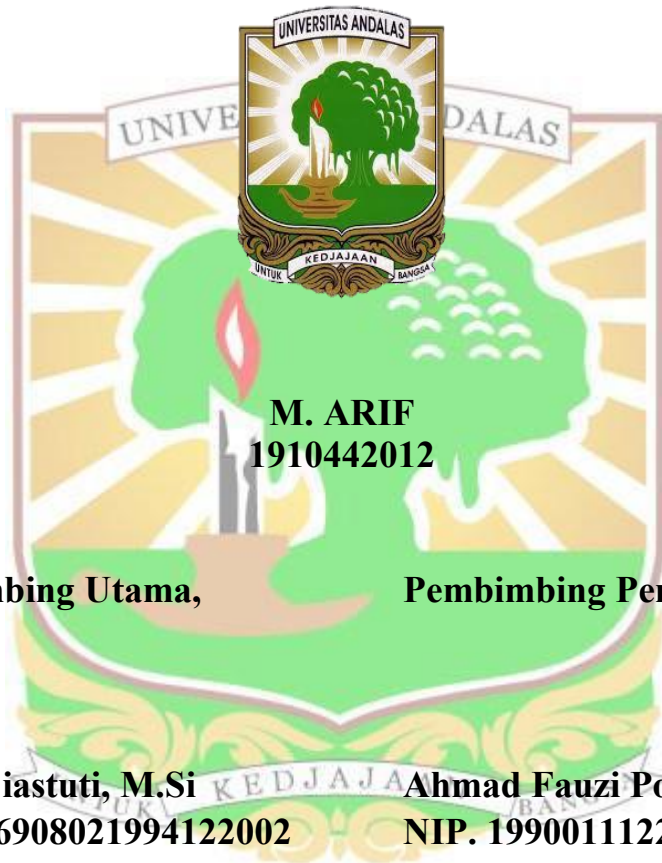


**PEMODELAN 3D BIDANG GELINCIR TANAH LONGSOR  
MENGUNAKAN METODE GEOLISTRIK  
DI BUKIT NOBITA PADANG**

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# PEMODELAN 3D BIDANG GELINCIR TANAH LONGSOR MENGUNAKAN METODE GEOLISTRIK DI BUKIT NOBITA PADANG

## ABSTRAK

Telah dilakukan investigasi bidang gelincir tanah longsor di bukit Nobita, Kampung Jua, Lubuk Begalung, Kota Padang menggunakan metode geolistrik resistivitas 3 dimensi konfigurasi Wenner. Penelitian dilakukan di daerah perbukitan dengan kemiringan mencapai 40°. Pengambilan data dilakukan pada tiga lintasan dengan variasi panjang lintasan yaitu 120 dan 240 meter. Variasi jarak elektroda adalah 6, 12, 18, 24 m untuk elektroda arus dan elektroda potensial. Pengolahan data dilakukan menggunakan *software Res2dinv* untuk menampilkan citra 2 dimensi lapisan bawah permukaan berdasarkan nilai resistivitas yang terukur di lapangan. Hasil pengolahan citra 2 dimensi kemudian dimodelkan dalam 3 dimensi menggunakan *software Voxler*. Interpretasi data hasil diperoleh Lintasan 1 memiliki nilai resistivitas 1170-2028  $\Omega\text{m}$  pada kedalaman 4,5-19,1 m. Lintasan 2 memiliki nilai resistivitas 1052-1768  $\Omega\text{m}$  dengan kedalaman 4,5-19,1 m. Sedangkan lintasan 3 dengan nilai resistivitas 1492-2937  $\Omega\text{m}$  pada kedalaman 1,5-19,1 m. Arah bidang gelincir Lintasan 1 dan 2 ke arah barat laut sedangkan lintasan 3 ke arah timur laut. Hasil penelitian menunjukkan bahwa bidang gelincir pada masing-masing lintasan merupakan batu granit.

Kata kunci: Bidang gelincir, resistivitas, res2dinv, Wenner, Bukit Nobita.



# 3D MODELLING OF LANDSLIDE SURFACE OF RUPTURE USING GEOELECTRIC METHOD IN BUKIT NOBITA PADANG

## ABSTRACT

Surface of rupture investigation has been conducted at Nobita Hill, Kampung Jua, Lubuk Begalung, Padang City using 3-dimensional resistivity geoelectric method in Wenner configuration. The research was conducted in a hilly area with a slope of up to 40°. Data collection was carried out on three tracks with variations in track lengths of 120 and 240 meters. Electrode spacing variations are 6, 12, 18, 24 m for current electrodes and potential electrodes. Data processing was carried out using Res2dinv software to display a 2-dimensional image of the subsurface layer based on the resistivity values measured in the field. The results of 2-dimensional image processing were then modeled in 3 dimensions using Voxler software. Data interpretation of the results obtained by Track 1 has a resistivity value of 1170-2028  $\Omega\text{m}$  at a depth of 4.5-19.1m. Track 2 has a resistivity value of 1052-1768  $\Omega\text{m}$  with a depth of 4.5-19.1 m. While track 3 has a resistivity value of 1492-2937  $\Omega\text{m}$  at a depth of 1.5-19.1 m. The direction of the sliding plane of Tracks 1 and 2 is to the northwest while track 3 is to the northeast. The results showed that the sliding plane on each track is granite.

Keywords: surface of rupture, resistivity, res2dinv, Wenner, Bukit Nobita.

