

NEW TYPES OF PLAGIOGRANITE IN SOME OPHIOLITES OF THE TETHYS OCEAN, KAHNUJ, SOUTHERN IRAN

¹KANANIAN, A., ²DARVISHZADEH, A. AND ³SABZEHEI, M. ¹Department of geology, Faculty of science, University of Tarbiat moddares, Tehran, Iran, ²Department of geology, Faculty of science, University of Tehran, Tehran, Iran, ³Geological survey of Iran, Tehran, Iran

Investigations on the middle Jurassic to late Cretaceous Ophiolitic complex of Kahnuj, South of Iran, revealed three types of plagiogranites. The first type is Trondhjemites which is the main constituent of plagiogranites, and occur as small lenses, net-veins and pod forms. This type of plagiogranite is largely developed at the top of the upper gabbro unit, which intruded the gabbros as diffuse segregations or discontinuous veins. The hosted gabbros, in addition to Trondhjemites, contain restite patches enriched from ferromagnesian minerals. Occurrence of the restite patches in vicinity of the plagiogranites, along with other evidences suggests that the plagiogranite melts were probably generated by the partial melting of a gabbroic source material at the roof section of an evolving gabbroic magma chamber. The second type of plagiogranite occurs as small intrusive bodies with NS trend along some shear zones, parallel to the Kahnuj fault. It is characterized by mylonitic texture that includes high proportion of restite sheared melagabbro enclaves. Field relations suggest that the plagiogranite was probably generated by partial melting of the hosted sheared gabbros whilst the oceanic crust was undergoing ductile shearing, mylonitization, and amphibolite facies metamorphism. The third type of plagiogranite, which intruded the sheeted dike complex as net-veins, is grading into diorite. It forms the major parts of the gabbro-dike transition zone. In terms of origin, this plagiogranite is probably related to fractional crystallization or even partial melting of a gabbroic source material, similar to the origin of the first or second types.