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Geology, alteration, mineralization and geochemistry of Eastern Arghash (southwest of Neyshabour), with respect to Cu-porphyry system

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Abstract: The study area is located about 45 km of southwest Neyshabour and east of Arghash village. Both intrusive and volcanic rocks are exposed in the study area and they are intensively altered due to hydrothermal fluid. The alteration zoning in the study area consists of potassic, sericitic, carbonatization, silicification and propylitic. More than 10 intrusive rocks with composition in the range of monzonite to diorite are identifined. Chemically, they are met-aluminous and calc-alkaline. Based on mineralogy and high values of magnetic susceptibility, granitoid rocks of the area are belonging to ilmenite-series and I-type. Both disseminated and vein type mineralization is rcognized. Pyrite is the dominante sulfide. Stream sediment and rock chip geochemical exploration carried out in the area. Highest Cu anomaly (Cu = 108 ppm) is associated with quartz hornblend diorite porphyry. Based on alteration, type of intrusive rocks and geochemical anomalies, Arghash area has potential for Cu- porphyry mineralized system.

Keywords: *Iran; Arghash; Cu porphyry; Mineralization; Geochemistry.*

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