

LAJU INFILTRASI PADA LAHAN BEKAS TAMBANG YANG SUDAH DIREVEGETASI DI PT. SUGIH ALAMANUGROHO GUNUNG KIDUL YOGYAKARTA

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ABSTRAK

Penambangan terbuka di PT. Sugih Alamanugroho berakibat pada degradasi lingkungan. Salah satu penanganan degradasi di lingkungan tambang adalah dengan adanya upaya revegetasi. Meskipun begitu, pelaksanaan revegetasi di PT. Sugih Alamanugroho belum maksimal sehingga masih terdapat kerusakan struktur yang menyumbat tanah yang menyebabkan tersumbatnya pori tanah dan mengganggu ketersediaan air pada lingkungan tersebut. Tersedianya air tidak terlepas dari infiltrasi. Tujuan penelitian ini memberikan informasi mengenai laju infiltrasi dan faktor yang mempengaruhinya di PT. Sugih Alamanugroho. Metode penelitian yang digunakan yaitu metode survei. Penentuan titik sampel dalam penelitian ini berdasarkan peta sistem lahan 1: 5.000 secara *purposive*. Pengukuran laju infiltrasi di lapangan menggunakan *double ring infiltrometer* dan rumus Horton. Pengambilan contoh tanah dilakukan untuk analisis sifat tanah seperti tekstur, struktur, berat volume, berat jenis, permeabilitas, dan bahan organik. Hasil perhitungan laju infiltrasi di PT. Sugih Alamanugroho menunjukkan status harkat sedang. Uji korelasi Pearson antara laju infiltrasi dengan sifat fisik tanah dan bahan organik menunjukkan fraksi pasir berkorelasi paling kuat ($r = 0,6$). Konservasi tanah dan air secara vegetatif seperti menggunakan tanaman legum diperlukan untuk menjaga laju infiltrasi di PT. Sugih Alamanugroho.

Kata Kunci : Laju infiltrasi, siklus hidrologi, kemiringan lereng, sifat fisik, *double ring infiltrometer*.

**THE RATE OF INFILTRATION ON EX-MINING LAND THAT HAS
BEEN REVEGETATION AT PT. SUGIH ALAMANUGROHO BEDOYO
VILLAGE KAPANEWON PONJONG GUNUNG KIDUL REGENCY
SPECIAL REGION OF YOGYAKARTA**

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ABSTRACT

Open pit mining at PT Sugih Alamanugroho results in environmental degradation. One of the treatments for degradation in the mining environment is revegetation. However, the implementation of revegetation at PT Sugih Alamanugroho has not been maximized so that there is still damage to the structure that clogs the soil which causes blockage of soil pores and disrupts the availability of water in the environment. Water availability is inseparable from infiltration. The aim of this research is to provide information about infiltration rates and factors that influence them at PT Sugih Alamanugroho. The research method used was the survey method. Determination of sample points in this study was based on the 1: 5,000 land system map purposively. Measurement of infiltration rate in the field using double ring infiltrometer and Horton formula. Soil sampling was conducted to analyze soil properties such as texture, structure, volume weight, specific gravity, permeability, and organic matter. The results of the calculation of infiltration rate at PT Sugih Alamanugroho showed moderate status. Pearson correlation test between infiltration rate with soil physical properties and organic matter showed that sand fraction has the strongest correlation ($r = 0.6$). Vegetative soil and water conservation such as using legume plants is needed to maintain infiltration rates at PT Sugih Alamanugroho.

Keywords : Infiltration rate, hydrological cycle, slope, physical properties,
Double ring infiltrometer.