

## **Development of geological structure of Selangor basin using borehole lithology information**

### **ABSTRACT**

The water shortage in Selangor Northwest Project rice granary areas has been growing concern. The increase in plant capacity and the El Nino phenomenon that hit Malaysia (1998 & 2016) has cause the main source of irrigation; surface water and rainfall, could no longer meet the needs of paddy. As a consequence, paddy productivity has becoming serious concern and urge for alternative irrigation water supply. At the same time, the use of groundwater as a source of alternative supply of irrigation water has started to get attentions. However, to determine the potential groundwater aquifer, preliminary study should be made in advance. Thus, the focus of this paper is to investigate the geological structure of the Selangor Basin by means analysis of borehole information. A total of 56 tube wells data were used to obtain layers of subsurface in the study area. By using groundwater modelling software (Visual MODFLOW), a model that represents an actual geological conditions has been made. A total of 6 subsurface layers have been identified. The result of study showed that, the geological formations of the study area mainly consist of three types; alluvium, sedimentary and metamorphic rock.

**Keyword:** Selangor Basin; MODFLOW; Irrigation; Groundwater