



Geological survey and drilling technology of karst land

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ABSTRACT

The nature of karst soil is complex in the karst area. Before construction, it is necessary to investigate karst geological conditions in an all-round way to provide security for construction. Based on the karst treatment of a city bridge, a comprehensive geological survey method is studied, including engineering geological mapping technology, drilling technology and remote sensing technology. The task of a geological survey and mapping is to compare and select routes and engineering schemes, formulate survey outlines and provide basic geological survey data. Drilling technology designs construction scheme based on geological data and drilling depth of the study area calculates the action load of drilling casing to ensure the safety of drilling tool cross-section, strictly controls drilling quality, and finds out the lithology, geological structure and karst development conditions of the stratum in a certain depth of underground. Finally, the geological survey of the karst area is completed by referring to remote sensing images acquired by remote sensing technology. The results show that karst grooves, stone buds, depressions, karst caves, and underground rivers are distributed in the study area, and the composition of karst strata and lithology of each stratum is analyzed in detail based on drilling technology and geological survey technology.

Keywords: Karst area; Rock and soil; Geological exploration; Drilling technology; Borehole; Remote sensing

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