

## **A study on physical and morphological characteristics of tropical peat in Sabah**

### **ABSTRACT**

Peat or highly organic soil is a major problem in infrastructure development of the tropical and coastal regions. Therefore, it is essential to understand the properties of the peat. The purpose of this study was to investigate the properties of different peats that present in Sabah. Peat samples were collected from two sites located in the district of Beaufort, which in Klias and Lumadan. The peat layer studied for both locations were at a depth between 0.3-0.8 m below the ground surface. Field and laboratory investigations were conducted to determine the degree of decomposition, together with physical properties of the peat. Microstructural analyses were also carried out. Field identification of peat based on von Post system resulted Klias and Lumadan peat falls in the category of hemic (pseudo-fibrous) peat, which is an intermediate degree of decomposition with a von post scale of H6 to H7. The results showed different peat properties from Klias to Lumadan sites in terms of moisture content, organic content, fibre content, specific gravity, liquid limit and acidity, due to their location has different vegetation composition which yield different characteristics. Microstructural examination helped to describe the morphological and decomposition characteristics of the peats, and the results obtained support the results of the field and laboratory tests in this study.