Mineralogy, bulk composition and trace heavy metal content of some tailing slime in the Kinta Valley

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Slime samples used for this study were collected from several abandoned mining ponds. The mineralogy of the slime, determined semi quantitatively using the X-ray diffraction method, consists mainly of kaolinite, illite, quartz and traces of montmorillonite. The bulk composition of the slime was determined using the Bernas Bomb method where the trace heavy metal contents were also determined. The bulk content of the major elements correlates well with the mineralogy. The pore fluid of the slime was extracted using the saturation extraction method at different pH values, and then analysed using the AAS. An increment is observed in the concentrations of the trace heavy metals as the pH values of the pore fluid extraction decreases.