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Thermochronology of Cu-bearing-Granitoids in the South of Khezr-Abad Area, Using Apatite Fission Track Analysis

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Abstract: The Khezr-Abad area is located in southwest of Yazd in central Iran at the intersection with the Central Iranian Volcano-Plutonic Belt (Urumieh-Dokhtar Belt). The Darreh-Zerreshk and Ali-Abad porphyry copper deposits are the most important deposits in this district. These deposits are associated with Oligocene-Miocene (18-28 Ma) granitoid intrusions which consisted mainly of quartzmonzonite, quartzdiorite, granodiorite and granite. The aim of this study is to determine the age, thermal history and timing of uplift in the Cu porphyry bearing-granitoid rocks, using Apatite Fission Track (AFT) thermochronology. The result of this investigation shows that mineralized intrusions were formed in a short period approximately 1Ma. Timing of uplift and cooling in all samples are all the same (about 21.5-22.6 Ma; Middle to Upper Miocene).

Keywords: *Thermochronology, Granitoid, Khezr-Abad, Apatite Fission Track*