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**EFEKTIVITAS METODE AERASI-FILTRASI DALAM PENURUNAN KADAR BOD, COD DAN FOSFAT PADA LIMBAH *LAUNDRY* ‘DEAN CLEAN’**

xi + 83 Halaman + 15 Tabel + 13 Gambar + 5 Lampiran

**ABSTRAK**

Meningkatnya jumlah usaha *laundry* diikuti pula dengan peningkatan jumlah limbah cair sisa deterjen yang dihasilkan dengan kandungan kadar BOD, COD, fosfat dan juga parameter kimia lainnya sehingga berpotensi mencemari lingkungan khususnya perairan karena air limbah yang dihasilkan dari sisa proses *laundry* seringkali langsung dibuang ke badan air tanpa mengalami pengolahan terlebih dahulu. Penelitian ini dilakukan untuk mengetahui efektifitas metode aerasi-filtrasi dalam menurunkan kadar BOD, COD dan Fosfat pada limbah *laundry.*

Jenis penelitian ini adalah deskriptif dengan jenis penelitian deskriptif studi kasus. Teknik *sampling* menggunakan metode *grab sampling* terhadap outlet limbah *laundry* dengan 5 kali replikasi. Berdasarkan hasil uji laboratorium terhadap parameter BOD, COD dan fosfat didapatkan hasil bahwa setelah dilakukan proses aerasi-filtrasi terjadi penurunan kadar BOD sebesar 56,848% dengan waktu detensi 12 jam, kadar COD sebesar 1,19% dengan waktu detensi 4 jam, dan kadar fosfat sebesar 91,896% dengan waktu detensi 12 jam. Proses aerasi-filtrasi ini masih belum bisa menurunkan kadar COD hingga di bawah baku mutu sehingga perlu dilakukan penelitian terkait.

Kata kunci : aerasi, filtrasi, limbah *laundry,* BOD, COD, fosfat

Kepustakaan : 55 bacaan (2006-2020)

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**AERATION-FILTRATION METHODS EFFECTIVENESS IN DECREASED LEVELS BOD, COD AND PHOSPHATE ON WASTE LAUNDRY ‘DEAN CLEAN’**

xi + 83 pages + 15 Tables + 13 Pictures + 5 attachments

**ABSTRACT**

The growing amount of laundry businesses is always followed by the growing amount of detergent wastewater produced with Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), phosphate, and others chemical parameters. it have potentials to pollute environment especially waters environment because laundry wastewater is frequently discharged directly into water without being processed first. The purpose of this research is to examine the effectiveness of the aeration-filtration method in reducing BOD, COD, and Phosphate levels in laundry wastewater.

This was descriptive research that use case study approach. The grab sampling is supporting this research, it used on laundry wastewater outlets, with 5 replications. According to the result of laboratory BOD,COD, and phosphate parameters test, it was found that after the aeration-filtration process, there was a 56.848% decrease in BOD levels with a detention time of 12 hours, a 1.19% decrease in COD levels with a detention time of 4 hours, and a 91.896% decrease in phosphate levels with a detention time of 12 hours. It prove that aeration-filtration process is still unable to decrease the COD level to below the quality standard, and further research is necessary.

Keywords : aeration, filtration, laundry wastewater, BOD, COD, phosphate

Literatures : 55 reading materials (2006-2020)