

THE JURASSIC-CRETACEOUS PLUTONISM OF NW ARGENTINA (CENTRAL ANDES): AGES, GEOCHEMICAL CHARACTERS AND GEOTECTONIC SETTING.

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During the Upper Jurassic-Lower Cretaceous time the Central Andes were affected by a widespread magmatism discontinuously developed along a belt running from south-eastern Bolivia up to Cordoba province (Central Argentina). This belt is located to East of the main Jurassic calcalkaline volcanic arc (La Negra Formation). In the NW Argentina this magmatism is characterised by plutonic intrusions mainly composed by epizonal batholiths and stocks which range from alkaline-peralkaline up to calcalkaline compositions. Rb-Sr ages and petrological studies have permitted to evaluate the most important intrusions in the Puna Plateau and Eastern Cordillera (Tusaquillas, Rangel, Aguilar and Abra Laite). The Rangel (146-122 Ma) is a syenitic-granitic stock with alkaline-peralkaline affinity showing a geochemical and isotopic tendency typical of anorogenic suites ($^{87}\text{Sr}/^{86}\text{Sr}$ 0.704092-0.704411; ϵNd 1.15/1.71). The evolution of the Tusaquillas complex indicates an intrusion of gabbroic magma with mantle affinity ($^{87}\text{Sr}/^{86}\text{Sr}$ 0.70353-0.70578 and ϵNd 3.59-1.48) at 152 Ma followed by a granitic body with crustal signature ($^{87}\text{Sr}/^{86}\text{Sr}$ 0.71989-0.7392; ϵNd -1.69/-6.24) at 140 Ma. These data allowed us to evaluate that the granitic magma was generated by partial melting of the continental crust triggered by the intrusion of gabbroic magma with OIB signature. The Aguilar and Abra Laite plutons show petrological features like Tusaquillas batholith suggesting a similar magmatic evolution. On the basis of the ages and the nature of the plutonism in the NW Argentine, we suppose that this activity could be linked to a transtensional process related to geometry and kinematics of the plates at Jurassic-Cretaceous time.