

SARI

Kehadiran TPA Piyungan diindikasikan memiliki dampak bagi lingkungan sekitar termasuk pencemaran terhadap tanah karena adanya kandungan logam berbahaya pada sampah seperti Pb, Cu, Zn dan Cd. Semakin meningkatnya volume sampah di TPA Piyungan dapat mencemari tanah melalui air lindi, sehingga potensi tercemarnya tanah di wilayah sekitar TPA Piyungan semakin besar. Adapun tujuan dari penelitian ini yaitu menganalisis konsentrasi Pb, Cu, Zn dan Cd dalam tanah, menganalisis penyebaran secara lateral dan vertikal Pb, Cu, Zn dan Cd dalam tanah, dan melakukan penilaian (*assessment*) terhadap kontaminasi logam berat dalam tanah di lokasi TPA Piyungan. Tahapan yang dilakukan pada penelitian ini meliputi tahap pendahuluan, pengambilan sampel tanah, analisis data, dan penyusunan laporan. Analisis data dilakukan terhadap 44 sampel tanah untuk mengetahui karakteristik tanah, konsentrasi kontaminan logam berat, penyebaran kontaminan logam berat, dan pengaruh pencemaran oleh kontaminan logam berat terhadap lingkungan. Hasil penelitian menunjukkan bahwa secara umum tingkat pencemaran tanah oleh logam berat Pb, Cu, Zn, dan Cd di lokasi penelitian masih termasuk kategori rendah sampai sedang. Pola penyebaran kontaminan logam berat dalam tanah di lokasi penelitian secara lateral cenderung terpusat pada zona *Piyungan Interface*, kemudian konsentrasinya semakin berkurang seiring dengan bertambahnya jarak terhadap TPA. Berdasarkan perhitungan penilaian kontaminasi logam berat dalam tanah diketahui bahwa indeks beban pencemaran (*PLI*) termasuk tingkatan rendah sampai sedang dan indeks risiko lingkungan (*RI*) di lokasi penelitian termasuk tingkatan rendah.

Kata kunci: penilaian, tanah, kontaminasi, logam berat, tempat pembuangan akhir.

ABSTRACT

The presence of the Piyungan Landfill is indicated to have an impact on the surrounding environment including pollution of the soil due to the presence of harmful metals in the waste such as Pb, Cu, Zn and Cd. The increasing volume of waste in the Piyungan Landfill can contaminate the soil through leachate, so that the potential for soil contamination in the area around the Piyungan Landfill is even greater. The objectives of this study were to analyze the concentration of Pb, Cu, Zn and Cd in the soil, to analyze the lateral and vertical distribution of Pb, Cu, Zn and Cd in the soil, and to conduct an assessment of heavy metal contamination in the soil at the Piyungan landfill site. The stages carried out in this study include the preliminary stage, soil sampling, data analysis, and report preparation. Data analysis was carried out on 44 soil samples to determine soil characteristics, concentration of heavy metal contaminants, distribution of heavy metal contaminants, and the effect of pollution by heavy metal contaminants on the environment. The results showed that in general the level of soil pollution by heavy metals Pb, Cu, Zn, and Cd at the study site was still in the low to moderate category. The pattern of distribution of heavy metal contaminants in the soil at the study site tends to be laterally concentrated in the Piyungan Interface zone, then the concentration decreases with increasing distance from the landfill. Based on the calculation of the heavy metal contamination assessment in the soil, it is known that the Pollution Load Index (*PLI*) includes low to moderate levels and the environmental Risk Index (*RI*) at the study site is low.

Keywords: assessment, soil, contamination, metals, landfill