

Pemodelan dan Estimasi Sumberdaya Batubara Menggunakan Metode Inverse Distance Weight di Area Eksplorasi PT Bnuang Mitra Bersama Blok Dua Kabupaten Tapin, Provinsi Kalimantan Selatan. = Modeling and Estimating Coal Resources Using the Inverse Distance Weight Method in the Exploration Area of PT Bnuang Mitra Bersama Block Dua, Tapin Regency, South Kalimantan Province.

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Abstrak

Indonesia memiliki kekayaan sumberdaya batubara yang sangat melimpah, sehingga menghasilkan produksi batubara yang terus meningkat, dengan pemanfaatannya masih sangat diperlukan bagi keberlangsungan kebutuhan masyarakat di Indonesia terhadap energi, oleh karena itu perlu diseimbangkan melalui kegiatan eksplorasi berdasarkan pertimbangan kondisi geologi, serta estimasi sumberdaya batubara. Penelitian ini dilakukan pada daerah izin usaha pertambangan (IUP) PT. Bnuang Mitra Bersama Blok Dua, Kabupaten Tapin, Provinsi Kalimantan Selatan dengan mengandung formasi pembawa keterdapatan batubara yang melimpah salah satunya berupa formasi Warukin. Tujuan dilakukannya penelitian ini untuk mengetahui kondisi geologi bawah permukaan melalui pemodelan geologi secara 2D & 3D berdasarkan hasil korelasi di setiap data bor menggunakan software MineScape 5.7, sehingga mengetahui kompleksitas kondisi geologi daerah penelitian serta mengetahui total estimasi sumberdaya batubara daerah penelitian dengan menggunakan metode geostatistika Inverse Distance Weight (IDW) untuk menginterpolasi ketebalan batubara di setiap seam. Terdapat 12 titik bor data yang digunakan pada daerah penelitian dengan menghasilkan 11 seam utama berupa 5 seam yang bercabang dan 6 seam yang tidak memiliki percabangan yaitu seam AU, A1, A2, B3, C1A, dan C3. Kompleksitas kondisi geologi daerah penelitian termasuk dalam kategori moderat, dilihat dari ketebalan lapisan batubara yang bervariasi yaitu tipis hingga sangat tebal, kesinambungannya ratusan meter, percabangannya beberapa yaitu 45% dari daerah penelitian, terlipat sedang dengan berjenis open fold, serta kemiringan sedang yang didapatkan nilai dip sekitar 30°-53°. Total sumberdaya batubara daerah penelitian berdasarkan area estimasi sumberdaya didapatkan area terukur sebesar 20.334.071 ton, area tertunjuk 15.386.980 ton, dan area tereka 29.797.424 ton. Dengan total secara keseluruhan sebesar 65.518.475 ton.

.....Indonesia has a very abundant wealth of coal resources, resulting in increasing coal production, its utilization is still very much needed for the sustainability of the needs of the people in Indonesia for energy, therefore it needs to be balanced through exploration activities based on consideration of geological conditions, and estimation of coal resources. This research was conducted in the mining business license (IUP) area of ??PT. Bnuang Mitra Bersama Block Dua, Tapin Regency, South Kalimantan Province contains abundant coal carrier formations, one of which is the Warukin formation. The purpose of this study was to determine the subsurface geological conditions through 2D & 3D geological modeling based on the correlation results in each drill data using MineScape 5.7 software, so as to be able to determine the complexity of the geological conditions in the study area and determine the total estimated coal resources in the study area using the Inverse Distance Weight Method by geostatistic to interpolate the thickness of the coal in each seam. There are 12 data drill points used in the study area to produce 11 main seams in the form

of 5 seams with branches and 6 seams that do not have splitting, namely seams AU, A1, A2, B3, C1A, and C3. The complexity of the geological conditions in the study area is included in the moderate category, judging from the thickness of the coal seams, which vary from thin to very thick, hundreds of meters of continuity, several splitting, namely 45% of the study area, the geological structure of the folds is included in the moderate category with the open fold type, and moderate slope obtained dip values around 30° - 53° . The total coal resources of the study area based on the estimated resource area obtained a measured area of 20.334.071 tons, an indicated area of 15.386.980 tons, and an inferred area of 29.797.424 tons for a total of 65.518.475 tons.