

ABSTRAK

IDENTIFIKASI PERSEBARAN *SEAM* BATUBARA MENGUNAKAN DATA *LOGGING* DI FORMASI TANJUNG, LAPANGAN “SWIFTIES” KALIMANTAN SELATAN

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Metode *well logging* digunakan merupakan metode yang umum digunakan untuk melakukan kegiatan eksplorasi batubara. Penelitian ini menggunakan 15 titik data yang terdiri atas *log gamma ray* serta *log density* dengan kedalaman sumur dari 20meter- 150meter dan jarak antar 30-40 meter. Elevasi sumur terendah berada pada 88 mdpl sementara yang tertinggi 110mdpl. Metode interpretasi dilakukan dengan menganalisis respons *log* terhadap variasi litologi yang di dukung dengan data *coring*, melakukan korelasi antar sumur, serta membuat pemodelantiga dimensi (3D). Penelitian ini bertujuan untuk mengidentifikasi jenis litologi, memperoleh distribusi batubara secara lateral, dan mengetahui ketebalan serta kualitasnya berdasarkan data *log* yang di gunakan. Hasil interpretasi menunjukkan bahwa Litologi pada daerah penelitian terdiri dari batubara, *claystone*, *sandstone*, *shaly coal*, dan *carbonaceous claystone*, yang dibedakan berdasarkan nilai *gamma ray* dan *density*. *Seam A* tersebar luas namun terdapat *splitting* di beberapa titik, sedangkan *Seam B* lebih dangkal, stabil, dan tersebar kontinu dari TA-10 hingga TA-13 dengan *plunge* $\pm 16^\circ$ dan *azimuth* 033° . *Seam B* memiliki kualitas sangat baik (GR <5 API, *density* <1.5 gr/cc), sementara *Seam A* menunjukkan kualitas lebih rendah akibat kandungan lempung, dengan ketebalan rata-rata masing-masing 4 meter (*seam A*) dan 1,7 meter (*seam B*).

Kata kunci: *seam* batubara, *log gamma ray*, *log density*, korelasi *log*

ABSTRACT

IDENTIFICATION OF COAL SEAM DISTRIBUTION USING LOGGING DATA IN THE TANJUNG FORMATION, “SWIFTIES” FIELD, SOUTH KALIMANTAN

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The well logging method used is a commonly used method for coal exploration activities. This study used 15 data points consisting of gamma ray logs and density logs with well depths ranging from 20 meters to 150 meters and distances between 30 and 40 meters. The lowest well elevation was 88 meters above sea level, while the highest was 110 meters above sea level. The interpretation method was carried out by analyzing the log response to lithological variations supported by coring data, correlating between wells, and creating a three-dimensional (3D) model. This study aims to identify lithological types, obtain lateral coal distribution, and determine thickness and quality based on the log data used. The interpretation results indicate that the lithology in the study area consists of coal, claystone, sandstone, shaly coal, and carbonaceous claystone, distinguished based on gamma ray values and density. Seam A is widely distributed but shows splitting at some points, while Seam B is shallower, stable, and continuously distributed from TA-10 to TA-13 with a plunge of $\pm 16^\circ$ and an azimuth of 033° . Seam B has excellent quality (GR < 5 API, density < 1.5 g/cc), while Seam A shows lower quality due to clay content, with average thicknesses of 4 meters (Seam A) and 1.7 meters (Seam B).

Keywords: coal seam, gamma ray log, density log, log correlation