



Geologic and petrologic patterns of post-collisional magmatic activity in northern Menderes Massif (Alaçam Granite-NW Turkey-)

A. Hasözbek (1), B. Erdogan (2)

(1) Dokuz Eylül University, Vocational School of Torbalı, Marble Programme, İzmir-Turkey,

(2) Dokuz Eylül University, Engineering Faculty, Dept. of Geological Engineering, Buca, İzmir-Turkey (altug.hasozbek@deu.edu.tr / Fax: +90 232 8531606) / Phone: +90 232 8531828-153)

Oligo-Miocene magmatic activity took place all along the northern border of Menderes Massif in Western Anatolia forming a NE-SW trending granitic belt. Controversial emplacement models have been suggested for the young granitic bodies. Simply, the main discussion is an extensional or compressional tectonic regime was responsible in their emplacements. In the extensional model, they were explained to be formed in the footwall section of detachment faults. The Alaçam Granite is one of these many granitic plutons cropping out along the northern border of the massif and plays a considerable role in this emplacement polemic. The Alaçam Granite cuts directly both high grade metamorphic associations of northern Menderes Massif, low grade metamorphic associations of Afyon Zone and ophiolitic packages of İzmir-Ankara Zone. Geochemically, Alaçam Granite is granodiorite and granite in composition. High K content is characteristic in I type calc alkaline granitic body of Alaçam. Spider diagrams with the HREE patterns point out that, the crystallization of the crust magma took place under the low pressure conditions. Geological and petrological patterns display that, Alaçam Granite evolved from the thickened continental crust origin and permissively emplaced by post collisional magmatic activity which occurred after the collision between Taurid-Anatolide and Sakarya Continents.