

**ANALISIS PENCEMARAN LIMBAH CAIR KELAPA SAWIT
BERDASARKAN KANDUNGAN LOGAM, KONDUKTIVITAS,
TDS DAN TSS
(Studi Kasus: Sungai Pematang Sontang, Kecamatan Sungai Aur,
Pasaman Barat)**

ABSTRAK

Telah dilakukan penelitian tentang pengaruh variasi limbah effluent dan limbah olahan terhadap air hulu sungai. Penelitian ini bertujuan untuk menentukan kualitas air berdasarkan pengujian TSS (*Total Suspended Solid*), TDS (*Total Dissolved Solid*), konduktivitas, dan kandungan logam. Variasi volume limbah effluent dan limbah olahan yaitu 20 mL, 40 mL, 60 mL, 80 mL, dan 100 mL terhadap 1000 mL air hulu sungai. Pada pengujian terhadap pencampuran limbah effluent dengan air hulu menghasilkan nilai yang sangat menjauhi baku mutu sehingga dapat dibuktikan bahwa sangat dibutuhkan pengolahan limbah effluent sebelum jadi air buangan. Besar air buangan limbah pada pencampuran persentase limbah olahan 4 % - 6 % terhadap air hulu jika dibandingkan dengan nilai TSS dan TDS air hilir, sedangkan pada pengujian konduktivitas besar air buangan pada persentase limbah olahan lebih besar dari 10 % terhadap air hulu. Pada pengujian kandungan logam dibuktikan bahwa limbah cair kelapa sawit memiliki kandungan logam Al, Cu dan Fe. Konsentrasi logam Al limbah effluent sebesar 6,786 mg/L, konsentrasi logam Cu limbah effluent sebesar 4,823 mg/L, dan konsentrasi logam Fe limbah effluent sebesar 4,864 mg/L.

Kata Kunci : kandungan logam, konduktivitas, limbah cair kelapa sawit, TDS, TSS

**THE ANALYSIS OF POLLUTION FROM PALM OIL
LIQUIDWASTE BASED ON METAL CONTENTS,
CONDUCTIVITY, TDS AND TSS
(Case Study: Pematang Sontang River, Aur River District, West
Pasaman)**

ABSTRACT

This study will describe about the effect of variation of pure waste and processed sewage to upstream water. The purpose of this study was to determine the water quality based on TSS (Total Suspended Solid), TDS (Total Dissolved Solid), conductivity, and metal contents testings. Variations in the volume of waste pure and processed waste is 20 mL, 40 mL, 60 mL, 80 mL, and 100 mL to 1000 mL of upstream water. Tests on pure waste mixed with upstream water obtain results away from the quality standard, so that it can be proven that it takes a pure waste treatment before it becomes waste water. The percentage of a wasted disposal by mixing was 4 % - 6 % toward upper course if it was compared with the TSS and TDS of lower course, meanwhile at the conductivity test the portion of waste liquid toward processed waste liquid was 10 % higher toward upper course. The metal content testing proved that pure palm oil effluent contains metals Al, Cu, and Fe. The concentration of Al pure waste 6,786 mg/L, the concentration of Cu pure waste of 4.823 mg/L, and the concentration of Fe pure waste of 4.864 mg/L.

Keyword : *conductivity, metal contents, palm oil liquid waste, TDS, TSS*