

**WATER TREATMENT TECHNIQUE FROM WASTE OF ACTIVITIES
CANDI INDUSTRIAL AREA BY BIOFILTER ANAEROB AEROB,
NGALIYAN, SEMARANG, EAST JAVA**

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ABSTRACT

This research was carried out Candi Industry area, which is located in Ngaliyan, Semarang, Center of Java. The area of Candi Plant has dozens of plants that operate every day, and each activity produces liquid waste. Liquid waste that is produced by Candi Industry Area is immediately discharge into the local water banks without water treatment (IPAL). The purpose of this research is to review the quality of waste water from Candi Industry area, to review the location for water treatment unit and to review the efficiency of water treatment by using aerobic anaerobic biofilter method.

The methods that are used in this research are, the first one was to retrieve water sample data that was carried out by purposive sampling technique in the form of TSS, BOD and COD. Parameter reference for determining standard quality of water as waste is *PerdaJateng No.10*, 2004. The second method was to choose the location for water treatment unit by using scoring method. Scoring data retrieval was made by mapping survey according to the condition on the field. The third method was laboratory analyzing with water treatment testing to acknowledge unit efficiency level. Water treatments consist of anaerobic unit and aerobic unit that were tested by honey comb as biofilter media.

The quality of water waste from Candi Plant area consist of 92 mg/L TSS, 156,8 mg/L BOD and 286,736 mg/L COD. The quality of BOD and TSS parameters were exceeded the water quality standard while TSS parameter did not exceed the water quality standard. Based on value factor that had been accumulated, the location that are planned for water treatment are most suitable inside the Candi Plant area with the amount of score 37. The uses of anaerobic aerobic biofilter for the water treatment has an efficiency level of 62,95% in BOD, 63,5% in COD and 58,69% in TSS. The efficiency of BOD and COD hasn't meet the water quality standard, while TSS parameter had met the water quality standard.

Key Word : pollution, BOD, COD, TSS, efficiency