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MINERALOGY AND GEOCHEMISTRY OF PEGMATITIC
CASSITERITES FROM GUNUNG JERAI, KEDAH

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Abstract In the Gunung Jerai area, Kedah, cassiterites together with Columbite-tantalites are found associated with pegmatites of probably Upper Carboniferous age.

The mineralogy of the heavy mineral assemblages found in the area is rather different from those found in other Malaysian tin-fields, with the exception of Bakri Area. In the Gunung Jerai concentrates, gahnite, green monazite, columbite-tantalite and other common minerals in addition to cassiterites, are rather common. The mineralogy and geochemistry of the cassiterites show marked differences: they have a strong magnetic property, rather low specific gravity and showing peculiar crystal shapes.

Polished section study of the magnetic cassiterite grains under reflected light microscopy and electron microprobe showed that these magnetic cassiterites contain high amount of niobium and tantalum which are found in two forms a, as separate exsolved columbite-tantalite phase within the grain, and b, as solid-solution within the cassiterite crystal lattice.