Characterisation of amang minerals from the Klian Intan area, Upper Perak

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Samples of amang were collected from Rahman Hydraulic Tin Mine, Klian Intan, Upper Perak, and its adjacent areas, for both physical and chemical characterisation. Results show that the amang from the Klian Intan area contain mainly arsenopyrite, pyrite, cassiterite, wolframite, rutile, zircon, and iron oxides. The main iron oxide present is hematite, which shows botryoidal texture and zoning. Goethite and gangue minerals replaced some of the hematite grains. Some of the arsenopyrite grains were replaced by covellite and scorodite, while the pyrite is mainly associated with quartz and wolframite. There are still valuable amounts of cassiterite in the amang from the Klian Intan area. Some of the cassiterite grains show exsolutions of tapiolite. Some are associated with sphalerite, pyrite, and wolframite. EPMA study has identified several new minerals, which have not been recorded yet in the Klian Intan amang. These include wittichenite (Cu_3BiS_3), bournonite ($PbCuSbS_3$), boulangerite ($Pb_5Sb_4S_{11}$), and possibly tsugaruite ($Pb_4As_2S_7$) and trippkeite ($CuAs_2O_4$).

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 30, No. 3, May-June 2004