

## INTISARI

Salah satu bagian penting dalam pengelolaan sampah di Daerah Istimewa Yogyakarta yakni TPA Piyungan. TPA ini terletak di Desa Sitimulyo Kecamatan Piyungan Kabupaten Bantul Daerah Istimewa Yogyakarta, dirancang dengan sistem *sanitary landfill*. Dalam operasi dan pemeliharannya tidak sesuai prosedur yang telah ditetapkan sehingga TPA ini berpotensi mencemari lingkungan, khususnya mencemari airtanah sekitarnya. Sampel penelitian berupa sampel air lindi (*leachate*), sampel air permukaan, dan sampel airtanah.

Penelitian ini bertujuan untuk (1) mengetahui konsentrasi unsur-unsur / nilai parameter air lindi sampah TPA; (2) mengetahui pengaruh air lindi tersebut terhadap mutu airtanah (air sumur) di sekitarnya. Metode pengambilan sampel adalah *purposive sampling*, untuk sampel airtanah dengan distribusi mulai dari lokasi TPA ke arah barat laut (4 titik sampel) dan arah memanjang dari TPA ke utara, ke arah hilir Sungai Banyakan (4 titik sampel) sesuai pola aliran permukaan dan tegak lurus kontur airtanah. Air lindi dan air permukaan, masing-masing dua titik sampel, berdasarkan letak dan sumber air lindi dan air permukaan.

Data hasil analisis laboratorium diuji dengan tabel silang sederhana dan dibandingkan dengan Baku Mutu Air Golongan A dan Baku Mutu Air Limbah untuk Daerah Istimewa Yogyakarta menurut Keputusan Gubernur Kepala Daerah Istimewa Yogyakarta No.214/KPTS/1991. Hasil penelitian menunjukkan bahwa konsentrasi unsur-unsur / nilai-nilai parameter air lindi yang telah melampaui Baku Mutu Air Limbah Golongan II yaitu: klorida; COD serta kesadahan.

Sampel airtanah (air sumur) yang telah melampaui Baku Mutu Air Golongan A adalah kalsium (Ca), nitrat ( $\text{NO}_3$ ), nitrit ( $\text{NO}_2$ ), dan COD. Konsentrasi unsur-unsur / nilai-nilai parameter seperti DHL, kesadahan, alkalinitas, kalium dan kalsium cenderung meningkat ke arah hilir Sungai Banyakan. Tingginya konsentrasi unsur-unsur / nilai parameter, baik sampel air lindi maupun sampel airtanah menunjukkan bahwa keberadaan TPA Piyungan yang meng-hasilkan air lindi sudah mencemari dan menurunkan mutu airtanah sekitarnya.

***Kata-kata kunci: Tempat pembuangan akhir sampah, air lindi, dan airtanah.***

## ABSTRACT

Final Disposal of Solid Waste (FDSW) is a necessary part of the solid waste management at Daerah Istimewa Yogyakarta. FDSW located at Sitimulyo Village, Piyungan District, Bantul Regency Daerah Istimewa Yogyakarta. which was designed by sanitary landfill system. Caused its have disobedient operational and maintenance the environment pollution potentially especially groundwater pollution around of FDSW location.

The objective of this research was to (1) know the concentration of elements / parameter values of leachate of Final Disposal of Solid Waste (FDSW); (2) know the influence of leachate toward the ground water (well water) quality around the FDSW. The sample was taken by purposive sampling method, for groundwater which with distribution from (FDSW) location direct to Northwest (4 point samples) and direct along the TPA to North , direct to downstream of Banyakan River (4 point samples) appropriate the surface stream flow pattern and upright straight of groundwater contour. We get two point of samples for each lindi water and surface water based on their location and source.

The result data of laboratories analysis was tested by simple cross table and compared by Water Quality Standard of Class-A and Waste Water Quality Standard for Daerah Istimewa Yogyakarta according to Governor Decree of DIY No. 214/KPTS/1999. The research result show that element concentration / parameter values of water lindi which have exceed the Water Quality Standard Class-II are chloride, COD and hardness ( $\text{CaCO}_3$ ).

The result of ground water (well-water/unconfined groundwater) samples research which have exceeded the Water Quality Standard Class-A are Ca,  $\text{NO}_3$ ,  $\text{NO}_2$ , and COD. The elements concentration / parameter values such as DHL, hardness, alkalinity, kalium and calcium are increase direct to the down stream of Banyakan River. The height of elements concentration / parameter values of leachate and groundwater samples, show that the existence of FDSW which produced leachate have polluted and decreased the ground water quality around the FDSW.