

**EVALUASI TEMPAT PEMROSESAN AKHIR (TPA) SAMPAH WINONG
BERDASARKAN PENILAIAN INDEKS RISIKO LINGKUNGAN DI DUSUN
III, DESA WINONG, KECAMATAN BOYOLALI, KABUPATEN
BOYOLALI, PROVINSI JAWA TENGAH**

Oleh :

Nyimas Afipa Okta Wulandari
114170009/TL

INTISARI

TPA Winong dirancang menggunakan sistem pengoperasian *Controlled Landfill*, tetapi pada pelaksanaannya masih menerapkan sistem *Open Dumping*. Hal tersebut dapat menimbulkan beberapa masalah diantaranya yaitu pencemaran udara dan airtanah serta penyakit. Selain itu, saat musim hujan air lindi terceccecer karena tidak adanya saluran drainase untuk mengendalikan aliran air, tidak tersedianya sistem pengendalian gas metana serta kurang pengoptimalisasian unit instalasi pengolahan lindi. Penelitian ini bertujuan untuk mengetahui evaluasi kualitas lingkungan serta merancang sistem lahan urug TPA Sampah Winong dengan sistem *controlled landfill*.

Metodologi dalam penelitian yaitu metode survei dan pemetaan, metode *sampling (purposive sampling dan grab sampling)* dan metode analisis (uji laboratorium, pengharkatan dan penilaian sesuai indeks risiko lingkungan yang mengacu pada Peraturan Menteri Pekerjaan Umum No.3 Tahun 2013) dan metode wawancara. Parameter yang diamati berupa kriteria tempat pembuangan akhir (20 parameter), kriteria sampah di TPA (4 parameter), dan karakteristik air lindi (3 parameter).

Hasil penelitian menunjukkan TPA Sampah Winong termasuk dalam kriteria tingkat bahaya sedang dengan nilai 521,4457. Oleh karena itu, tindakan yang disarankan adalah TPA tersebut diteruskan dan melakukan rehabilitasi menjadi lahan urug terkendali secara bertahap. Arahan pengelolaan untuk mengatasi dan meminimalisir permasalahan kualitas lingkungan TPA Sampah Winong dengan melakukan penambangan lahan urug, membuat sel pembuangan sampah baru dengan lapisan *liner* yang ditambah geosintesis, sistem jaringan pengumpul gas metan, sistem jaringan pengumpul lindi, pengoptimalisasian unit instalasi pengolahan lindi (IPL), jaringan drainase dan zona penyangga.

Kata Kunci : Kualitas Lingkungan, Indeks Resiko Lingkungan, Rehabilitasi TPA, Lahan Urug Terkendali

EVALUATION OF WINONG WASTE LANDFILL BASED ON INTEGRATED RISK BASED APPROACH (IRBA) IN HAMLET III, WINONG VILLAGE, BOYOLALI DISTRICT, BOYOLALI REGENCY, CENTRAL JAVA PROVINCE

By :

Nyimas Afipa Okta Wulandari
114170009/TL

ABSTRACT

TPA Winong is designed to use the Controlled Landfill operating system, but in practice it still applies the Open Dumping system. This can cause several problems including air and groundwater pollution and disease. In addition, during the rainy season, leachate is scattered due to the absence of drainage channels to control the flow of water, the unavailability of a methane gas control system and the lack of optimization of the leachate treatment plant unit. This study aims to determine the evaluation of environmental quality and to design a landfill system for the Winong Waste Landfill with a controlled landfill system.

The methodologies in the research are survey and mapping methods, sampling methods (purposive sampling and grab sampling) and analytical methods (laboratory tests, ratings and assessments according to the environmental risk index referring to the Regulation of the Minister of Public Works No.3 of 2013) and the interview method. The parameters observed were the criteria for the final disposal site (20 parameters), the criteria for waste in the landfill (4 parameters), and the leachate characteristics (3 parameters).

The results showed that the Winong Waste Landfill was included in the medium hazard criteria with a value of 521,4457. Therefore, the recommended action is that the landfill is continued and rehabilitated into controlled landfill in stages. Management directives to overcome and minimize environmental quality problems at the Winong Garbage Landfill by mining landfills, making new waste disposal cells with a liner layer added with geosynthesis, methane gas collection network system, leachate collection network system, optimization of leachate treatment installation units (IPL), drainage network and buffer zone.

Keywords : *Environmental Quality, Integrated Risk Based Approach (IRBA), Landfill Rehabilitation, Controlled Landfill.*