

Mangoola Open Cut Sustainable Mine Rehabilitation Design – Getting the Fundamentals Right

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Mangoola Open Cut coal mine undertakes mine rehabilitation of native woodland and grassland ecosystems on reshaped overburden designed to mimic the surrounding natural environment. The ecological communities being re-established are diverse, established in the positions at which they would occur in the natural environment and complemented by substantial natural habitat features.

This approach to rehabilitation is beyond initial approval requirements and has been universally accepted by the community and government agencies, due to improvements in aesthetics and environmental outcomes.

The rehabilitation work at Mangoola is undertaken by a range of specialists and a holistic approach has been developed to ensure that each step in the rehabilitation process is effectively implemented through sound research, planning, resourcing and execution.

Works undertaken at Mangoola include:

- integration of rehabilitation into the mine planning process;
- ensuring the team share a vision of high standards and outcomes;
- understanding floristic compositions of target vegetation communities;
- utilising Geofluc designed natural landform;
- Salvage and placement of materials for habitat augmentation, endemic seed collection, construction of aquatic habitats and continual improvements in seed mix species diversity;
- A focus on direct placement of topsoil;
- Appropriate budgeting for maintenance such as access track establishment, erosion repairs and weed control;
- Sharing learnings with regulators, peers, students, community members and other stakeholders to promote improvement across the industry, including through rehabilitation tours, an interpretative walking trail and lookout.

655 hectares of rehabilitation has been completed since mining commenced in 2010. Mangoola conducts many tours of the rehabilitation and receives numerous accolades for its rehabilitation and ecological restoration methods. Although Mangoola implements a variety of best practice methods, our strength is in getting the fundamentals right and on continually finding incremental improvement opportunities. All operations have different site conditions and rehabilitation objectives, however using this approach can drive substantial improvement in ecological outcomes.