Genesis of Adakitic Magmatism in Masjed Daghi Region in Julfa, Eastern Azarbaijan

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Abstract: Eocene- Oligocene volcanic and subvolcanic bodies of Masjed-Daghi Located in 35 km East of Jolfa close of Aras River. On the base of structural geology the study area is a part of the West Alborz-Azarbayjan zone. Volcanic rocks are rhyolite, dacite to trachyandesite and subvolcanic rocks are porphyritic monzonite to diorite. The Formation of these rocks related to subduction zone in an active margin continent that are described by enriched LREE and LILE elements rather than HREE and HFSE, negative anomaly Ti, Ta and Nb elements and high ratio Ba/Nb and Ba/Ta in diverting tectonic setting diagrams. In this area, chemical characteristics such as SiO2>57%, MgO<3%, low ratio Y and Yb (Y<13 and YB<1.4), Sr/Y>40 and La/Yb>20 are representing formation from full of SiO2 adakitic magma. These evidences with geochemical diagrams probably indicate that studied rocks product from melting ocean crust along component eclogite and garnet amphibolite.

Keywords: Adakitic Magmatism; Subduction; Subducting oceanic crust; Masjed Daghi; Azarbaijan.

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