

Chemical composition of surface water and tailings from lead-mining area in Kanchanaburi province, Thailand

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Abstract

Surface water and tailings from thirteen localities at Song Tho mine and in Thong Pha Phum district, both in Kanchanaburi Province, Thailand, were analysed by vacuum PIXE at Nishina Memorial Cyclotron Center. After determining concentrations, a human health risk by taking the water was estimated for all of the sampling locations. Average values of risk for Ba, As, Zn, Cu, Mn, Cr, and V are 13%, 2%, 1%, 1%, 11%, 22% and 13% respectively. An average for the Pb was calculated to be 14%.

The concentration of Mn, the ratio Zn/Fe and that of Cu/Fe showed clear correlations with pH measured for the water on site. But further research is necessary to understand what caused such correlations and to know what is the origin of detected elements in the water at the Song Tho mine and in Thong Pha Phum district.