ABSTRACT

Rock is a solid object that is one of Indonesia's natural wealth. Rocks are naturally made of minerals or mineraloids. Rocks are usually distinguished by their mineral and chemical composition, by the texture of the elemental particles and by their formation process. Rocks are divided into three, namely igneous rocks, sedimentary rocks and metamorphic rocks.

This final project, the classification of Carbonate sedimentary rocks is one of the sedimentary rocks by taking the image of Carbonate sedimentary rocks. The processed image is a pre-processing image, color feature extraction, feature extraction using gray level co-operation method and classification method of back propagation artificial neural network.

The results of the tests that have been done show the highest accuracy up to 97.77% and computation time of 8.2002 seconds with parameter are distance = 2, orientation angle = 45º, hidden layer = 2, algorithm = trainlm, neurons in the first layer = 50, neurons in the second layer = 50 and epoch = 500. This shows that the GLCM and JST BP methods can recognize carbonate sedimentary rocks.

Keyword: : *Carbonate Sedimentary Rocks, Gray Level Co-Occurance, Artificial Neural Network Back Propagation.*