Mineral chemistry of clino-pyroxenes in gabbroic rocks from Darreh-Bid salt dome, Chaharmahal and Bakhtiari

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Abstract: The studied gabbroic rocks have exposures around Darreh-Bid salt dome. The rocks are located about 130 km south of Shahrekord (Chaharmahal and Bakhtiari Province). The studied area is a part of Zagros structural zone. Mineral chemistry studies were done on clinopyroxenes in the gabbroic rocks of the Darreh-Bid salt dome. The clinopyroxenes are diopside and augite and are plotted in low pressure field. The clinopyroxenes have been crystallized from magma with almost 10% H₂O. Pressure estimates from the clinopyroxenes in the range of <5kbar. The magma has been rich in Ti and has MORB nature. Fe³⁺ values of the clinopyroxenes reveal high oxygen fugacity. The clinopyroxene composition yields the crystallization temperatures that range from 650-800 °C.

Key words: Clinopyroxene; gabbro; salt dome; Darreh-Bid.