VEKOL HILLS COPPER DEPOSIT, PINAL COUNTY, ARIZONA

by

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Abstract

The Vekol Hills copper deposit is located on the Papago Indian Reservation, Pinal County, Arizona, about 25 airline miles southwest of Casa Grande on the easterly sloping pediment at the northeast edge of the Vekol Mountains.

The stratigraphic succession of formations in the vicinity of the deposit consists of the Precambrian Pinal Schist and related granitic intrusive rocks unconformably overlain by the upper Precambrian Apache Group of sedimentary rocks and intrusive diabase. This sequence in turn is unconformably overlain by the Cambrian Bolsa Quartzite and Abrigo calcareous siltstones and shales. The Devonian Martin and Mississippian Escabrosa Limestone are present in sequential order followed by Mesozoic quartzites and conglomerates of the Phonodoree and Vekol formations. Stocks, dikes, and sills of Laramide(?) quartz, feldspar, and hornblende porphyries intrude all the aforementioned rocks. The sedimentary rocks strike northeasterly and dip 30°-40° NW.

Mineralization at the Vekol Hills deposit occurs in diabase sills, quartzite, limestone, shale, and sandstone of Precambrian to Devonian age. Minor mineralization is found in the Laramide(?) porphyry. Primary mineralization occurs as pyrite, chalcopyrite, and molybdenite as fracture fillings and disseminations throughout the host rock. Oxidation and supergene enrichment is relatively unimportant in the total volume of mineralized material in the deposit and its distribution is dependent in part on lithology and major fracture controls.

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