

Application of Geoelectrical Resistivity Imaging for Site Investigation

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Two dimensional geoelectrical resistivity imaging has the ability to image the subsurface by analysing the resistivity distribution within the earth. It provides general information on subsurface geological strata and the depth to the bedrock below the lines of traverse. The resistivity imaging surveys carried out basically measures and maps the resistivity of subsurface materials. The resistivity anomalies may indicate the presence of geological features, which may introduce geotechnical hazards in an area planned for development. This paper briefly describes some results of geoelectrical resistivity imaging surveys to assist in understanding the underground conditions at three development sites in Malaysia. The surveys were conducted using the ABEM SAS300C terrameter with LUND ES464 electrode selector system. The resistivity imaging surveys in these studies were used to investigate the occurrence of sinkholes and cavities in the limestone bedrock, to help in delineating the bedrock profile at the development sites and to characterise the weathering profile of a quartz mica schist slope cut at km 67 of the east west highway, north of Peninsular Malaysia.
