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Petrography and petrology of A-type rhyolites of Ghal'eh-chay (Ajabshir, East Azerbaidjan)

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Abstract: The rhyolitic flows and sills in the extremity of Ghal'eh-chay river (East of Ajabshir, East Azerbaidjan) are exposed in the Lalun sandstone deposits. Compositionally, these rocks are rhyolite and are composed of euhedral quartz phenocrystals and subhedral perthitic orthoclases in a glassy to fine grained matrix containing quartz, k-feldspar and minor sodic plagioclases. There are not any ferromagnesian mineral except traces of decomposed and altered biotites. These rocks are highly differentiated and hololeucocratic in color and belong to the A-type series and the parental magma has calc-alkaline to shoshonitic characteristics. The REE distribution pattern in these rocks has a gentle negative slope and gives remarkable negative Eu anomaly. Negative Ba, Eu and P anomalies and non-depleted HREE pattern as well as relatively flat HREE distribution pattern show the emplacement of these bodies in a tensional within-plate regim related to initial movements of Caledonian epirogenic phase in continental crust.

Keywords*: Ghal'eh-chay; rhyolite; Lalun; tensional regim; within plate; Caledonian.*

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