SUMMARY

DANU WITOKO. Paper Sludge Application To Upgrade Quality of Tailing. Under supervision of FAHRIZAL HAZRA and ENNY WIDYATI.

Tailings are materials discarded after separating valuable materials from not valuable in ore mining. Sludge is mud come from the waste water treatment process. Based on referrals from previous research, sludge of paper mill can be used as a soil ameliorant, it was significant in reducing levels of heavy metals and in improving pH, CEC, and nutrient availability of ex-coal mining soil. Therefore the use of sludge is also expected to improve the quality of the tailings.

The study aims to apply of paper mills to improve properties of gold tailings. Analyses were performed at the Laboratory of Chemistry and Soil Fertility, and the Laboratory of Soil and Water Conservation, Department of Soil Science and Land Resources, Faculty of Agriculture, Bogor Agricultural University. This study used two types of tailing namely tailing dump and tailing pond, and one type of sludge that is the paper industry sludge. According to the research has been done before, the concentration of sludge that gave significant impact impact way 25% and 50% (v/v). Therefore, the usage for each of the sludge using two different concentration levels of 25% and 50% (v/v).

The results showed that the addition of sludge in the tailings increased levels of N-total, P-available, CEC, base saturation, and aggregate stability. The addition of sludge by 50% is the most effective dose to improve the chemical and physical properties of tailings.

Keywords: sludge, tailing, aggregation