

Benambra Mine Rehabilitation



Client: Department of Primary Industries (DPI)
Location: East Gippsland, Victoria, Australia
Date: 2005, 2006

From 1992 to 1996, the Benambra Mine operated as an underground base metal mine producing zinc and copper concentrate. In 1996, the Mine was placed into administration and mining operations ceased immediately, without the undertaking of any environmental rehabilitation.

The unplanned closure of the mine created an array of environmental problems and in 2005, the DPI engaged ATC Williams* to undertake design and documentation of a rehabilitation plan for the entire site, including the tailings dam.

We had been involved with the Benambra Mine since the late 1980's, having undertaken site investigation for the original tailings dam and subsequent design, documentation and construction management of the tailings dam embankment.

The DPI's objective was to achieve a stable and environmentally self-sustaining site that conformed to industry best practice and met stakeholder, community and legislative requirements.

Our rehabilitation plan for the site covered a range of components, including:

- re-engineering of the tailings dam to satisfy long-term closure design criteria and minimisation of contaminant production

- creation of an anaerobic wetland, downstream of the tailings dam
- disposal of remnant sulphidic waste into the tailings dam
- removal and disposal off site of all hydrocarbons, hydrocarbon contaminated soils, chemicals, plastics and steel waste
- crushing and co-disposal of all concrete
- landscaping and re-vegetation of the mine site and associated access roads.

Despite the mine's remote location, the strict environmental requirements and sometimes adverse weather, the project was successfully completed within a 4.5 month time-frame in 2006.

The project was subsequently recognised by the industry as an outstanding achievement.

Awards:

- 2006 - The Victorian CASE Earth Award for 'Environmental Excellence'
- 2006 - The National CASE Earth Award for 'Environmental Excellence'
- 2006 - The Australian Mining Magazine's Australian Mining Prospect Award for 'Excellence in Environmental Management'