Study of the geochemical characteristics of metapelites in the Gol-Gohar area within the Gol-Gohar iron deposit district, SW Sirjan

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Abstract: The Gol-Gohar metamorphic complex is located about 55 km southwest of the Sirjan and is part of east Sanandaj-Sirjan zone. The rocks units are metamorphosed in greenschist and upper amphibolite facies with age of Middle Jurassic which consists of metapelitic (mica-schists and gneisses), metabasitic and metacarbonatic rocks. Geochemical studies indicate that the precursor sediments of the metapelites had been deposited as immature shales and grywackes from source materials of dominantly felsic to intermediate composition. Source area exhibited weak to moderate chemical weathering. The relatively low contents of Cr (average 99.67 ppm) and Ni (average 56 ppm) in the studied schists are comparable with the concentration of these elements in post-Archean schists. Study of gneisses in the Gol-Gohar area indicates that these rocks are sedimentary in composition (para gneiss) and were derived from rocks with weakly peraluminous.

Keywords: Geochemistry; Gol-Gohar; metapelites; Sanandaj-Sirjan zone.

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