



Australian Government
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Tourism and Resources

OVERVIEW

LEADING PRACTICE SUSTAINABLE
DEVELOPMENT PROGRAM



OVERVIEW



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THEME 2: LAND REHABILITATION AND REVEGETATION

This theme will outline the principles and practices of mine rehabilitation, with emphasis on landform design and revegetation. The principles described should apply to any land disturbed by mining. Particular emphasis is given to the restoration of natural ecosystems, especially the re-establishment of the native flora and fauna. Topics covered include rehabilitation objectives, soil handling, earthworks, revegetation, soil nutrients, fauna return, maintenance, success criteria and monitoring.

Rehabilitation is the process used to repair the impacts of mining on the environment. The long-term objectives of rehabilitation can vary from simply converting an area to a safe and stable condition, to restoring the pre-mining conditions as closely as possible to support the future sustainability of the site.

Rehabilitation normally comprises the following:

- developing designs for appropriate landforms for the minesite;
- creating landforms that will behave and evolve in a predictable manner, according to the design principles established; and
- establishing appropriate sustainable ecosystems.¹

Landform design for rehabilitation requires a holistic view of mining operations, where each operational stage and each component of the mine is part of a plan which considers the full lifecycle of a mine i.e. planning operations and end-use of the site. This plan needs to be flexible, to accommodate changes in method and technology.

Maximising planning reduces site disturbance and ensures that material such as waste rock is close to its final location. The emphasis is on gaining and analysing as much information as possible about the site. Such research has two main uses – it provides baseline data for mine planning and essential information for the rehabilitation and closure phase, when the site is being restored to an agreed post-mining use.

Key factors which need to be considered in pre-mining studies include legal requirements, climate, topography, soils and community views. Community views are clearly very important in deciding the final land use, as they are the most likely site users. Their knowledge and expertise can also be invaluable in understanding aspects of the site.

The post-mining land use for an area should be defined in consultation with relevant interest groups including government departments, local government councils, traditional owners and private landholders.

¹ An ecosystem is a system whose members benefit from each other's participation via symbiotic relationships (positive sum relationships). It is a term that originated from biology, and refers to self-sustaining systems.

