

## RINGKASAN

Penelitian ini dilakukan di PT. Sentosa Prima Coal yang merupakan lokasi eksplorasi dan penambangan batubara di Kabupaten Batanghari. Tujuan penelitian ini untuk mengidentifikasi batubara dengan menggunakan metode *Electrical Resistivity Tomography (ERT)* dan *Vertical Electrical Sounding (VES)*. Metode *electrical resistivity tomography (ERT)* adalah metode pengukuran geolistrik yang bertujuan memperkirakan variasi distribusi resistivitas bawah permukaan secara lateral dan vertikal. Metode *vertical electrical sounding (VES)* yaitu teknik pengukuran geolistrik yang bertujuan memperkirakan variasi resistivitas bawah permukaan secara vertikal.

Metode ERT memiliki 4 lintasan yaitu ERT 1, ERT 2, ERT 3, dan ERT 4 masing-masing memiliki panjang lintasan 260 m dan spasi antar elektroda 20 m. Hasil inversi 2D (2 Dimensi) terdapat 1 *seam* batubara dengan nilai resistivitas 121  $\Omega\text{m}$  – 250  $\Omega\text{m}$  pada kedalaman 6,5 m – 15,5 m dan ketebalan 3,5 m – 5,5 m. Metode VES memiliki 4 titik sounding yaitu VES 1, VES 2, VES 3, dan VES 4 dengan AB/2 250 m. Hasil inversi secara 1D (1 Dimensi) terdapat 2 *seam* batubara. Batubara *seam 1* nilai resistivitas 143  $\Omega\text{m}$  – 185  $\Omega\text{m}$  pada kedalaman 9,3 m – 11,1 m dan ketebalan 1,2 m – 1,5 m. Batubara *seam 2* nilai resistivitasnya 276  $\Omega\text{m}$  – 298  $\Omega\text{m}$  terdapat pada kedalaman 24,2 m – 26,3 m dengan ketebalan 2,1 m – 3,6 m. Batubara pada lahan penelitian Desa Sungai Buluh memiliki sebaran mengikuti arah kemenerusan batubara dengan nilai *strike N* 329° E dengan sebaran yang *kontinyu* atau merata.

Kata kunci: Batubara, Resistivitas, Metode Geolistrik, ERT dan VES

## **SUMMARY**

*This research was conducted at PT. Sentosa Prima Coal, which is a location of Exploration and coal mining in Batanghari Regency. This research aims to identify coal using the Electrical Resistivity Tomography (ERT) and Vertical Electrical Sounding (VES) methods. The Electrical Resistivity Tomography (ERT) geoelectrical technique method for estimate of the subsurface resistivity distribution laterally and vertically. Meanwhile, Vertical Electrical Sounding (VES) is geoelectrical technique method for estimate the subsurface resistivity variation vertically.*

*ERT method which has 4 lines-some of them are ERT 1, ERT 2, ERT 3 and ERT 4 that each length is 260 m and space between the electrodes is 20 m. 2D (2-dimensional) inversion results that there is 1 coal's seamhas a resistivity value of 121  $\Omega\text{m}$  - 250  $\Omega\text{m}$  located at a depth of 6,5-15,5 m with 3,5-5,5 m thickness. VES method that has 4 souding points-some of them are VES1, VES 2, VES 3, and VES 4 that AB/2 is 250 m. 1D (1 Dimensional) inversion, that there are 2 coal seams in the study area. First coal's seam at has resistivity value 143  $\Omega\text{m}$  – 185  $\Omega\text{m}$  located at a depth of 9,3-11,1 m with 1,2-1,5 m thickness and coal's seam has 276  $\Omega\text{m}$  - 298  $\Omega\text{m}$  resistivity value which can be found at a depth of 24,2-26,3 m with a thickness is 2,1-3,6 m. Coal in the research area of Sungai Buluh Village has a distribution following the direction of coal continuity with a strike value of N 329° E with continuous distribution.*

*Keywords:* Coal, Resistivity, Geoelectrical Methods, ERT and VES