

**Sediment-hosted gold mineralization of the Kyaukpahto mine,
Kawlin Township, Myanmar**

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Gold mineralization at Kyaukpahto occurs as stockworks/disseminations and locally as breccia zones in silicified sandstones of Lower to Middle Eocene Male Formation of Myanmar. The mineralization is spatially related with NNE-trending fracture zones, probably tensional open fractures caused by the right-lateral Sagaing fault system. Intensive silicification, sericitization, argillic alteration, sulfidation, and decalcification are recognized in the Kyaukpahto mine area. Precipitation of ore and gangue minerals occurs mainly as fracture-filling with drusy, vuggy, and crustiform textures. The development of breccia ore is possibly related to hydraulic fracturing by hydrothermal process that also caused the high concentration of gold in the upper part of funnel-shaped silicified zone. Ore minerals consist mainly of economic gold with subeconomic sulfides of pyrite, arsenopyrite, and chalcopyrite.

Mineralogically, gold occurs as electrum in two forms: as free grains and as blebs locked within pyrite, arsenopyrite, chalcopyrite, and tetrahedrite. Here some elements, in particular, Ag, Cu, As, and Sb appear to be plausible pathfinders and good geochemical indicators of Kyaukpahto Au mineralization. Electron microprobe analysis reveals that the fineness ($1000\text{Au}/\text{Au}+\text{Ag}$ wt%) of native gold in the deposit is in the range of 844 to 866.

Judging from the present geological, mineralogical, and geochemical investigations the Kyaukpahto Au mineralization is believed to be formed by hydrothermal process at shallow level epithermal environment.

Key words: Kyaukpahto Mine, Sagaing Fault zone, extensional fault, stockworks, disseminated, breccia zones, epithermal environment, gold, silver

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