

Leading practice in mine site rehabilitation: an MCA NT perspective

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Outline

- I. What is the Minerals Council of Australia?
- II. Why are successful rehabilitation and closure important?
- III. What does the Minerals Council consider 'Leading Practice' in mine site rehabilitation and closure?
- IV. Case study to illustrate leading practice in rehabilitation and closure
- V. Summary and take-home messages

I. About the MCA

The Minerals Council of Australia is the peak industry organisation representing Australia's world-class exploration, mining and minerals processing industry.

Primary purpose: to provide policy advice and advocacy, working with governments and stakeholders to achieve ESD of mineral projects.

Enduring Value Framework for Sustainable Development

MCA member companies are committed to *the Australian Minerals Industry Framework for Sustainable Development: Enduring Value*, including the following principles most relevant to rehabilitation and closure:

6. Continually improving environmental performance;
7. Conserving biodiversity and using integrated approaches to land-use planning; and
9. Supporting social, economic and institutional development of communities in which we operate.



II. Why are successful mine site rehabilitation and closure important?

#1 ... because they demonstrate the mining industry's commitment to ecologically sustainable development (ESD)

- An ethic we embrace
- A culture that underpins our approach to environmental management
- We are part of the community
- We want post-mining lands to be a positive and enduring legacy

II. Why are successful mine site rehabilitation and closure important?

#2to gain and maintain community trust

- Trust is a prerequisite for community acceptance of or support for a proposed project.
- When combined with *bona fide* engagement, these can earn a company a **Social licence to operate**

II. Why are successful mine site rehabilitation and closure important?

#3 ... to gain and maintain the **trust of regulators** that can

- streamline EIA and approvals processes and encourage less onerous approval conditions and therefore lower compliance costs
- facilitate land access for future projects.

II. Why are successful mine site rehabilitation and closure important?

#4 ... because the reputation built by achieving this can gain the company a **COMPETITIVE ADVANTAGE**

- Sound environmental and social performance can position a company as a development partner of choice for investors, regulators and communities

II. Why are successful mine site rehabilitation and closure important?

Financial liability

#5 ... because the degree of success will determine if a company will

- get back all, none or only some of its bond back after closure; or
- be able to close and relinquish a lease; or
- have to invest in long-term ongoing and costly environmental management and rehabilitation after income from production has ceased.

III. What does the Minerals Council consider 'Leading Practice' in mine site rehabilitation and closure?

Definition of 'Leading Practice'

- Leading practice is simply the best possible way of
 - conducting activities tailored to the characteristics of a given site,
 - using proven and up-to-date methods
 - that have gained widespread acceptance
 - based on efficiency and effectiveness
- Leading practice continues to evolve, to integrate new knowledge and technologies

III. Leading Practice mine site rehabilitation and closure

Criterion 1

EARLY engagement with regulators and the community

- to get guidance on likely requirements for EIA and approvals
- to allow a company to direct limited resources to best effect to meet EIA requirements
- to gain social licence

III. Leading Practice mine site rehabilitation and closure

Criterion 2

Development plans that include identifying likely post-mining land-uses

- that balance community aspirations with likely approval conditions for closure, and what is practical and achievable
 - Can't start developing rehabilitation and closure plans without knowing the likely post-mining land-use
 - Minimum regulatory requirements mandate that post-mining lands be safe, stable and non-polluting

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Criterion 3

Early collection of baseline data to design and test effectiveness of proposed rehabilitation strategies

- Data may be derived from studies from EIA
- supplemented by studies done early in development of mine
- to trial proposed methods to determine likely effectiveness when applied to the entire disturbance footprint

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Criterion 4

Disturbed land should be progressively rehabilitated, when and where appropriate

- to minimise the amount of rehabilitation to be done once mining and processing have ceased
- to test the effectiveness of planned rehabilitation methods
- to demonstrate to regulators and communities the ability of companies to meet rehabilitation objectives.

III. Leading Practice mine site rehabilitation and closure

Criterion 5

- Rehabilitation and closure plans must have performance and outcome targets and appropriate monitoring and reporting
 - to ensure construction, operation, rehabilitation and closure activities are consistent with rehabilitation objectives and meeting targets.
- They are ‘living documents’ that will be refined throughout life of the mine.

III. Leading Practice mine site rehabilitation and closure

Criterion 6

Rehabilitation and closure planning are integral to all planning for a mining project

- Mine planning and rehabilitation specialists and operators must work together to ensure continuity in development and execution of rehabilitation plans
- They should not be ‘retrofits’ or ‘bolt-ons’ done toward the end of a mine’s life.

III. Leading Practice mine site rehabilitation and closure

Criterion 7

Successful rehabilitation does not necessarily mean restoration to pre-existing land-use prior to mining

- Nor is restoration the best post-mining land use in terms of community aspirations
- For example, communities might want to retain a pit lake for recreation or irrigation

III. Leading Practice mine site rehabilitation and closure

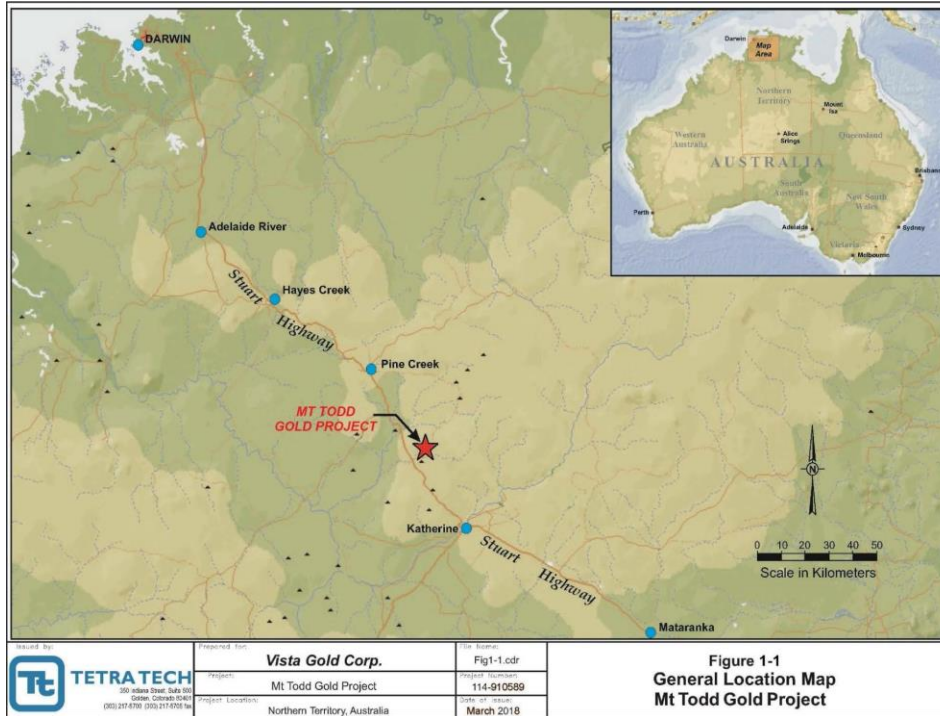
Criterion 8

Successful rehabilitation does not necessarily mean all mining voids should be backfilled

- i. Communities might want to retain a void (recreational lake, irrigation, amphitheatre, energy-generation, hotels, etc.)
- ii. Backfilling will sterilise an incompletely exploited resource
- iii. Backfilling is not always the most environmentally-sound option

IV. Case Study – Mt Todd gold mine

Location map



IV. Case Study – Mt Todd gold mine

Map 2 - Major legacy features

- Batman Pit
- Waste Rock Dump
- TSF
- Retention Pond
- Edith River



IV. Case Study – Mt Todd gold mine

Summary of Leading Practice features

Leading Practice features for mine site rehabilitation:

- VG engaged early with the community to defuse vocal opposition and gain social licence to operate
- VG engaged early with the regulator, enabling a shared understanding of opportunities and requirements
- VG made a substantial investment in research and monitoring to identify efficient, effective and practical remedial measures

★ The NTG/VG partnership is remediating a significant legacy mine to the mutual benefit of both parties and Territorians as a whole

V. Leading Practice in mine site rehabilitation & closure

Summary & take home messages

- 1. Successful rehabilitation and closure are important, because...**
 - they demonstrate our industry's commitment to sound environmental management and ESD
 - they position a company for future approvals, continued land access and less prescriptive regulatory requirements
 - gaining and maintaining social licence to operate depend on it
 - the ability to attract investors is increasingly dependent on sound environmental performance and sound operators have a competitive advantage
 - companies will want their rehabilitation bonds back if and when they meet all rehabilitation and mine closure objectives.

Leading Practice in mine site rehabilitation & closure

Summary & take home messages

2. Leading practice is characterised by...

- early and continual engagement with regulators and the community to determine an agreed post-mining land use and take along the 'journey' (construction, operation, rehabilitation and closure).
- rehabilitation planning that starts early but evolves throughout the life of the mine.
- research early on in mine life to generate relevant data and to trial proposed rehabilitation strategies for likely effectiveness

Leading Practice in mine site rehabilitation & closure

Summary & take home messages

2. Leading practice is characterised by...

- rehabilitation and closure plans that have performance indicators, outcome targets, and appropriate monitoring;
- progressive rehabilitation whenever and wherever possible; and
- considering back-filling of voids as one of multiple options and done where practical, environmentally sound and consistent with agreed post-mining land use.

Thank you. Any questions?



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