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Geology, mineralization, mineralogy of Skarn zone and orebody, and Geochemistary of SenjedakII and III prospect areas, Eastern Sanganiran mine, Khaf

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Abstract: Senjedak II & III prospect areas are part of eastern anomalies of the Sangan mine, which is located in northwest of Khaf. The geology of the area consists of Pre-Cambrian schistes, Jurassic and Lower Cretaceous sedimentary rocks, and tuff and biotite monzonite porphyry intrusion with Eocene age. Skarn types in the Senjedak III include pyroxene–garnet skarn, garnet–pyroxene skarn, garnet skarn, pyroxene skarn, and actinolite skarn. Based on EPMA analysis, the garnets belong to grandite (andradite-grassolar) series, pyroxenes are mainly diopside and amphiboles are Fe-rich actinolite. Two different types of mineralization are presented: 1) pyrite and magnetite in skarn zones at the Senjedak III, and 2) magnetite, specularite, barite, hematite, and goethite in vein–type at the Senjedak II. The strike of the veins are NE-SW. The value of iron (37.5%) and manganese (32057 ppm) in vein-type mineralization are more than skarn, whereas the highest contents of arsenic and copper (158 and 332 ppm, respectively) occurred in skarn zones.The Senjedak III iron skarn is calcic-type. The vein type mineralization of Senjedak II can be related to later activity of hydrothermal fluids, which occurs along fault zones.

Keywords: *Skarn,vein – type mineralization, mineralogy, geochemistry, SenjedakIIand III, Sangan mine.*

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