ORIGIN OF TIN BEARING GRANITOID IN SHAH KUH AREA, EAST OF IRAN

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The tin bearing Shah Kuh granitoid as a narrow and elongated body with trend of NW-SE is situated in the east of Iran. This pluton has intruded into the Jurassic sedimentary rocks and covered by Cretaceous basal progradational conglomerate.In this area we can recognize three main unites including monzogranite to granodiorite, alkali granite to syenoganite (including graeizenic granite), and microgranite. Some aplitic, dacitic, and andesitic dykes, with trend of NE-SW, cut three units mentioned above in some areas. All of granitic bodies, dykes, Jurassic sediments, and some cretaceous rocks are cut by many tin-bearing quartz-tourmaline veins. The size of the veins differs from a few millimeters to 100 meters and their thickness also varies from microscopic to about 5 meters. The detail consideration of thin-polished section of these veins shows tin mineralization as cassiterite with chalcopyrite, pyrite, malachite, and iron oxides. It seems that a genetic relation between these veins and tourmaline-muscovite-topaz bearing greisen granite which exposure in some syenogranites.Major and minor elements (including REE) show that the monzogranites-granodiorites are products from about 30 % partial melting of a tonalitic lower crust at 800 to 850 degree centigrade and the alkali granites-syenogranites reflect a pelitic source.