GEOCHRONOLOGY AND GEOCHEMISTRY OF THE CERRO SAN LORENZO GRANITOIDS, PATAGONIAN CORDILLERA, CHILE (47º30'S)

WELKNER, D. Servicio Nacional de Geología y Minería, Santiago, Chile.

Three different plutons (Sobral Tonalite, Tranquilo Quartz Monzonite and San Lorenzo Granite) crop out close to the Cerro San Lorenzo, located near the Chilean-Argentinean border. They show a distinctive lithology and age, the latter supported by seven K - Ar and three Ar - Ar ages. These plutons intrude metamorphic rocks assigned to the Upper Devonian-Lower Carboniferous. The San Lorenzo Granite also intrudes volcanoclastic rocks of the Ibáñez Group (Middle Jurassic-Lower Berriasian). The Sobral Tonalite, dated in 143 - 138 Ma (Upper Jurassic), is a weakly peraluminous and moderately potassic coarse grained tonalite, that has been interpreted as the roots of the Jurassic volcanism. The age of the Tranquilo Quartz Monzonite ranges from 90 to 84 Ma (lower part of the Upper Cretaceous), and forms part of an alkaline plutonic activity which suggests an emplacement during an extensional tectonic regime. The San Lorenzo Granite, dated at 6.6 - 5.17 Ma (Upper Miocene - Lower Pliocene), is a metaluminous and miarolitic medium grained granite, that belongs to the calc-alkaline high potassium series.Considering the excentricity of these plutons with respect to the eastern limit of the North Patagonian Batholith (± 60 km), and taking into account the similarity in age range (Jurassic to Mio-Pliocene), these sattelite bodies are considered to reflect an important crustal weakness which permitted their emplacement.