



KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
UNIVERSITAS SYIAH KUALA
UPT. PERPUSTAKAAN

Jalan T. Nyak Arief, Kampus UNSYIAH, Darussalam – Banda Aceh, Tlp. (0651) 8012380, Kode Pos 23111
Home Page : <http://library.unsyiah.ac.id> Email: helpdesk.lib@unsyiah.ac.id

ELECTRONIC THESIS AND DISSERTATION UNSYIAH

TITLE

DISTRIBUSI RESISTIVITAS LISTRIK UNTUK PEMETAAN PATAHAN SEGMENT SEULIMEUM DI KAWASAN LAMTAMOT ACEH BESAR

ABSTRACT

ABSTRAK

Penelitian ini berkaitan tentang pemetaan patahan pada Segment Seulimeum di kawasan Lamtamot Aceh Besar menggunakan metode geolistrik konfigurasi Wenner " Schlumberger. Tujuan penelitian yakni untuk mencari hubungan model resistivitas bawah permukaan dengan struktur geologi berupa zona patahan berdasarkan data pengukuran dan pemodelan di kawasan Lamtamot. Pengukuran dilakukan pada 2 lintasan parallel berjarak 4m satu sama lain. Panjang lintasan masing " masing 48m dengan jarak elektroda 1,5m. Lintasan pengukuran dibuat memotong daerah dugaan patahan. Data yang diperoleh di lapangan berupa nilai resistivitas semu. Data resistivitas semu dimodelkan dengan menggunakan Software Res2Dinv. Proses inversi pada lintasan 1 dan lintasan 2 memerlukan terasi sebanyak 5 kali dengan root mean square (RMS) error masing " masing 2,0 % dan 1,54 %. Hasil model resistivitas bawah permukaan menunjukkan adanya hubungan dengan struktur geologi berupa zona patahan di kawasan Lamtamot, akibat kejadian gempa bumi pada masa lalu.

Kata Kunci : Lamtamot, Wenner " Schlumberger, Res2Dinv, patahan.

ABSTRACT

The research of fault mapping by geoelectrical method on the Seulimeum Segment in Lamtamot Area, Aceh Besar district has been conducted using geoelectric Wenner-Schlumberger configuration. The aim of this study is to find correlation of the subsurface resistivity model with the geological structure as a faulting zone based on the measured data. Two profiles were performed parallel, separated 4m each other. The distance of the profile are 48m and electrode spacing are 1,5m. The measurement lines have a cross section with the faulting suspect. The field data is the apparent resistivity value. Furthermore, the apparent resistivity were modeled by Res2Dinv Software using smoothness-constrained least-square inversion program. The inversion process on the line 1 and line 2 had 5 times of iteration with root mean square (RMS) error are 2.0% and 1.54%, respectively. As the result that the subsurface resistivity model has a relationship with the geological structure i.e as the fault zone in Lamtamot as the paleoseismic event consequences.

Keywords : Lamtamot, Wenner " Schlumberger, Res2Dinv, fault.