ABSTRACT

DETERMINATION OF THE CONTENT OF HEAVY METALS LEAD (Pb), CADMIUM (Cd), AND MANGANESE (Mn) IN SEDIMENTS IN THE WAY BELAU RIVER, KEDATON DISTRICT, BANDAR LAMPUNG

By

Rizka Nalia Pumita

Determination of the heavy metal content of Pb, Cd, and Mn in the sediment obtained from the Way Belau River, Kedaton District, Bandar Lampung City. Samples were taken from 9 points and measurements of heavy metals Pb, Cd, and Mn in water as well as measurements with parameters pH, Temperature, and Turbidity as supporting data. Sample preparation was carried out by wet digestion and analyzed using Atomic Absorption Spectrophotometer (AAS). The results of the analysis on sediment samples showed that the levels of Pb metal were between 16.50 ± 0.31 ppm-28.80 ± 0.26 ppm, Cd metal was between 2.21 ± 0.03 ppm-2.42 ± 0.04 ppm, and Mn metal between 98.61 ± 0.04 ppm-141.29 ± 0.03 ppm is below the threshold set by the USEPA National Sediment Quality Survey (2004). The results of the analysis of the metal content of Pb, Cd, and Mn in water were 0.09 ppm, 0.03 ppm, respectively; and 0.62 ppm is above the quality standard stipulated by the Minister of Health of the Republic of Indonesia No. 32 Year 2017 and measurement of pH in water was obtained at 6.5 with a temperature of 29°C, and turbidity of 21.3 NTU where the turbidity of the Way Belau River exceeded the standard set limit (Permenkes No. 492, 2010) the standard value of turbidity in drinking water was 5 NTU, pH 6.5-8.5 and temperature ±3°C from air temperature.

Keywords: Heavy metals, Pb, Cd, Mn, Sediment and water, Way Belau River

ABSTRAK

PENENTUAN KANDUNGAN LOGAM BERAT TIMBAL (Pb), KADMIUM (Cd), DAN MANGAN (Mn) PADA SEDIMEN DI SUNGAI WAY BELAU KECAMATAN KEDATON KOTA BANDAR LAMPUNG

Oleh

Rizka Nalia Pumita

Telah dilakukannya penentuan kandungan logam berat Pb, Cd, dan Mn pada sedimen yang diperoleh dari Sungai Way Belau Kecamatan kedaton, Kota Bandar Lampung. Sampel yang diambil berasal dari 9 titik dan pengukuran logam berat Pb, Cd, dan Mn pada air serta pengukuran dengan parameter pH, Suhu, dan Kekeruhan sebagai data penunjang. 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 16,50 ± 0,31 ppm-28,80 ± 0,26 ppm, logam Cd antara 2,21 ± 0,03 ppm-2,42 ± 0,04 ppm, dan logam Mn antara 98,61 ± 0,04 ppm-141,29 ± 0,03 ppm berada di bawah ambang batas yang telah ditetapkan *National Sediment Quality Survey* USEPA (2004). Hasil analisis kandungan logam Pb, Cd, dan Mn pada Air berturu-turut sebesar 0,09 ppm, 0,03 ppm; dan 0,62 ppm berada di atas baku mutu yang ditetapkan oleh Permenkes RI No. 32 Th 2017 serta pengukuran pH pada air didapatkan sebesar 6,5 dengan suhu sebesar 29°C, dan kekeruhan sebesar 21,3 NTU dimana kekeruhan Sungai Way Belau melebihi batas standar yang ditetapkan (Permenkes No 492 Th 2010) nilai standar kekeruhan pada air minum yaitu 5 NTU, pH 6,5-8,5 dan Suhu ±3°C dari suhu udara.

Kata Kunci: Logam berat, Pb, Cd, Mn, Sedimen dan air, Sungai Way Belau