

NATURE OF MAFIC INTRUSIONS IN CENTRAL ANATOLIA; TURKEY

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Subduction of innertauride oceanic crust is an important mechanism for exchanging mass and energy between the mantle and the crust in the formation and injection of mafic magma into the crust forming the mafic products of Central Anatolia. On the other hand, the tectonic obduction of innertauride ophiolite sheets and slices must involve some of mafic intrusives onto Anatolia continental blocks forming the rootless gabbroic rocks in the region. Mafic magmatic rocks are an important product in the interpretation of the generation of mantle and lower crust. Ophiolitic gabbro, intrusive gabbro from the upper mantle products with the alkaline mafic intrusive rocks are formed the types of mafic intrusive in Central Anatolia. Late Mesozoic mafic intrusive rocks are mostly coevals with the granitoids in Central Anatolia. Most of the contact of these gabbros conceal with soil cover for this it cannot be generate the structural position with the wall rocks in the region.

Ophiolitic gabbros and intrusive gabbros have plagioclase, pyroxene and amphibole in compositions. Most of the amphiboles are the products of the uralitization in the form of tremolite and actinolite. Alkaline mafic intrusive rocks may differ from the ophiolitic and intrusive rocks by feldspatioid bearing in composition. After the Closure of innertuaride Ocean and the formation of calcalkaline products an extension was occurred behind the arc magma producing silica undersaturated magma behind the subalkaline products in the region. Alkaline mafic intrusive rocks from these products form the third type of the mafic intrusive rocks in the region.

The most mantle related gabbros show arc related trace element chondrite and primitive-mantle normalised patterns, characterised by large ion lithophile elements with light rare earth elements (LREE) enrichment, Sr and Pb positive and Nb-Ta-Ti negative anomalies. However, the alkaline gabbros show within plate related trace element and rich in large ion lithophile elements with high field strength elements. As a result, the geochemical signatures could be better explained by a recycling of continental crustal components within the mantle during the obduction and extensional of the continental crust act in the formation of the alkaline type intrusive rocks in Central Anatolia.

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