UNIVERSITI TEKNOLOGI MARA

GROUNDWATER MAPPING MODEL BY USING MODIFIED DRASTIC MODEL AND AHP

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Thesis submitted in fulfillment
of the requirements for the degree of
**Bachelor of Surveying Science and Geomatics
(Hons)**

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Various application has been used to identify the groundwater suitability area. This thesis entitled " Groundwater Mapping Model Using Modified DRASTIC Model and AHP". The aim of this project is to create modelling of the groundwater area for Perlis state. The objectives are to prepare thematic maps of seven parameters, to apply modified DRASTIC model and Analytical Hierarchy Process (AHP) techniques for groundwater selection and lastly to create modelling of groundwater potential area for Perlis state. The seven parameters are land use map, rainfall, geology, drainage density, lineament density, elevation and slope. The maps are processed and produced using ArcGIS software. It then overlayed using weighted overlay analysis. The result is presented in 2D map and 3D model. The 3D model is produced using ArcScene 10.4.1. It is shown that rainfall has the highest influence compared to other factors. The result shows that the highest potential area is in the north of Perlis. The groundwater application is important to gain more water sources so that we can preserve this natural sources for future generation.

TABLE OF CONTENT