

## Nature and evolution of magmas and hydrothermal fluids associated with Miduk PCD and Latala vein type gold deposits, Southern Urumieh-Dokhtar Belt, South Iran

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The Cenozoic Urumieh-Dokhtar Magmatic Belt (UDMB) of Iran is a major host to porphyry Cu-Mo-Au deposits (PCDs), represented by the world-class Sarcheshmeh deposit and Miduk deposit in the south and the Sungun deposit in the north. Vein type, base and/or precious metal deposits are also common and some are spatially associated with PCDs. Latala and Chahmessi are vein type, base and precious metal deposits in the north and southwest Miduk deposit. The area is covered mainly by Paleocene-Eocene volcanic and pyroclastic rocks of basaltic, basaltic-andesitic and trachy-andesitic compositions, and minor marls and limestones. The volcanic and pyroclastic rocks are intruded by Miocene shallow intrusions of quartz diorite, quartz monzonite and granodiorite compositions. The rocks are host to a set of ore-bearing quartz veins. The veins consist of quartz, calcite, pyrite, chalcopyrite, galena, sphalerite, bornite and minor sulfosalts, particularly enargite. The project aims at studying the PVTX properties of the mineralizing fluids by microthermometry, Raman spectroscopy and LA-ICPMS.

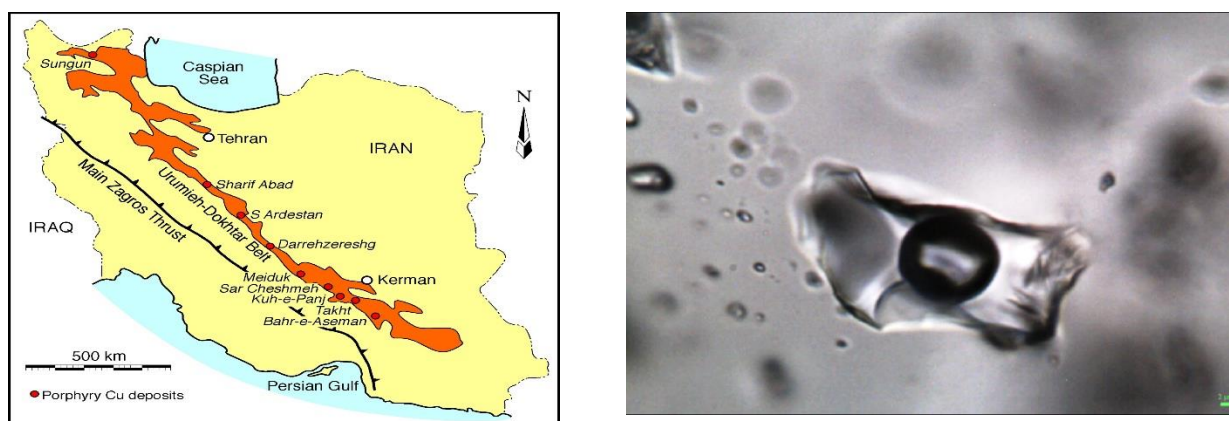


Fig. 1. Left. Location of the Miduk deposit. Right, H<sub>2</sub>O-CO<sub>2</sub>-NaCl inclusions in quartz veins.

### Publications

- Padyar F., Rahgoshay M., Alirezeai S., Pourmoafi M., Tarantola A. and Vanderhaeghe O. (2018). The using of petrographic and geochemical studies in determination of magmatic evolution and the role of magmatic fluids in volcanic rocks including porphyry and vein type mineralization, northern Miduk (Latala). *Scientific Quarterly Journal Geosciences (Iran)*, 27, 1-19.
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- Padyar F., Rahgoshay M., Alirezeai S., Tarantola A., Vanderhaeghe O. and Caumon M.C. (2017) Evolution of the mineralizing fluids and possible genetic link between Miduk porphyry copper and Latala vein type deposits. *Journal of the Geological Society of India* 90, 558-568.

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