IMPLIKASI STRUKTUR PATAHAN TERHADAP KUALITAS BATUBARA PADA SEAM W666, LAPANGAN WARA, KALIMANTAN SELATAN

Dhiyatamma Purusa Wiradityo

Jurusan Teknik Geofisika, Universitas Pembangunan Nasional "Veteran" Yogyakarta, Yogyakarta, 55283

INTI SARI

Perubahan struktural geologi merupakan salah satu faktor pengontrol dalam perencanaan penambangan batubara sehingga penting untuk mengetahui implikasi struktur patahan terhadap data kualitas batubara. Tujuan penelitian ini adalah untuk mengetahui struktur patahan pada daerah penelitian dengan menggunakan metode gravitasi, mengetahui implikasi struktur patahan terhadap data kualitas batubara, dan mengetahui hubungan antara karakteristik fisika batubara terhadap karakteristik kimia batubara. Data yang digunakan pada penelitian ini adalah data gravitasi dari website topex dan data kualitas batubara dari PT. Adaro Indonesia dimana data dianalisis menggunakan *software Geosoft Oasis Montaj, Surfer, Global Mapper,* dan *ArcGis*. Hasil penelitian menunjukkan bahwa terdapat serangkaian sesar naik minor pada sayatan A-A' di peta SVD lalu beberapa sesar minor naik hasil dari perkembangan sesar mayor turun pada sayatan B-B' pada peta SVD dan serangkaian sesar mayor naik di sepanjang sayatan C-C'. Data kualitas terdiri; *volatile matter* (VM), *fixed carbon* (FC), kadar abu (*ASH*), dan nilai kalori (*cv_ar*) masing-masing dipengaruhi oleh struktur patahan, sedangkan nilai total sulfur (TS) tidak dipengaruhi oleh struktur patahan. Korelasi antara densitas terhadap nilai kalori (*cv_ar*), kadar abu (*ASH*), total sulfur (TS), dan *fixed carbon* (FC), masing-masing memiliki korelasi sangat lemah, dengan nilai korelasi sebesar 5,62%, 0,71%, 9,31%, dan 11,51% secara berurutan. Hubungan antara densitas terhadap *volatile matter* (VM) berkorelasi lemah dengan nilai korelasi sebesar 20,47%. Hasil analisis metode grafik, menunjukkan hubungan antara densitas terhadap data kualitas nilai kalori (*cv_ar*), kadar abu (*ASH*), total sulfur (TS), *volatile matter* (VM), *fixed carbon* (FC) masing masing bernilai positif, negatif, negatif, negatif, dan negatif secara berurutan.

Kata Kunci: Batubara, Gravitasi, Struktur Patahan, dan Data Kualitas.

ABSTRACT

Changes in structural geology are one of the controlling factors in coal mining planning, therefore it is important to know the implications of fault structure on coal quality data. The purpose of this study was to determine the fault structure in the research area using the gravity method, to determine the implications of the fault structure to coal quality data, and to determine the relationship between the physical characteristics of coal and the chemical characteristics of coal. The data used in this study are gravity data from the topex website and coal quality data from PT. Adaro Indonesia where data were analyzed using Geosoft Oasis Montaj, Surfer, Global Mapper and ArcGis software. Based on the analysis results, there are a series of minor reverse faults on the A-A' section on the SVD map and then several minor reverse faults resulting from the development of a major normal fault on the B-B' section on the SVD map and a series of reverse major faults along the C-C' section. Quality data in the form of volatile matter (VM), fixed carbon (FC), ash content (ASH), and calorific value (cv_ar) are each influenced by fault, while the total sulfur value (TS) not affected by fault. In addition, the correlation between density and calorific value (cv_ar), ash content (ASH), total sulfur (TS), and fixed carbon (FC), each has a very weak correlation with a correlation value of 5.62%, 0, 71%, 9.31%, and 11.51% respectively. The correlation between density with volatile matter (VM) has a weak correlation with a correlation value of 20.47%. Analysis of graphic method showing the trend between density and calorific value (cv_ar), ash content (ASH), total sulfur (TS), volatile matter (VM), fixed carbon (FC) is a positive, negative, negative, negative, and negative values respectively.

Keywords: Coal, Gravity, Fault structure, Coal quality Data