

Research on Development for Advanced Groundwater Investigating Techniques in Landslide Site

Abstract

The investigation for distribution depth of groundwater flowing zone in a landslide site is mainly depending on groundwater logging by salt. However, it takes long measurement time, and the measuring result is difficult to be interpreted because of the influence of the density current in the borehole in some cases. Moreover, since salt is usually used as tracer to investigate the plane distribution of groundwater, salt gave the influence to the environment around the investigating sites.

Therefore, in this study, we developed groundwater investigation techniques which not using salt. As a technique for catching distribution depth of groundwater flowing zone, we developed a method by measuring the thermal of groundwater. Also, we proposed a method to determine the groundwater flowing zone by measuring the difference between the supply water and pump out water amount volume while drilling. We also developed dissolved oxygen groundwater tracing technique for determine the plane distribution of groundwater. The results of this study show that these investigating techniques are simple and easy method compared with usual methods, and moreover, it is possible to effectively arrange the groundwater drainage facilities by using these methods.

Key words: landslide, groundwater investigation technique, thermal groundwater logging, dissolve oxygen groundwater tracing