

Determining Water Infiltration Zone Using 2-D Resistivity Imaging Technique

Authors : Azim Hilmy Mohamad Yusof, Muhamad Iqbal Mubarak Faharul Azman, Nur Azwin Ismail, Noer El Hidayah Ismail

Abstract : Infiltration is the process by which precipitation or water soaks into subsurface soils and moves into rocks through cracks and pore spaces. This paper explains how the water infiltration will be identified using 2-D resistivity imaging. Padang Minden, in Universiti Sains Malaysia, Penang has been chosen as the survey area during this study. The study area consists of microcline granite with grain size of medium to coarse. 2-D Resistivity Imaging survey is used to detect subsurface layer for many years by making measurements on the ground surface. The result shows that resistivity value of $0.015 \Omega\text{m}$ - $10 \Omega\text{m}$ represent the salt water intrusion zone while the resistivity value of $11 \Omega\text{m}$ - $100 \Omega\text{m}$ is suggested as the boundary zone between the salt water intrusion zone and low saturated zone.

Keywords : 2-D resistivity imaging, microcline granite, salt water intrusion, water infiltration

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020