

# **Geochemical characterization of sediments around Nukakatan Valley, Tambunan, Sabah**

## **Abstract**

The objective of this paper is to assess the concentration and toxicity level of selected heavy metals in sediments from Nukakatan Valley, Tambunan, Sabah. In this study 13 soil samples were collected from different sampling station of river sediments and soil profiles. The determination of concentration of heavy metals in soil samples were carried out using Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) analysis. The result of analysis shows that highest concentration was copper with the average of 21.77 ppm, and followed by nickel with concentration level was 15.94 ppm. The concentration of chromium was 15.15 ppm, arsenic was 11.91 ppm and lead was 10.39 ppm. The soils samples are identified as non-polluted due to the low concentration of chromium, copper, nickel and lead but heavily polluted with arsenic when measured using Sediment Quality Guidelines of US EPA. It is concluded that the combined source of heavy metals in the study area would be the parent materials of the soils and other anthropogenic effluent.