

ANALISIS PENCEMARAN LOGAM BERAT TIMBAL AKIBAT AKTIVITAS PEMBUANGAN LIMBAH INDUSTRI 'X' DI ALIRAN SUNGAI GAJAH WONG YOGYAKARTA TAHUN 2023

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INTISARI

Sungai Gajah Wong terletak di Kota Yogyakarta Daerah Istimewa Yogyakarta yang menerima limbah dari berbagai kegiatan industri contohnya seperti industri 'X', kegiatan domestik dari warga sekitar dan kebun binatang. Limbah tersebut berpotensi mengandung logam berat seperti Timbal dan yang lainnya. Tujuan dari penelitian ini adalah untuk mengetahui kadar Timbal di aliran Sungai Gajah Wong akibat aktivitas pembuangan limbah industri 'X' di beberapa titik tertentu untuk kemudian dianalisis berdasarkan kondisi lingkungan, debit aliran air, pH air, dan jarak pengambilan sampel. Tinggi rendahnya kadar Timbal dalam aliran Sungai Gajah Wong dipengaruhi oleh beberapa faktor salah satunya yaitu kondisi lingkungan di sekitar aliran sungai. Metode penelitian yang digunakan adalah metode survey dengan teknik sampling *grab sampling*. Pengambilan sampel dilakukan di tujuh titik dengan dua kali pengulangan di masing-masing titiknya. Pengujian dilakukan menggunakan metode SNI 06-6989.46-2005 dan menunjukkan kadar Timbal = 0,0004 – 0,0023 mg/L pada pengukuran pagi hari dan 7×10^{-6} - 0,0025 mg/L pada pengukuran siang hari. Hasil tersebut berada di bawah Standar Baku Mutu menurut Peraturan Gubernur Daerah Istimewa Yogyakarta No. 20 Tahun 2008 tentang Baku Mutu Air Provinsi sebesar 0,003 mg/L. Setelah dianalisis menggunakan grafik, hasil pengujian timbal menunjukkan adanya penurunan diiringi dengan turunnya debit aliran air.

Kata kunci : Timbal; Sungai Gajah Wong

***ANALYSIS OF LEAD HEAVY METAL POLLUTION DUE TO INDUSTRIAL
WASTE DISPOSAL ACTIVITIES 'X' IN THE GAJAH WONG RIVER
YOGYAKARTA IN 2023***

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ABSTRACT

Gajah Wong River is located in Yogyakarta City, Yogyakarta Special Region, which receives waste from various industrial activities such as industry 'X', domestic activities from local residents and zoos. The waste has the potential to contain heavy metals such as Lead and others. The purpose of this study is to determine the levels of Lead in the Gajah Wong River due to industrial waste disposal activity 'X' at several specific points to be analysed based on environmental conditions, water flow discharge, water pH, and sampling distance. The high and low levels of Lead in the Gajah Wong River are influenced by several factors, one of which is the environmental conditions around the river. The research method used is survey method with grab sampling technique. Sampling was carried out at seven points with two repetitions at each point. Tests were conducted using the SNI 06-6989.46-2005 method and showed Lead levels = 0.0004 - 0.0023 mg/L in morning measurements and 7×10^{-6} - 0.0025 mg/L in afternoon measurements. These results are below the Quality Standard according to the Yogyakarta Special Region Governor Regulation No. 20 of 2008 concerning Provincial Water Quality Standard of 0.003 mg/L. After being analysed using a graph, the lead test results showed a decrease accompanied by a decrease in water flow discharge.

Keywords : *Lead; Gajah Wong River*