

THE EFFECT OF TANNERY INDUSTRY WASTE LIQUID DISTANCE ON WATER QUALITY OF THE GANDONG RIVER IN MAGETAN REGENCY IN 2021

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ABSTRACT

River water quality was affected by several factors, which was caused by industrial waste being discharged into river bodies. Effluent liquid waste discharged into water contained heavy metals, a pungent odor and the water became murky. This study aimed to analyze the effect of the fluid waste effluent distance of the tanning industry on the water quality of the Gandong River in Magetan Regency.

This study was an observational with a *cross sectional* approach. The sampling technique being used during the observation was *Purposive Sampling*. The method of data analysis was cholera testing by comparing laboratory test results with Gandong River water quality standards according to PP. RI. No. 82 of 2001. Statistical tests were using Product-Moment Correlation to find out the environmental distance relationship of the tanning industry affects the water quality of the Gandong River in Magetan Regency.

The result obtained that the water quality of the Gandong River exceeded the COD quality standard of 118 mg/l and color 61.85 TCU/PtCo, at a distance of 250 m which exceeded the COD quality standard of 133 mg/l and color 54.90 TCU/PtCo, at a distance of 500 m which exceeded the COD quality standard of 89 mg/l, at a distance of 750 m which exceeded the COD quality standard of 89 mg/l temperature and TSS parameters, the highest results at a distance of 0 m was 27°C and 368 mg/l still meet the quality standard for odor, the results obtained were smelly.

The results of the study concluded that the parameters pH, TSS, Temperature, Odours were still below the quality standard and color parameters, COD was still above the quality standard. Based on correlation analysis Product-Moment showed a relationship between distance with river water quality showed different values for correlation results that have relationships namely odor parameters, colors, COD and results did not have any correlation of temperature and TSS. Inconsequence, the longer the distance from the polluting source, the better the quality of the river water.

Keywords: water quality, effluent distance, River, tannery waste

**PENGARUH JARAK EFLUEN LIMBAH CAIR INDUSTRI
PENYAMAKAN KULIT TERHADAP KUALITAS AIR SUNGAI
GANDONG DI KABUPATEN MAGETAN
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ABSTRAK

Kualitas air sungai dipengaruhi oleh beberapa faktor yang salah satu disebabkan oleh limbah industri yang dibuang ke badan sungai. Efluen limbah cair yang dibuang ke badan air mengandung logam berat, bau yang menyengat, dan membuat warna air di badan air menjadi keruh. Penelitian ini bertujuan untuk meneliti pengaruh jarak efluen limbah cair industri penyamakan kulit terhadap kualitas air Sungai Gandong di Kabupaten Magetan.

Penelitian ini merupakan jenis penelitian observasional dengan pendekatan *cross sectional*. Teknik pengambilan sampel penelitian menggunakan *Purposive sampling*. Metode analisis data yaitu uji korelasi dengan membandingkan hasil uji laboratorium dengan standar kualitas air Sungai Gandong menurut PP. RI. No 82 tahun 2001. Uji statistik parametrik dengan menggunakan Korelasi Product-Moment untuk mengetahui hubungan jarak dari industri penyamakan kulit mempengaruhi kualitas air Sungai Gandong di Kabupaten Magetan.

Hasil penelitian diperoleh kualitas air Sungai Gandong yang tidak memenuhi syarat baku mutu COD 118 mg/l dan warna 61,85 TCU/PtCo, pada jarak 250 m yang melebihi baku mutu COD 133 mg/l dan warna 54,90 TCU/PtCo, pada jarak 500 m yang tidak memenuhi syarat baku mutu COD 89 mg/l, pada jarak 750 m yang tidak memenuhi syarat baku mutu COD 89 mg/l. parameter suhu dan TSS. Hasil tertinggi pada jarak 0 m sebesar 27°C dan 368 mg/l memenuhi syarat baku mutu untuk Bau diperoleh hasil berbau.

Dari hasil penelitian dapat disimpulkan parameter pH, TSS, Suhu, Bau masih memenuhi syarat baku mutu dan parameter warna, COD tidak memenuhi baku mutu. Berdasarkan analisis korelasi Product Moment menunjukkan adanya hubungan antara jarak dengan kualitas air sungai menunjukkan nilai yang berbeda-beda untuk hasil korelasi yang mempunyai hubungan yaitu parameter bau, warna, COD dan hasil yang tidak mempunyai korelasi suhu dan TSS. Jadi semakin jauh jarak dari sumber pencemar maka kualitas air sungai akan semakin baik.

Kata Kunci : Kualitas air, jarak efluen, sungai, limbah penyamakan kulit