

Study of Petrology and Geochemistry of west Aghda Dikes (Yazd); Using Minerals Chemistry

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Abstract: Diabase dikes in the West Aghda (Yazd Province) are located within the Bahramtaj mine in the Central Iran zone. These dikes are dark gray and crops out in the limestone-dolomite rocks. They are located along the east-west faults of the West Aghda. Plagioclase, biotite, amphibole, and pyroxene are the main minerals in these dikes. Plagioclases are andesine, biotite are often iron type (FeO: 24.27-31.57), amphiboles are magnesio-hornblende, and pyroxenes are Augite (En 0.50-0.58, Fs 0.14-0.22, Wo 0.25-0.31). The temperature and pressure of crystallization of these dikes have been investigated with different methods of biotite, amphibole and clinopyroxene thermobarometry. The maximum crystallization temperature is about 1150 °C and pressure less than 5 kbar. The nature of the magma for these dikes is alkaline, and oxygen fugacity is high during the crystallization. The tectonic setting of the dikes in the West Aghda is in WPT.

Keywords: *iabase dikes; minerals chemistry; thermobarometry; Central Iran zone.*

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