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Mineral-chemistry and thermo-barometery of Incheh intrusive body, East of Herris, East-Azarbaidjan.

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Abstract: Incheh granitoid intrusion is located east of Herris, East-Azerbaijan Province. It intruded into the older rock units including Eocene volcanic – volcaniclastics. Compositionally, this intrusion ranges from diorite-quartz diorite to monzonite. Chemical composition of its major minerals such as feldspars, amphibole and clinopyroxene analyzed using electron probe micro-analyzer (EPMA) for thermobarometeric study. The analyzed feldspars are mainly andesine to bytownite and sometimes albite. Clinopyroxenes are diopside to enstatite, and the composition of amphibole ranges from edenite, tremolite, tschermakitic hornblende, tschermakite to actinolite. Geobarometery of this intrusive, based on $Al^{(t)}$ in hornblende and Cpx-Pl-Qz barometers yields, 7±1 and 9-10 kb, respectively. Temperatures of 1000 ± 40ºC and 800-1000ºC are estimated using the continuous reaction between plagioclase – amphibole, and two feldspar thermometers. Thermobarometery based on Al and Ti oxides in amphibole shows temperature of 900ºC at pressures about 6-7 kb for amphibole crystallization in Incheh granitoid.

Keywords: *Incheh; Herris; thermobarometery; electron probe micro-analyzer; granitoid*

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