

**PERBEDAAN SEBELUM DAN SESUDAH PERLAKUAN
TAWAS DALAM MENURUNKAN PH, TDS, DAN TSS AIR
LIMBAH DI *BATCHING PLANT* PT. X
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Abstrak

Air limbah merupakan suatu cairan sisa hasil olahan kegiatan yang sudah tidak dipakai kembali, sumber air limbah biasanya berasal dari suatu kegiatan seperti perdagangan, perkantoran, pemukiman dan industri. PT.X menghasilkan air limbah hasil dari kegiatan produksi, namun kualitas air limbah PT.X masih melebihi baku mutu peraturan menteri lingkungan hidup nomor 5 tahun 2014 tentang baku mutu air limbah. Penelitian ini bertujuan untuk mengetahui perbedaan variasi dosis tawas dalam menurunkan kadar pH, TDS, dan TSS air limbah pada *batching plant* PT.X tahun 2022. Jenis penelitian ini yaitu kuantitatif dengan desain studi eksperimental. Uji statistik yang digunakan adalah *Shapiro-Wilk*, *Paired Sample T-Test*, dan *Friedman*. Berdasarkan analisis menggunakan *Paired Sample T-Test* dan *Friedman* pada kelompok perlakuan $p < \alpha 0,05$, yang artinya terdapat perbedaan rata-rata pada setiap kelompok parameter pH, TDS, dan TSS air limbah PT.X. Oleh karena itu disarankan kepada perusahaan untuk menerapkan sistem pengolahan dengan metode tawas untuk menghasilkan baku mutu sesuai peraturan pemerintah.

Kata Kunci : Air Limbah, Tawas, PH, TDS, TSS

THE DIFFIRENCES BEFORE AND AFTER ALUM TREATMENT IN REDUCING PH, TDS, AND TSS OF WASTEWATER AT PT. X'S BATCHING PLANT IN 2022

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Abstract

Wastewater is a liquid left over from processed activities that is no longer used, the source of wastewater usually comes from an activity such as trade, offices, settlements and industry, or the rest of rainwater mixed with a residual activity. The largest waste producer in Indonesia is in industrial activities, one of which is PT.X which produces wastewater from production activities, but with the quality of PT.X's waste there is no wastewater treatment to produce quality wastewater in accordance with the regulation of the Minister of the Environment 5 of 2014 regarding wastewater quality standards. This study aims to determine the differences in the dose variation of alum in reducing the pH, TDS, and TSS levels of wastewater at the PT.X batching plant in 2022. This type of research is quantitative analysis with experimental study design. The statistical test that used was *shapiro-wilk*, *paired sample t-test* and *friedman*, in the treatment group $p < \alpha$ 0,05, which means that there is an average difference in each group of parameters pH, TDS, and TSS wastewater PT.X. Therefore, it is suggested to the company to implement a processing system using the alum method to produce quality standards according to government regulations.

Keywords : Waste water, Alum, PH, TDS, TSS