Distribution, classification, petrological and related geochemical (SRA) characteristics of a tropical lowland peat dome in the Kota Samarahan-Asajaya area, West Sarawak, Malaysia

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Abstract
Petrographic studies indicate that lateral variations in the decomposition levels of peat are associated with the predominantly occurring peat materials. Source Rock Analyzer (SRA) results indicate lateral variation in peat organic matter types from type II to III and back again to type II, occurring laterally within the top 0 m to 0.5 m layer at the basin margin to the midsection and further towards the near center areas of the peat dome. This variation is most likely caused by a combination of factors: (a) horizontal zonation and lateral variation of the dominant species of plant assemblages (b) Fibric (marginal) peats and hemic to sapric peats associated with type II organic matter (kerogen). Sample organic matter (coal equivalent kerogen) typing/indicative that the relative abundance of phytoplankton and polynuclears generally supports the organic matter classification obtained by the SRA method. Lateral variations in the peat organic matter types may support the lateral vegetation variation concept. The classification of peat organic matter types (interpreted from visual analyses of SRA) is not restricted to the main peat dome and can also be seen in the periphery to the mid-section and further towards the outer edge of the peat dome.