Geochemistry and geochronology of the Bondonogranite-gneiss (Bavanat, Fars) and comparison with central Iran granites

K. Noori*, M. Sabzehei

Department of Geology, Shiraz Branch, Islamic Azad University, Shiraz, Iran

(Received: 1/3/2012, in revised form: 1/12/2012)

Abstract: Bondono granite-gneiss body is located in the core of Toutak anticline, located 200 km NE of Shiraz. This granitoid mass, which is a part of Toutak metamorphic complex, is exposed on the Sourian sheet. Petrologica studies dertemined that the mentioned rocks are placed in orthogneiss field. Based on current studies, the geochemical, tectonic setting and geochronology characteristics of the Bondono granitoid mass are similar to some of the granitoid masses of central Iran’s zone, such as Ariz, Boneh-shooroo, Zarigan and Dozakh-Darreh. All of these masses have calc-alkaline and per-aluminous behavior and have formed in active continental margins. According to the current geochronology studies, based on zircon U-Pb method, the Bondono granite-gneiss has an age of about 538.5 ma, which is close to the age of granitoid masses that are referred before. The determined age indicates that Bondono granite-gneiss have formed during the Early Cambrian period which is comparable to the movements of Katangan orogeny.

Key words: Bavanat; Bondono; granite-gneiss; geochemistry; geochronology.