

## **Geochemical characterization of the Kuh-e Janja intrusion: implication for petrogenesis and tectonic setting**

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Recent geological exploration in the Zahedan Nehbandan magmatic belt has led to the recognition of new deposits of porphyry copper deposits. So, recognition of intrusive rocks characterization is necessary for future exploration. This study presents geochemical compositions for Miocene Kuh-e Janja intrusive rocks situated in southeastern Iran, north of the Sistan Suture Zone (SSZ), and also, they are part of the Zahedan-Nehbandan magmatic belt. These intrusive rocks according to K/Ar age determinations, were emplaced during (16.5±2.0 Ma) and mainly consist of diorite to granodiorite stocks and dykes with NE-SW and E-W trending. emplacement of Janja intrusion into Late Cretaceous–Paleocene sedimentary rocks (Sefidabeh flysch formation) developed intrusion-related Cu-Au-Mo and polymetallic (Au-Ag-Cu-Pb-Zn) deposits. Interpretation of major and trace elements in tectonic discrimination diagrams and normalized multi-element diagrams reveals that intrusive rocks are metaluminous, calc-alkaline, and characterized by enrichment in light rare earth elements (LREE) relative to heavy rare earth elements (HREEs) with negative Nb–Ta anomalies which represent the geochemical signature of subduction-related magmas. Based on the age and geochemical composition of the Kuh-e Janja intrusive rocks, it can be concluded that the Kuh-e Janja igneous activity may have formed as a result of post-collisional processes.