ABSTRAK

IDENTIFIKASI *SEAM* BATUBARA BERDASARKAN DATA *LOGGING* UNTUK PENENTUAN KUALITAS DAN ESTIMASI TONASE BATUBARA DI WILAYAH TAMBANG PT. BUKIT ASAM TBK., TANJUNG ENIM, SUMATERA SELATAN

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Batubara ialah hasil penumpukan dari sisa tanaman yang mati serta tidak pernah mengalami pembusukan secara sempurna. Metode *well logging* pada eksplorasi batubara merupakan salah satu metode yang tepat untuk digunakan, karena metode ini mampu menggambarkan keadaan bawah permukaan secara vertikal sehingga litologi masing-masing lapisan dapat tergambarkan dengan jelas. Tujuan penelitian ini adalah menentukan lapisan batubara berdasarkan *log gamma ray* dan *log density*, kualitas batubara berdasarkan nilai kalori menurut klasifikasi ASTM D-388, dan estimasi tonase batubara pada area penelitian. Penelitian menggunakan 6 data sumur dan dihasilkan 5 lapisan batubara, yang terdiri dari *seam* A1 dengan rata-rata ketebalan 10,76 meter, *seam* A2 dengan rata-rata ketebalan 9,27 meter, *seam* B1 dengan rata-rata ketebalan 12,37 meter, *seam* B2 dengan rata-rata ketebalan 4,47 meter, dan *seam* C dengan rata-rata ketebalan 9,56 neter. Kualitas batubara pada sumur AY termasuk kedalam kualitas sedang hingga tinggi, yaitu *sub-bituminous* A dengan nilai kalori berkisar antara 11.046 btu/lb – 11.377 btu/lb atau 4.810 kcal/kg – 5.302 kcal/kg dan *bituminous high volatile* C dengan nilai kalori berkisar antara 11.529 btu/lb – 12.498 btu/lb atau 5.201 kcal/kg – 5.438 kcal/kg. Perhitungan tonase batubara menggunakan *Software Rockworks* pada area penelitian dengan luas 448,32 hektar, diperoleh tonase sebesar 4.214.985 ton dengan *stripping ratio* (SR) *coal : OB dan IB* = 1 : 3.

Kata Kunci : Batubara, *Well Logging*, Kualitas, Tonase, *Stripping Ratio*.

ABSTRACT

IDENTIFICATION OF COAL SEAM BASED ON DATA LOGGING FOR QUALITY DETERMINATION AND COAL TONNAGE ESTIMATION IN THE MINING AREA OF PT. BUKIT ASAM TBK., TANJUNG ENIM, SOUTH SUMATERA

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Coal is the result of the accumulation of dead plant residues and has never experienced complete decay. The well logging method in coal exploration is one of the appropriate methods to use, because this method is able to describe the subsurface conditions vertically so that the lithology of each layer can be clearly described. The purpose of this study was to determine coal seams based on gamma ray logs and density logs, coal quality based on calorific value according to ASTM D-388 classification, and estimation of coal tonnage in the research area. The study used 6 data wells and produced 5 coal seams, consisting of seam A1 with an average thickness of 10.76 meters, seam A2 with an average thickness of 9.27 meters, seam B1 with an average thickness of 12.37 meters, seam B2 with an average thickness of 4.47 meters, and seam C with an average thickness of 9.56 neters. The coal quality in the AY well is of medium to high quality, namely sub-bituminous A with calorific value ranging from 11,046 btu/lb – 11,377 btu/lb or 4,810 kcal/kg – 5,302 kcal/kg and bituminous high volatile C with calorific value ranging from between 11,529 btu/lb – 12,498 btu/lb or 5,201 kcal/kg – 5,438 kcal/kg. Calculation of coal tonnage using Rockworks Software in the research area with an area of 448.32 hectares, obtained a tonnage of 4,214,985 tons with a stripping ratio (SR) of coal: OB and IB = 1: 3.

Keywords: Coal, Well Logging, Quality, Tonnage, Stripping Ratio.