

**TECHNICAL ENGINEERING OF RECLAMATION BASED ON LAND
DAMAGE CAUSED BY ROCK MINING ACTIVITY IN ALAS OMBO AND
KARANGANYAR VILLAGE, WERU DISTRICT, SUKOHARJO REGENCY,
CENTRAL JAVA PROVINCE**

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ABSTRACT

Rock mining activity of sandstone and calcarenite in Alas Ombo and Karanganyar Village, Weru District, Sukoharjo Regency, Central Java Province caused the happening of the change of the land function, landforms and environmental quality. The purpose of this research is to find out the total score of land damage which was caused by mining activity and to design the type of land management as an activity to preserving environmental function.

Methods used in this research to calculate land damage were survey and parameter's mapping, also determining the measurement area of land damage's parameters with purposive sampling methods which is doing certain consideration with assumption that can be representative entirely. Soil sampling is done by diagonal systematic method which is determining the center point of a certain area then take samples from directions of four points of compass and mix it so it become one sample. Soil quality test parameters were pH, texture, c organic, n total, k available p₂o₅, ca, mg, na and permeability. Mathematical methods used to calculate land damage and reclamation costs, interview and incidental methods are used to obtain information from the community by chance or by chance that can be informants. Method that was used to assets the damage is scoring method based on Parameters for the land damage by the regulation of Governor of Special District of Yogyakarta No. 63, 2003 about the Criteria of Land Damage for Mining Activity of the Class C Material. description and explanation on land damage and technical design of reclamation engineering using descriptive analysis. The parameters use for border edge, the slope wall, excavation depth, wall height, form base excavation, vegetation crop, and road condition.

The result of this research showed that mining activity does not have the permission yet with the land damage obtained is classified as moderately damage with the score is 16. The land management design will be determined by the Urban Landuse Plan of Sukoharjo Regency 2011 – 2031 which is plantation with the terrace slope is 20. Meanwhile teak tree with the spacing of 9x9 meters and covercrop like peking grass were choosen as the revegetation plant. The reclamation costs 79.074.500

Key words: Mining, land damage, plantation, slope engineering, soil quality analysis, teak tree