Geothermobarometry of acidic rocks of Dehsard area (southwest of Kerman Province): Constraint on using mineral chemistry of amphibole to determine characteristics of parental magma

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Abstract: The Upper Triassic felsic bodies of Dehsard is located in southwest of Kerman and the southernmost part of the Sanandaj-Sirjan zone. This body consists of plagiogranite acidic rocks that are in contacts with metamorphic rocks and mafic intrusive body. The general texture of the samples is hypidiomorphic granular. Mineral chemistry studies on the amphibole and plagioclase crystals of the studied felsic rocks show that they are S-Amph type and magnesio-hornblende to termolite in composition that formed in a relatively oxidized environment. The studied plagioclases are sodic and have a range of albite (Ab98.19An1.56Or0.25) to andesine (Ab63.93An15.84Or0.23). According to geothermobarometry studies on amphiboles and also amphibole-plagioclase pairs, the average temperatures are 520°C. The pressure ranges from 0.5 to 1 Kbar that are equivalent to the shallow depths conditions and near the earth surface.

Keyword: Dehsard; Sanandaj- Sirjan zone; acidic rocks; mineral chemistry; amphibole.

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