

**EVALUATION THE EFFECT OF DRILLING FLUIDS TREATMENT  
FACILITY TO THE GROUNDWATER QUALITY IN BANGKO PT.  
CHEVRON PACIFIC INDONESIA**

By:  
Dicky Afriadi  
114.110.049

**ABSTRACT**

PT. Chevron Pacific Indonesia is one of the largest oil companies in the world. The drilling process to obtain crude oil, generate waste in the form of former drilling mud. Sewage treatment plant of former sludge is named Centralized Mud Treatment Facilities (CMTF). With the CMFT, expected the form of former drilling mud can be reused and safe for the environment.

The methods used in the study are survey method, contamination index method, and efficiency calculation of processing unit method. Survey method directly in the field by testing the parameters of pH, iron (Fe), lead (Pb), and zinc (Zn) by referring to the decree of the Minister of the Environment No. 128 of 2003. The decree of the Minister of the Environment No. 128 of 2003 concerning procedures technical requirements for waste crude oil and soil contaminated by crude oil biological then continued with contamination index method to determine the level of contamination and the calculation of the efficiency of the processing unit.

The result showed that the parameter of pH has values from 3.2 to 7.2 (not good), parameter of iron (Fe) has values from 0.001 to 49.4 mg/L (not good), parameter of lead (Pb) has values from 0.001 to 0.168 mg/L (good) and parameter of zink (Zn) has values from 0.601 to 0.1 mg/L (good). Parameter of lead and Fe classified in the not good values because the CMFT facility located on peat soil area. pH, Fe, Pb and Zn parameters use quality standards set by the company based on LH Decree by the government No. 128 of 2003. Based on calculations pollution index (IP), the value is 3.21 (lightly polluted). The result of efficiency calculation of processing at the CMTF unit, pH parameter have value 8.4 mg/L (input) and 6.6 mg/L (output) with the results of the efficiency of 21.43%. Fe parameter have value 0.34 mg/L (input) and 0.038 mg/L (output) with the results of the efficiency of 88.82%. pH and Fe values decrease the parameter value by using CMFT processing unit, while the value of Pb and Zn (inputs and outputs) have fulfills standards quality before it goes into the processing unit CMFT.

Keywords: Groundwater, CMFT, Waste Former Drilling Mud