

## ABSTRAK

### ANALISIS PENERAPAN *FILTER SIMPLE MOVING AVERAGE* PADA DATA RESISTIVITAS UNTUK MENGIDENTIFIKASI PERSEBARAN ANDESIT DI DAERAH JEPARA

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Penggunaan material bahan bangunan yang tidak efektif dapat mengurangi kekuatan bangunan. Dalam mengatasi hal ini, diperlukan material yang baik agar bangunan dapat berdiri dengan kokoh. Salah satu material bangunan yang dapat digunakan adalah batuan andesit. Batuan andesit merupakan salah satu jenis batuan beku yang lazim digunakan sebagai bahan bangunan. Salah satu area penambangan batuan andesit ini berada di daerah Jepara, Jawa Tengah.

Penelitian geofisika resistivitas dilakukan di dua lokasi yaitu “Jepara 1” dan “Jepara 2” masing-masing 5 lintasan dan 4 lintasan dengan panjang lintasan 235 m menggunakan konfigurasi *Wenner-Alpha* dan *Wenner-Schlumberger*. Pengolahan data dilakukan pada *Microsoft Excel* menggunakan *filter Simple Moving Average* lalu diinversi pada *software Res2dinv* sehingga menghasilkan penampang resistivitas 2D. Penelitian ini juga menghasilkan peta *slicing* untuk melihat persebaran batuan Andesit pada kedalaman tertentu.

Berdasarkan hasil analisis diketahui bahwa penggunaan *filter Simple Moving Average 3* (SMA 3) kurang cocok untuk digunakan dalam mengidentifikasi persebaran batuan Andesit di lokasi penelitian. Hal ini dikarenakan persebaran resistivitas di daerah penelitian memiliki banyak *noise* sehingga *noise-noise* tersebut ketika di-*filter* menggunakan SMA 3 akan mengalami perubahan nilai resistivitas dan pengurangan jumlah data sehingga dapat mempengaruhi interpretasi.

**Kata kunci:** Andesit, *Moving Average*, *Wenner-Alpha*, *Wenner-Schlumberger*, Resistivitas

## **ABSTRACT**

### ***ANALYSIS OF THE APPLICATION OF SIMPLE MOVING AVERAGE FILTER FOR RESISTIVITY DATA TO IDENTIFY THE DISTRIBUTION OF ANDESITE IN JEPARA***

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*Ineffective use of building materials can reduce the strength of the building. In overcoming this, good materials are needed so that the building can stand firmly. One of the building materials that can be used is andesite rock. Andesite rock is one type of igneous brick that is commonly used as a building material. One of the andesite rock mining areas is in the Jepara area, Central Java.*

*Resistivity geophysical research was conducted in two locations namely "Jepara 1" and "Jepara 2" each 5 passes and 4 passes with a track length of 235 m using the Wenner-Alpha and Wenner-Schlumberger configurations. Data processing was carried out in Microsoft Excel using the Simple Moving Average filter and then converted in Res2dinv software to produce 2D resistivity cross sections. This research also produced a slicing map to see the distribution of Andesite rocks at a certain depth.*

*Based on the results of the analysis, it is known that the use of the Simple Moving Average 3 (SMA 3) filter is not suitable for use in identifying the distribution of Andesite rocks at the research site. This is because the distribution of resistivity in the research area has a lot of noise so that these noises when filtered using SMA 3 will change the resistivity value and reduce the amount of data so that it can affect the interpretation.*

**Keywords:** *Andesite, Moving Average, Wenner-Alpha, Wenner-Schlumberger, Resistivity*