

## ABSTRACT

*This research is carried in one of open mine sites at Banko Barat Pit 1 - Tanjung Enim South Sumatra – Indonesia. Based on grid system this research included to zona 48 Southern Hemisphere coordinat UTM (Universal Traverse Mecator) 369000 mE – 371500mE & 9581600mN – 9583500mN. According to Geomorphologically the location of research is one of the physiography in the Lematang depression of South Sumatra basin. Based on morphogenetic, morphography, morphometry, and morphostructural analysis, the landfrom geomorphicly unit site consist of the original denudasional such as the peneplain (D10) and the unit erosional mountains (D2) cover us about  $\pm 25\%$  and  $\pm 75\%$  from the area of research site. Drainage pattern is included the trellis- dendritic type with wet tropical climate in high intensity of rain especially December – March and then hot season falls in June – September.*

*The stratigraficly site of research is consisted of claystone containing sand, silt, tuffaceous sandstone, glauconit, and coal on Enim Delta system. This condition has supported the depositional setting interpreted from sedimentary fasies associations that shows as shallow-water continental margin sequence, varying from a lower delta plain to transitional upper delta plain (Mio-pliocene – Pliocene). The generally characteristic and the pattern of its wide spread have much been influenced by geological control in the form of fold, horizontal fault, and normal fault wich happened during Mio-Pliocene – Pliocene. The intrusion of andesitic-basaltic has very close relation the 3<sup>rd</sup> rising of Barisan Mountains. At least it began in the periode of coal sedimentation. The development structure in the site area formed by the right sliding which is followed by normal fault.*

*The quality of each layer of coal is nearly equal has grouped coal rank “hard brown coal to sub-bituminous coal”.The value of the heat of the coal is average to high ( $> 5100 - 6420$  Kal/gr.adb). Which the result of proximate analysis denoted the moisture is low (18.30 – 31.80 % ar) So that inherent moisture reach 50% less then the total moisture of (5.80 – 16.90 % ad). The contain of ash is average to high (1.80 – 9.55 % ad) the level of volatile matter is classified normal (36.48 – 47.30 % ad) and in the range of sulfur (0.16 – 1.56%) classified as average to high level .The old and young potential coal layers have seam as follow; C, C2 – C1, B2 – B1 and A2 – A1. The result from the 7<sup>th</sup> layers of coal by using cross section the vertical method is approximately contain up to 75 million tons coal reserve.*