

Studies of petrography and petrogenesis of Incheh intrusive body, east of Heris, East-Azarbaidjan.

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Abstract: Incheh granitoid intrusive body is located in east of Heris, East-Azarbaidjan. It intruded the older rock units including the Sonajil sub-volcanic stock (upper Eocene-lower Oligocene) of micro-diorite porphyry composition. The Incheh intrusive ranges in composition from diorite through syeno-diorite to quartz-diorite. The major constituent minerals include plagioclase, hornblende, and pyroxene accompanied by minor amounts of biotite, alkali-feldspars, quartz, olivine, epidote, and tourmaline. These rocks feature dominantly porphyritic texture, however, granular, trachytoid, and ophitic textures are also sporadically present. The Incheh intrusive has been evolved by the influence of magmatic differentiation, fractional crystallization, assimilation, and crustal contamination. Chemical analyses show that the rocks of Incheh intrusive are chiefly metaluminous, and belong to high-K calc-alkaline to shoshonitic magma series. From the viewpoint of tectonic environment, the Incheh body was emplaced in a post-collision volcanic arc and an active continental margin setting.

Keywords: *Incheh, Sonajil; Okuzdaghi; Differentiation index; Calc-alkaline series; Post-collision arcs.*