

Evaluation of mercury (Hg) control analysis in water bodies near traditional gold mines

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Abstract	<p>Purpose: This study evaluates the mercury content in water bodies around artisanal gold mines. Methods: This study was conducted in water bodies in the Gledeg, Cimande, and Panaruban rivers, Paningkaban Village, Gumelar in Banyumas Regency as a sampling site for traditional gold mining wastewater by taking three sampling points at locations that are before, right, and after being polluted. Samples were then analyzed using the AAS (Atomic Absorption Spectrophotometry) method to measure mercury content. The data obtained were compared with applicable water and sediment quality standards, such as those set by WHO. Sample analysis was conducted at the Research Laboratory of Jenderal Soedirman University. The research time from the preliminary survey, sampling, lab test, and data analysis was conducted from May to August 2024. Results: The results showed that the mercury content in water bodies ranged from 0.05489 mg/L to 12.3544 mg/L, exceeding the threshold set by WHO (0.001 Å, Åµg/L), PP No. 82/2001, and Kepmen LH No. 2/1988 (0.001 mg/L). Conclusion: This study found significant levels of mercury contamination, and further mitigation and regulatory actions are required to protect the environment and the health of local communities.</p>
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Author	AGNES FITRIA WIDIYANTO, S.KM, M.Sc.