

ABSTRAK

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Program Studi : Fisika
Judul : Identifikasi Potensi Likuifaksi Desa Sumpersari
Menggunakan Metode Geolistrik Konfigurasi *Wenner-Schlumberger*

Desa Sumpersari merupakan salah satu wilayah di dekat sumber potensi gempa bumi yaitu sesar leumpang yang masih aktif dengan pergeseran sebesar 0.3 -1.4 cm setiap tahunnya. Struktur penyusun lapisan tanah di desa sumpersari juga di dominasi oleh lempung, lanau dan pasir yang menyebabkan wilayah desa sumpersari rentan terhadap likuifaksi bahaya lanjutan yang disebabkan oleh gempa bumi. Metode geolistrik konfigurasi Wenner-Schlumberger digunakan dalam mengidentifikasi potensi likuifaksi berdasarkan resistivitas batuan di bawah permukaan. Data observasi geolistrik konfigurasi Wenner-Schlumberger dimodelkan menggunakan *software pyGIMLI*. Hasil penelitian yang dilakukan pada 5 lintasan didapatkan nilai resistivitas batuan yang berpotensi mengalami likuifaksi pada kedalaman tertentu. Nilai resistivitas yang dihasilkan berada pada rentang $1.34\Omega m - 105\Omega m$ selain itu juga ditemukan muka air tanah yang dangkal yang ditunjukkan dengan adanya lapisan lempung pada kedalaman 3-4m

Kata Kunci: Wenner-Schlumberger, Likuifaksi, Lapisan Batuan, Resistivitas, Bawah Permukaan

ABSTRACT

Name : RESTINA FAUZIAH
Studies Program : Physics
Title : *IDENTIFICATION OF SUMBERSARI VILLAGE LIQUEFACTION POTENTIAL USING THE GEOELECTRICAL METHOD WITH WENNER-SCHLUMBERGER CONFIGURATION*

*Sumbersari Village is one of the areas near the potential source of earthquakes, namely the Lembang Fault which is still active with a shift of 0.3 -1.4 cm every year. The soil structure in Summersari Village is also dominated by clay, silt and sand which makes the Summersari Village area vulnerable to further liquefaction hazards caused by earthquakes. The Wenner-Schlumberger configuration geoelectric method was used to identify the liquefaction potential based on the resistivity of the rock below the surface. Wenner-Schlumberger configuration geoelectric observation data were modeled using pyGIMLI software. The results of research conducted on 5 lines obtained resistivity values of rocks that have the potential to experience liquefaction at a certain depth. The resulting resistivity value is in the range of $1.34\Omega m - 105\Omega m$. In addition, shallow groundwater levels were also found as indicated by the presence of a layer of clay at a depth of 3-4m.. **Keyword: Wenner-Schlumberger, Liquefaction, Rock Layer, Resistivity, Subsurface***