Natural sorption capability of heavy metals: Granitic residual soil from Broga and marine clay from Sg. Besar Selangor

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The study aims to investigate sorption capability of heavy metals (HMs), i.e. lead (Pb), copper (Cu), nickel (Ni) and zinc (Zn) by two soil types; granite residual soils from Broga (BRG) and marine clay soils from Sg. Besar (SBMC). All samples were subjected to physico-chemical properties and batch equilibrium tests (BET). The physico-chemical test results show that SBMC soils have high pH, high clay content, high CEC and SSA values and montmorillonite. In contrast, BRG soils have low pH, low clay content, low CEC and SSA values and contain mainly kaolinite and illite. Sorption tests (BET) show that SBMC soils have higher sorption for HMs compared to BRG soils. The sorption capability of these soils is greatly controlled by their physico-chemical properties.

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