Rehabilitation Programme

FACT SHEET

Introduction

Palabora Mining Company operates the largest underground copper mines in Africa. Palabora has always exercised a high standard of environmental control over its mining operations, and constant monitoring ensures that this control is maintained. Palabora maintains a detailed closure management plan that details the requirements for the eventual closure of the mine.

Environmental Rehabilitation Strategy

When dealing with disturbed land, Palabora is committed to the rehabilitation of the land to a condition as close as possible to that which existed before operations started, as well as to the prevention of long term hazards or environmental pollution occurring due to the degradation of the rehabilitation work done.

Revegetation

The revegetation of the tailings dam and rock dumps has been a priority at Palabora and its success rate has been high. The purpose of the revegetation is to provide a satisfactory plant cover that will minimise wind and water erosion of the surface, thereby reducing the potential pollution threat to the surrounding area. Revegetation also aims to diminish the visual impact of the mined areas and to prepare the disturbed areas for final mine closure.

The method used to revegetate these areas is simple, yet very effective. The dams and waste rock dumps are formed with terraces of approximately 5m lifts. As new lifts are completed, they are capped with vermiculite waste material (fine waste produced by Palabora's vermiculite production) to a depth of between 250 and 300mm. Once capping is complete, the lifts are fertilised and seeded. Any bare patches appearing within the vegetation's growth after seeding can be repaired by a second treatment. Some of the grass seeds used in the seeding process are Eragrostis tef, Anthephora pubescens, Cynodon dactylon, Cenchrus ciliaris, Panicum maximum, Digitaria eriantha and Chloris gayana.

Many trees, mainly Acacia species, Combretum species, Bolusanthus speciosus and Wild sand olives have been planted in the rehabilitated areas, but unfortunately not all survive due to the fact that many are pulled out by wild animals such as elephants and baboons.

Once the new grass has germinated it is carefully monitored and maintained in order to achieve a satisfactory, self-sustaining cover on the lifts. The parameters that are taken into account when monitoring are: species composition and number of plants, vigour and basal cover. These help to determine whether the revegetation programme is working and whether any changes need to be made to improve it. To date, Palabora has rehabilitated an area of approximately 400ha.

The current practices being performed by Palabora are ensuring that the mined areas are being well managed and monitored with respect to environmental control. It is believed that natural plant succession will slowly result in the colonisation of rehabilitated areas by local veld grass and bush species. Future developments will investigate methods of accelerating this process.

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