Evaluasi kinerja lingkungan Instalasi Pengolahan Air Sampah (IPAS) IV TPST Bantargebang

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Abstrak

Pengelolaan sampah perkotaan di Indonesia tidak dapat lepas dari peran Tempat Pembuangan Akhir (TPA). Salah satu TPA sampah yang menerapkan sistem sanitary landfill adalah TPST Bantargebang. Perencanaan TPST Bantargebang sudah sesuai dengan prosedur perlakuan landfill, namun pemeliharaan dan monitoring yang dilaksanakan pengelola TPST belum sempurna karena Undi masih keluar dari lingkungan TPST. Peningkatan kinerja lingkungan IPAS IV TPST Bantargebang sangat diperlukan sehingga efluen yang dihasilkan dapat memenuhi standar baku mutu yang telah ditetapkan dan dampak yang ditimbulkan ke lingkungan dapat diminimalkan. Penelitian ini dilakukan untuk mengetahui kinerja IPAS IV dalam hal mengolah Undi; menganalisis pengaruh Undi pada kualitas air sumur penduduk; menganalisis pengaruh Undi pada Sungai Gketing-Sumur Batu. Penelitian untuk mengetahui kualitas Undi dan efisiensi bak pengolahan Undi dilakukan di inlet, outlet, dan masing-masing bak yang ada di IPAS IV. Penelitian untuk mengetahui pengaruh Undi terhadap kualitas air sungai dilakukan di sepanjang Kali Ciketing dan Kali Sumur Batu. Penelitian untuk mengetahui pengaruh Undi terhadap kualitas air sumur penduduk dilakukan dengan pengambilan sampel sumur penduduk yang masih digunakan penduduk untuk keperluan sehari-hari dan berada di sekitar lokasi TPST Bantargebang. Hasil perhitungan menunjukkan persentase penyisihan yang dicapai oleh IPAS TV untuk beberapa parameter kunci masih belum optimal, yaitu SS sebesar 43,78%, COD sebesar 78%, BOD sebesar 76,2%, dan ammonia sebesar 96,06%. Parameter utama yang lain, misalnya nitrit, nitrat, dan besi setelah pengolahan di IPAS IV nilainya bertambah besar. Parameter utama Undi yang mencemari air sungai adalah SS, nitrat, nitrit, COD, dan BOD. Parameter utama Undi yang mencemari air sumur adalah SS, pH, nitrat, dan besi. Dari hasil penelitian dapat disimpulkan bahwa Kinerja pengolahan IPAS IV TPST Bantargebang masih belum optimal.

.....Treatment system of urban waste in Indonesia related to Municipal Waste Disposal Site (MWDS). One of MWDS that used sanitary /andfill system is MWDS Bantargebang. MWDS Bantargebang planning has been same with /andfill procedure, but maintenance and monitoring by MWDS manager does not good because leachate still goes outof MWDS area that will be impacted to stream water guaiity and soil water guaiity in around MWDS. Considering the bad impact that was caused, the improvement environment efficiency of leachate treatment plant (LTP) IV is really needed, so efhuent that was produced could pass the Standard o f guaiity that was determined and the Impact could minimized. The goals of this thesis are to know the efficiency of Leachate Treatment Plant IV MWDS Bantargebang to threat leachate, to anafyze the impact of leachate for soil water guaiity especially ground water in around MWDS Bantargebang, and to analyze the impact of leachate for stream water guaiity (Ciketing-Sumur Batu River). The researches of leachate guaiity and the leachate treatment units efficiency located in inlet, outiet, and each unit in Leachate Treatment Plant IV MWDS Bantargebang. The research of leachate impact to stream water guaiity located in throughout Ciketing and Sumur Batu River. The research of leachate impact to soil water guaiity especially ground water by doing take a ground water sample that still in used for dally purpose and located

in around MWDS Bantargebang. Calculation result shown the percentage of eliminab'on that was reached by LTP IV for several key parameters still not yet optimal, such as SS is 43,78%, COD is 77,9%, BOD is 76,2%, and ammonia is 96,06%. The value ofthe other parameter, such as nitrit, nitrate, and ferro became increased after treated in LTP IV. The main leachate parameter that pollute the stream water are SS, nitrate, nitrit, COD, and BOD. The main leachate parameters that pollute the ground water are SS, pH, nitrate, and ferro. The conclusions o f this research are the Leachate Treatment Plant IV efficiency is still not yet optimized. LTP IV cannot decllne pollutant load as expected due to lack of installation support to the leachate load.