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The study area is situated within the Lut Block 130 Km east of Nehbandan. The oldest exposed rocks are cretaceous limestone and conglomerate. Dacite-rhyodacite lava and pyroclastic rocks erupted over oldest rocks. Volcanic activates in Tertiary time consist of andesite, trachyandesite, basalt-andesite, dacitic tuff and rhyolite in composition. Plutonic rocks mainly consist of granite, diorite, granodiorite and monzonite. Volcanic rocks are K-rich calc-alkaline. The pattern of spider diagram in comparison with mantle, they are enriched in Cs, Ba, Rb, and Zr and depleted in Nb, K and Ti. In this area alteration zones are silicified, propylitic, sericitic and argillic. Mineralization associated with volcanic rocks show signs of Ag, Au, Zn, Pb and Cu geochemical exploration anomalies.

Keywords: Nehbandan, Geochemical exploration, Alteration, Mineralization, Mahor, Iran