

EPMA characterisation and geochemistry of cassiterites from the Kuala Lumpur area

G.H. TEH & CHENG KWONG KIONG

Department of Geology
University of Malaya
50603 Kuala Lumpur

The Kuala Lumpur area used to be a major tin producing area in the last century. The purpose of this study is to characterise the cassiterite in the Kuala Lumpur area using the EPMA and petrological microscope. This study involves primary and alluvial cassiterite from past and present mines in the Kuala Lumpur area, namely, the Ulu Klang, Kampung Pandan, Setapak, Pudu Ulu and Puchong areas.

EPMA study show that the cassiterites in the Kuala Lumpur area have, on the average, Sn contents of 68.0526 to 75.3848 wt%. The average Sn content for cassiterite from the Ulu Klang area is 73.5696–74.9022 wt%, the Kampung Pandan area is 71.6597–74.1387 wt%, the Setapak area is 68.0526–69.2089 wt%, the Pudu Ulu area is 73.5723–74.3704 wt% and the Puchong area is 73.0738–75.3848 wt%.

Cassiterites from Kampong Pandan show strong reddish pleochroism. EPMA analysis show that the reddish areas are higher in Sn, Fe, Ti and Nb.

The cassiterites in the Kuala Lumpur area are also characterised by inclusions of native bismuth and bismuth-containing minerals, namely, rooseveltite (BiAsO_4) and bismuthinite (Bi_2S_3) in the Ulu Klang area. Wodginite [$(\text{Ta}, \text{Nb}, \text{Sn}, \text{Mn}, \text{Fe})_{16}\text{O}_{32}$] and native bismuth inclusions were found in cassiterites from Kampong Pandan while cassiterites from Puchong showed inclusions of andalusite (Al_2SiO_5).