

ABSTRACT

Petroleum industry is one of major industries which is important to gaining total revenue for Indonesian. In order to maintain stability of Indonesian petroleum market position or even increase its demand, it is important for maintain good quality of the product. Therefore, it is needed to develop a way to detect the quality of petroleum for classifying the type of petroleum based on the quality simpler and easier. It is intended for keeping the trust from world market toward Indonesian petroleum quality.

This final project is using colour detection method to detect petroleum quality. The result of image processing be an *input* for pattern recognition and identifying the petroleum. Further, it can be determined the condition of the characteristic that found on its petroleum to get special characteristics' of the petroleum. The method that used for identifying the petroleum is Artificial Neural Network SOM. Artificial Neural Network is computation model based on human brain, which can calculate, acknowledge, observe and make decision.

The final project is aimed to make new aid which can be used for processing oil image, classifying petroleum quality and analyzing performance by using colour analysis. With the accuracy of this classification reached up to 93.5%.

Key code : Petroleum, Feature Extraction, Artificial Neural Network, Koheren Self Organizing Maps