Abstract

Coal liquefaction from Pit Kancil East Kalimantan and Bituminous South Sumatra which similar calorie value such 6082 kcal/kg and 6400.58 kcal/kg has been done. Coal as a sample was liquefacted in condition 7 MPa pressure and 450°C for 60 minutes. There were increasing calorie value after coal liquefaction such 39,59Ã—10³ Kcal/g dan 43,59Ã—10³ Kcal/g. The yield (slurry) was seperated with vacuum distillation process so that the naphtha, medium oil, heavy oil and residue products were obtained. The composition of coal liquefaction product medium oil fraction identified by gas chromatography – mass spectrophotometry (GC-MS). Component of hydrocarbon which identified from Pit Kancil East Kalimantan were n-alkanes C₁₁-C₂₆, iso-alkanes, alkylcyclohexanes, n-alkylbenzenes, methylalkyl-benzenes, naphthalene, alkynaphthalene, biphenyl and cadalena. Then, the component of coal liquefaction product from Bituminous have resemble with coal liquefaction product from Pit Kancil like -alkanes C₁₁-C₂₅, iso-alkanes, alkylcyclohexanes, n-alkylbenzenes, naphthalene, alkynaphthalene, biphenyl and cadalena. The resemble component from both coal liquefaction product indicates that the process of liquefaction through pyrolusis produces a similar product eventough from a different coal. Most component of coal liquefaction product more line with the basic components making up diesel fuel.

Keyword - Coal, Coal liquefaction, medium oil fraction, hydrocarbon.