

## The use of mineralogical and geochemical evidences of Boroujerd-Astaneh granitoids (Sanandaj-Sirjan Zone) In estimation of depth and magmatic changes in source of these rocks

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**Abstract:** The studied area located in south and south western Arak town and are the part of Sanandaj-Sirjan Zone. The plutonic rocks in Astaneh and Boroujerd areas are quartz diorite, granodiorite and monzogranite. In addition to plutonic rocks, subvolcanic rocks of rhyodacite composition are present in Astaneh area. In general, in these areas mineral assemblage is the same in different units. The common minerals are amphibole, biotite, plagioclase and alkali feldspar, but mineral concentration is different in studied areas. Geological, petrographic and geochemical characteristics in these areas show that magma is calc-alkaline, high- medium K and metaluminous to peraluminous composition. Relationships of place, time, similar geochemistry and isotopic characteristics indicate that granites in two areas have cogenetic and same source nature. The most possible source for granitoid rocks in two areas are partial melting of lower crust amphibolites and sediments that occur in extended Boroujerd and small pluton in Astaneh area.

**Keywords:** *Astaneh, Boroujerd, Petrological, metaluminous, calc- alkaline, isotropy.*

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