Kaedah keberintangan geoelektrik dalam pemetaan intrusi air masin di Kerpan, Kedah

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Lately, groundwater contamination has become a public concern. It comes from many activities such as industrial, domestic and agriculture. Seawater intrusion is not a new issue, and has only now started to draw attention from lots of parties since it is also a contributor to groundwater contamination. Therefore a study about seawater intrusion is carried out and the selected area is Kerpan, Kedah. The objectives were to map seawater intrusion and to find the best techniques for contamination investigation. This information is useful particularly in agriculture because any contamination caused by chlorine (seawater) intrusion can affect crops production. For the Kerpan Project, two electric resistivity survey instruments, the Terrameter SAS 4000 and SAS 300C were used. SAS 4000 provides two-dimensional resistivity profiles. These profiles have the capability to assess a comprehensive geological interpretation by examine subsurface electric characteristics such as resistivity, permitivity and chargeability. SAS 300C on the other hand provided sounding data (vertical structure – 1-D profiles only) which can also be used to determine subsurface layering. Resistivity values for seawater is less than 10 ohm.m whilst freshwater around 10–100 ohm.m. Result from the sounding technique showed that seawater exists in the study area.

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