, the magma composition of the Campinas Intrusive Suite granitoids is high-K calc-alkaline, strongly hybridized by the incorporation of continental material as indicated by the assimilation of microxenoliths.The crustal contamination seems to be the mechanism of tin and fluids incorporation to the magma and hydrothermal system. The ?O2 is lower in the microxenoliths-bearing granitoids and their minerals are richer in Sn and F than their microxenoliths-free granitoid counterparts. Tin mineralization and hydrothermal alteration are restricted to zones with significant volumes of microxenoliths in the intrusions.