

ECOLOGICAL RESTORATION IN DRASTICALLY DEGRADED MINED AREAS¹

L. E. Dias², I.R. de Assis, and G. C. Rocha

Abstract: The open pit mining is an activity that generates environmental impacts of high intensity, but typically described as limited extension. However, due to characteristics of geology, topography hydrology and local climate, the impact of mining extends beyond the effective area of exploration. In this sense, the actions of control and environmental restoration, which revegetation is included, are essential to minimize this impact. The Brazilian laws enforce the mining companies to reclaim degraded areas from its activities. Since great mining activities in Brazil were done in Tropical Forestry regions, reclamation process must have as objective auto sustainable vegetation with similar characteristics of native forestry. But the critical point is: due the drastic disturbance promoted by mining, where the revegetation is usually done in a substrate with chemical, physical and biological unaffordable conditions, which managements have been done to archive that goal? The use of fast growth N-fixing leguminous native species, topsoil return, litter application and others ecological procedures have proportioned ways to restoring ecosystem to archives its historic trajectory. By this perspective Ecological Restoration is the process of assisting the recovery of a degraded ecosystems which by a previous restoration planning, considering a reference ecosystem, use of native species and monitoring its trajectory, create conditions to achieve the goal of auto sustainable ecosystem with functions, health, integrity and sufficiently resilient to endure stress events. Good results are obtained with ours works about land reclamation in Amazon Region mined sites using the Ecological Restoration principles determined by the Society for Ecological Restoration International –SER.

Additional Key Words: N-fixing leguminous species, revegetation, ecological reclamation.

¹ Paper was presented at the 2012 National Meeting of the American Society of Mining and Reclamation, Tupelo, MS **Sustainable Reclamation** June 8 - 15, 2012. R.I. Barnhisel (Ed.) Published by ASMR, 3134 Montavesta Rd., Lexington, KY 40502. This work received financial support from FAPEMIG and CNPq project 561905/2010-0.

² L. E. Dias, I. R. de Assis and G. C. Rocha are professors from Soil Department of Federal University of Viçosa. Vicoso-MG, 36570-000, Brazil.