

Analisis Perbedaan Data Resistivitas Terhadap Data Kimia dan Fisika Tanah Terhadap Kondisi Tanah Daerah Arboretum ITERA

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ABSTRAK

Pengukuran data kimia dan fisika tanah berupa data pH tanah, kelembaban tanah, temperatur tanah dan intensitas cahaya tanah dilakukan pada daerah Arboretum ITERA. Pengambilan data kimia tanah dilakukan menggunakan alat *Soil Meter 4in1*. Selanjutnya dilakukan akuisisi data resistivitas pada daerah penelitian menggunakan alat geolistrik Naniura. Desain akuisisi data resistivitas dibuat berdasarkan peta persebaran masing-masing data kimia dan fisika tanah yang telah diolah menggunakan *software* Surfer. Pengambilan data dilakukan secara *Mapping* pada tiga lintasan dengan panjang lintasan 100 m dan spasi antar elektroda 5 m. Data geolistrik yang didapatkan diolah menggunakan *software* Res2Dinv dan diperoleh nilai RMS pada *Line* 1,2 dan 3 sebesar 8.4, 8.5, dan 11.7. Dari hasil pengambilan data kimia dan fisika tanah serta data resistivitas tanah, diketahui bahwa nilai pH, intensitas cahaya, dan temperatur berbanding lurus dengan nilai resistivitas tanah, sedangkan untuk nilai kelembaban tanah berbanding terbalik dengan nilai resistivitas tanah. Pada daerah Arboretum ITERA terdiri dari litologi lempung tufaan, pasir tufaan, tuf berbutir kasar dan batuan tuf dengan butir halus dan kompak. Nilai pH tanah yang sebagian besar netral, kelembaban pada permukaan tanah yang cukup kering dan intensitas cahaya yang memiliki naungan berupa pepohonan serta temperatur yang sedang membuat pepohonan pada Arboretum ITERA tumbuh dengan subur.

Kata kunci: Arboretum, kimia tanah, fisika tanah, resistivitas

***Analysis of Differences in Resistivity Data on Chemical and Physical Data on
Soil Conditions in the ITERA Arboretum Area***

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ABSTRACT

Measurement of chemical and soil physics data in the form of soil pH, soil moisture, soil temperature and soil light intensity were carried out in the ITERA Arboretum area. Soil chemical data was collected using a 4in1 Soil Meter. Furthermore, the acquisition of resistivity data in the study area was carried out using the Naniura geoelectric tool. The resistivity data acquisition design is based on the distribution map of each chemical and soil physics data that has been processed using Surfer software. Mapping data was collected on three tracks with a path length of 100 m and a space between the electrodes of 5 m. The geoelectric data obtained were processed using Res2Dinv software and obtained RMS values on Line 1,2 and 3 of 8.4, 8.5, and 11.7. From the results of chemical and soil physics data collection as well as soil resistivity data, it is known that the pH value, light intensity, and temperature are directly proportional to the soil resistivity value, while the soil moisture value is inversely proportional to the soil resistivity value. In the ITERA Arboretum area consists of tuff clay lithology, tuff sand, coarse-grained tuff and tuff rocks with fine and compact grains. The pH value of the soil is mostly neutral, the humidity on the soil surface is quite dry and the light intensity has shade in the form of trees and the temperature is making the trees in the ITERA Arboretum thrive.

Keywords: Arboretum, soil chemistry, soil physics, resistivity