

ABSTRAK

PENENTUAN KANDUNGAN LOGAM BERAT (Pb), KADMIUM (Cd), MANGAN (Mn) PADA SEDIMEN DAN PLANKTON PESISIR PULAU SERTUNG SECARA SPEKTROFOTOMETRI SERAPAN ATOM (SSA)

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Telah dilakukannya penentuan kandungan logam berat Timbal (Pb), Kadmium (Cd), Mangan (Mn) pada Sedimen dan Plankton yang diperoleh dari Pesisir Pulau Sertung Secara Spektrofotometri Serapan Atom (SSA). Penelitian ini dilakukan untuk mengetahui cemaran logam berat di perairan Pesisir Pulau Sertung, Kepulauan Krakatau. Sampel diambil dari 3 titik yang berbeda. Preparasi sampel dilakukan dengan cara destruksi basah dan dianalisis menggunakan Spektrofotometer Serapan Atom (SSA). Hasil analisis pada sampel sedimen menunjukkan bahwa kadar logam Pb antara $33,826 \pm 0,042$ ppm – $33,881 \pm 0,118$ ppm, logam Cd antara $15,556 \pm 0,976$ ppm – $15,983 \pm 0,114$ ppm, dan logam Mn antara $21,734 \pm 0,877$ ppm – $23,128 \pm 0,145$ ppm. Konsentrasi logam Pb dan Mn berada di bawah ambang batas dan logam Cd berada di atas ambang batas yang telah ditetapkan National Sediment Quality Survey USEPA (2004). Hasil analisis kandungan logam Pb dan Cd pada air berturut-turut 0,241 ppm dan 0,027 ppm berada di atas baku mutu sedangkan logam Mn sebesar 0,059 ppm berada di bawah baku mutu yang ditetapkan oleh Keputusan Kementrian Negara Lingkungan Hidup No. 51 tahun 2004 tentang Baku Mutu air laut. Hasil analisis kandungan logam Pb, Cd dan Mn pada sampel plankton berturut-turut yaitu 2,380 ppm, 0,449 ppm dan 0,230 ppm. Konsentrasi logam berat Pb, Cd dan Mn pada plankton lebih tinggi dibandingkan pada sampel air.

Kata kunci: Pesisir Pulau Sertung, logam berat, sedimen, air, plankton.

ABSTRACT

DETERMINATION THE CONTENT OF HEAVY METALS LEAD (Pb), CADMIUM (Cd), MANGANESE (Mn) IN SEDIMENTS AND COASTAL PLANKTON OF SERTUNG ISLAND BY ATOMIC ABSORPTION SPECTROPHOTOMETRY (SSA)

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The determination of the content of heavy metals Lead (Pb), Cadmium (Cd), Manganese (Mn) in Sediments and Plankton obtained from the coast of Sertung Island by Atomic Absorption Spectrophotometry (AAS) has been carried out. This research was conducted to determine heavy metal contamination in the coastal waters of Sertung Island, Krakatau Islands. Samples were taken from 3 different points. Sample preparation was carried out by wet destruction and analyzed using an Atomic Absorption Spectrophotometer (AAS). The results of the analysis of the sediment samples showed that the metal content of Pb was between 33.826 ± 0.042 ppm – 33.881 ± 0.118 ppm, the metal Cd was between 15.556 ± 0.976 ppm – 15.983 ± 0.114 ppm, and the metal Mn was between 21.734 ± 0.877 ppm – 23.128 ± 0.145 ppm m . The concentrations of Pb and Mn were below the threshold and Cd was above the threshold set by the USEPA National Sediment Quality Survey (2004). The analysis results for the content of Pb and Cd metals in water were 0.241 ppm and 0.027 ppm respectively above the quality standard while 0.059 ppm Mn metal was below the quality standard stipulated by Decree of the State Ministry of Environment No. 51 of 2004 concerning Seawater Quality Standards. The results of analysis of the metal content of Pb, Cd and Mn in plankton samples were 2.380 ppm, 0.449 ppm and 0.230 ppm respectively. The concentrations of heavy metals Pb, Cd and Mn in plankton were higher than in water samples.

Keywords: Sertung Island coast, heavy metals, sediment, water, plankton.