

Borehole Hydrogeological Unit in Mountainous Region of Central Taiwan – A Case Study in Mid-Jhuoshuei River

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Towards a more comprehensive understanding of the storage and availability of ground-water in the mountainous region, the integration of distinct hydrogeologic units into a conceptual framework is required. The interpretation of each particular hydrogeologic unit, based on a variety of geological and hydrological datasets, is capable of providing more in-depth insight into formation-specific characteristics. According to the implementation of different subsurface exploration technologies, including drilling and core description, borehole testing, and hydraulic testing, this study presents the results of a project undertaken in 2010 at the mid-Jhuoshuei river basin, with a focus on the delineation of hydrogeological units. Basic attributes such as geologic time, stratum characterization, rock type, core inspection, and the hydrological property are integrated. In total, 32 categories of hydrogeological unit are classified as shown in Figure 1. For each formation in the study area, at least two distinct hydrogeological units can be labeled, while notably more than five layers are found in **ShenKeng** formation (**Sk**), **KueiChulin Kuandaoshan** (**Kck**) and **KueiChulin Tawo** (**Kct**). For all 29 boreholes being drilled in the study area, 2~5 categories of hydrogeological unit are able to be identified. This work contributes to the conceptualization of local ground-water flow system dynamics, and towards the requirements of model calibration at a later stage.



Figure 1. Borehole hydrogeological unit map

Keywords: Hydrogeological unit; mountainous region; hydraulic properties.

References

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