

## **Fe - Mn Metamorphic Ore in Sanandaj- Sirjan Zone, Iran: Implication of Pull- Apart Basin during Upper Jurassic Age**

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The Sanandaj–Sirjan Zone (SSZ) is a complex dynamic structural zone between Zagros fold-thrust belt bordered by the Zagros thrust in the southwest and the Urumieh-Dokhtar magmatic arc in the northeast. It has a length of 1500 km with a width of 150–250 km from the southeast to the northwest of Iran and joins the Taurus belt in Turkey. As a whole the rock units exposed in the SSZ Shahrekord, southwest Iran, are predominantly composed of amphibolite, gneiss, and amphibole schist of Neoproterozoic age. This belt is characterized by the consistent Zagros trend of the belt, the nearly complete lack of Tertiary volcanic rocks, the poor development of Tertiary formations in general, the mostly Mesozoic age of the rocks except the Paleozoic rocks exposed in the southeast, and metamorphic deformed rocks associated with abundant deformed and undeformed plutons in addition to widespread Mesozoic volcanic rocks. The Jurassic metamorphic and igneous rocks of SSZ in Shahrekord contain Fe-Mn metamorphic ore with Mn rich slate shale (Mean 30.2 %) and quartz- calcite veins with Au mineralization (Mean 1.1 PPM). These rocks display banding structure and hydrothermal metamorphic input is indicated by the low LREE contents and high HREE contents of hydrothermal end-member composition, relative to MORB, a large range in V/As ratio, and low U and Th contents. These Mn-Fe rich complexes were originally interpreted as pull-apart basin during middle to upper Jurassic.

### Reference

Berberian, M. and King, G. C. P. (1981). Towards a paleogeography and tectonic evolution of Iran. *Can. J. Earth Sci.*, 18, 210–265.