ABSTRACT

DISTRIBUTION STUDY OF ALUMINUM (Al) AND IRON (Fe) IN SEDIMENT OF THE PANJANG HARBOUR BANDAR LAMPUNG

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Distribution study of Aluminum (Al) and Iron (Fe) in sediment of the Panjang Harbour Bandar Lampung had been conducted. Concentrations of Al and Fe were determined by Atomic Absorption Spectrophotometer (AAS) GBC X 200 with four parameters of validation methods, those are: linearity, detection limit, precision and accuration. The result showed that concentration of Al in sediment ranged from $0,0580 \pm 0,0070$ ppm to $117,6136 \pm 0,1491$ ppm, and concentration of Fe ranged from $0,0397 \pm 0,0064$ ppm to $625,2750 \pm 2,2333$ ppm. Distribution of Al and Fe spread equally of all sampling zones. Except in F and G point, the difference of concentration that had been count not affected significantly by temperature, pH and flow rate, but suggest to the difference of sediment type. Validation method of Al and Fe showed the linearity for both Al and Fe by same r value, 0,999. Precision of the metals showed in which %RSD value $< 6,1\%$ for Al, and $< 8\%$ for Fe. Accuration showed the %recovery value in which ranged from $90 - 107\%$. Detection limit showed 0,0258 ppm for Al and 0,0255 ppm for Fe. The results of validation method showed that the proposed method is fit for purpose.

Keyword : Metal distribution, Al, Fe, Sediment, Panjang Harbour