

高雄柴山地區地質調查與滑動原因之探討

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摘要 柴山位於高雄西濱海岸線，是高雄市唯一具有臨海珊瑚礁的高地，其特殊的地質條件以及地質結構的關係，近十年來某些區域已有明顯位移產生，其中地質依本文成果，柴山應分別為黏土和泥岩組成，部份地區含石灰岩，此結果與先前研究者提出該區域滑動全係降雨經高滲透之崩積石灰岩入滲至下方泥岩層遇水軟化而產生有些許差異。從地形、地層與水文特性研判，除上述情況外，降雨後滲流會積蓄在凹谷堆積範圍內，一方面使浸潤之堅硬黏土強度趨弱，一方面積蓄之水壓產生向坡趾之驅動力，而引發在強降雨後持續的變位。

關鍵詞：柴山、泥岩、變位。

Exploration of Geological Survey and the Mechanism of Landslide in Kaohsiung Chaishan Area

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ABSTRACT Chaishan is located at the west shoreline of Kaohsiung City. It is the only high land which is consisted of sea coral reef. Due to the particular geological structure and conditions, there are lots of significant deformations and landslides taken place in some area of Chaishan terrain over past decade. According to the study of this paper, most of the Chaishan terrain is composed of clay and mudstone, and limestone is included in some areas, This result is differed from previous researcher's studies which proposed that the landslide or deformation is caused by the infiltrated rainfall or precipitation throught the highly permeable colluvial limestone formations which softens the underneath clay or mudstone layer. In addition to the above statements, conclusion is also drawn from the characteristics of topography, stratigraphy and hydrology for Chaishan terrain, the infiltrated rainfall shall accumulates in the hollow or bowl-shaped area, which dips clay or mudstone layer and weakens the soil strength of those layers. At the same time, the accumulation of the infiltrated rainfall creates the downhill pressure and it can drive the hill toe downward. Thus the successive displacement and deformation of the hill slope could be triggered after the heavy rainfall.

Key Words : Chaishan , mudstone , landslides.

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