

NEOPALEOZOIC ARC-MAGMATISM IN THE EASTERN FLANK OF FRONTAL CORDILLERA, MENDOZA, ARGENTINA

Coluccia Alejandra Verónica

Neopaleozoic arc-magmatism in the eastern flank of Frontal Cordillera, Mendoza, Argentina^{1 2} COLUCCIA, A.V. ¹Lab. Tectónica Andina Dpto Geología, Universidad de Buenos Aires, ²SEGEMAR, Buenos Aires, Argentina Arc-magmatic sequences composed of plutonic and volcanic rocks outcrop in the eastern flank of Frontal Cordillera (33°43' - 69°20'). These units have intruded and covered a Proterozoic low-grade metamorphic basement and Carboniferous marine clastics also. Volcanic succession begins with an andesite-dacite auto-breccia and porphyric lavas, and is covered by rhyolite-rhyodacite welded tuff. Based on the petrographical and geochemical characteristics the intrusive units are classified as quartz-monzonite to granodiorite and microgranite small plutons, granite-granodiorite porphyries, and rhyolite dykes. These are all calc alkaline rocks with a mineralogy characterised by essential plagioclase, K-feldspar, quartz, biotite and hornblende. The andesite-dacite lavas and quartz-monzonites are metaluminous whereas rhyolitic tuffs, granite-granodiorite porphyries and microgranites are peraluminous, as indicated by their index ASI (1,01-1,08). Based on Th-Ta-Hf/3 relations, the effusive rocks plot in the volcanic-arc field while using the relation Rb v Y+Nb the intrusive sequence, in the volcanic-arc granitoids field. Distinctive trace-elements characteristics of these rocks are K, Rb, Ba and high-field strength elements (Th-U) enrichments whereas the Ta are depleted relative to La. Light REE are enriched overall heavy REE which is consistent with an arc emplacement in a normal thickened crust. The plutonic rocks have petrographical and chemical characteristics similar to the Elqui Complex (Frontal Cordillera of Chile) of granitoids. Concerning that, this complex is considered to be part of the Neopaleozoic magmatic arc in the proto-Pacific margin of Gondwana so this igneous sequence could be related to an eastern migration of the magmatic arc during Late Paleozoic times.