



Government of **Western Australia**  
Department of **Mines, Industry Regulation and Safety**

**STATUTORY**

# Statutory Guidelines for Mine Closure Plans

*Mining Act 1978*

Version 3.0

Effective from 3 March 2020

## Document Hierarchy for mine closure plans under the *Mining Act 1978*

Legislation	<i>Mining Act 1978</i>
Statutory Documents	<b>This Document</b>
Policy	Environmental Regulatory Strategy Environmental Objectives Policy for Mining
Guidelines	Mine Closure Plan Guidance – How to Prepare in accordance with Part 1 of “Statutory Guidelines for Mine Closure Plans”  Technical Guidance - A framework for developing mine-site completion criteria in Western Australia (2019). The Western Australian Biodiversity Science Institute, Perth, Western Australia.
Procedures	Environmental Applications Administrative Procedures

## Version History

Version	Date	Changes
1.0	2011	Initial Publication
2.0	2015	Document reviewed
3.0	2020	Statutory requirements and guidance material published into separate documents

## PURPOSE

This document is the guideline approved by the Director General, Department of Mines, Industry Regulation and Safety on 31 January 2020 under section 700 of the *Mining Act 1978* identifying the form and content of information required in a mine closure plan. This Guideline takes effect from 3 March 2020 and supersedes the *Guidelines for Preparing Mine Closure Plans* published 2015.

All mining proposals must include a mine closure plan. Mine closure plans must also be reviewed and submitted for approval every three years or alternative period as required.

## OPERATION

This Guideline takes effect from 3 March 2020.

## FORM AND CONTENT OF A MINE CLOSURE PLAN

**Part 1** form and content **must** be used for a mine closure plan except if the proposed or approved activities on the tenement(s) are considered to be small mining operations (see Part 2).

**Part 2** form and content **may** be used for activities that meet the following criteria:

1. The activities **must not** be for the mining of uranium, mineral sands or rare earth elements; and
2. The activities **must** be limited to the following activities:
  - a. Scraping and detecting.
  - b. Dry blowing.
  - c. The following activities for a total footprint of 10 hectares (ha) or less:
    - i. Mining excavations (pits, costeans, quarries, shafts, winzes, harvesting, dredging), leaching operations and tailing treatment operations.
    - ii. Any construction activities incidental or conducive to the activities including plant, tailings storage facilities and overburden dumps.

The form and content requirements for each Part are set out below.

## **PART 1: Mine Closure Plans**

The mine closure plan must be in the following form and contain the following information:

### **1. Cover Page(s)**

The cover page(s) must include:

- title;
- site name and code (environmental group site name and code from EARS2 system or note if this is a greenfields or new site);
- version number;
- date;
- tenement(s); and
- tenement holder or authorised company/person.

### **2. Project Summary**

The mine closure plan must include a description of the mining operation, and a map of the location of the mining operation showing all relevant mine activities, land disturbances, tenements and other land tenure. An estimated project completion date must be included.

### **3. Identification of closure obligations and commitments**

The mine closure plan must detail all legal obligations for rehabilitation and closure that will affect the post-mining land use and closure outcomes.

### **4. Stakeholder Engagement**

The mine closure plan must include information on the engagement that has been undertaken with stakeholders relevant to rehabilitation and mine closure, a record of the engagement undertaken to date and include a strategy for ongoing engagement.

### **5. Baseline and Closure Data and Analysis**

The mine closure plan must include baseline data that:

- informs successful rehabilitation and closure;
- identifies the issues to be managed through the mine closure process and the environmental closure risks;
- informs the development of criteria or indicators for closure monitoring and performance;
- informs the establishment of achievable closure outcomes and goals in a local and regional context; and
- establishes baseline conditions for closure monitoring programs.

The mine closure plan must include:

- an analysis of the baseline data that describes how the wider receiving environment, receptors and exposure pathways have been considered;
- an analysis of the baseline data that identifies the knowledge gaps and the risk of not having that information; and
- details of the methodology of analysing the baseline data.

All relevant technical reports must be attached as appendices.

### **6. Post-Mining Land Use(s)**

The mine closure plan must include the post-mining land use(s) that has been proposed or agreed with key stakeholders, including regulators.

The mine closure plan must describe how the post-mining land use(s) is:

- relevant to the environment in which the mine will operate or is operating;
- achievable in the context of post-mining land capability;
- acceptable to the key stakeholders; and
- ecologically sustainable in the context of the local and regional environment.

## **7. Closure Risk Assessment**

A reviewed mine closure plan must include an environmental closure risk assessment that:

- identifies all the environmental closure risk pathways;
- evaluates these risks to derive an inherent risk rating, prior to the application of treatments;
- identifies appropriate risk treatments, using the hierarchy of control; and
- re-evaluates the risk pathways to derive a residual risk rating; and
- demonstrates that all residual risks are as low as reasonably practicable (ALARP).

The reviewed mine closure plan must provide information on the processes and methodologies undertaken to identify the closure risks and their potential environmental impacts post-mining, including a description of the risk assessment criteria and risk evaluation techniques.

## **8. Closure Outcomes and Completion Criteria**

The mine closure plan must include:

- Site-specific closure outcomes consistent with the post-mining land use(s) that are realistic and achievable based on the closure risk assessment.
- Completion criteria that are specific, measurable, achievable, relevant and time-bound, and will demonstrate the achievement of the closure outcomes and monitoring.

## **9. Closure Implementation**

The mine closure plan must include:

- a closure work program for achieving the closure outcomes, with implementation strategies and timeframes for each domain and/or feature of the mining operations;
- closure designs for landforms; and
- contingencies for premature or early closure or suspension of operations.

## **10. Closure Monitoring and Maintenance**

The mine closure plan must include:

- a monitoring framework to monitor the progress of the closure implementation strategies for achieving closure outcomes and completion criteria;
- description of proposed post-closure monitoring; and
- a description of the monitoring methodology.

## **11. Financial Provisioning for Closure**

The mine closure plan must include the details of closure costing methodology, including clearly documented assumptions and uncertainties.

## **12. Management of Information and Data**

The mine closure plan must include a description of data management strategies, including systems and processes for the retention of mine records and all information and data relevant to mine closure.

## **13. Reviewed Mine Closure Plans**

In addition to the above information, where a mine closure plan is reviewed under s84AA of the Mining Act or included in a revision to an approved mining proposal, the reviewed mine closure plan must also include:

- A revision summary table that clearly outlines all changes made in the reviewed mine closure plan.
- A summary table documenting how the aspects identified by the department for improvement in the prior revision of the mine closure plan have been addressed.
- A table documenting how the knowledge gaps identified in the prior revision of the mine closure plan have been addressed, as well as any new gaps identified.

## **PART 2: Mine Closure Plans for Small Mining Operations**

The mine closure plan must be submitted using the pro forma at Appendix 1 (Mine Closure Plan for Small Mining Operations) and contain the following information:

### **1. Cover Page**

The cover page must include:

- title;
- date;
- operator(s);
- contact name and contact details; and
- tenement(s).

### **2. Project Summary**

The mine closure plan must:

- 2.1 describe the operation;
- 2.2 include an indicative site plan of the mining operation that includes:
  - The location of the operation.
  - All proposed and existing site activities.
  - Tenement boundaries and labels.
  - A north indication.
  - A key or labelling of all infrastructure and activities.

### **3. Post-Mining Land Use and Stakeholder Engagement**

The mine closure plan must:

- 3.1 describe the underlying and/or pre-existing land uses of the area;
- 3.2 list those stakeholders affected by rehabilitation and mine closure and any consultation undertaken to date.
- 3.3 confirm whether the underlying and/or pre-existing land uses is expected to change after completion of mining and if so, provide a description of the end land use;
- 3.4 confirm whether engagement has been undertaken with stakeholders affected by a change in land use; and
- 3.5 describe the strategy for ongoing stakeholder engagement.

### **4. Closure Outcomes, Commitments and Implementation**

The mine closure plan must:

- 4.1 describe the rehabilitation commitments for any landform(s).
- 4.2 include any objections to the rehabilitation and closure tenement conditions that will be imposed if the mine closure plan is approved; and if so any proposed alternative management commitments.
- 4.3 confirm records, documents or other evidence will be kept to demonstrate that the above commitments have been met.
- 4.4 confirm that evidence will be provided to DMIRS to demonstrate the completion of these commitments at the end of operations.

### **5. Closure Monitoring and Management**

The mine closure plan must:

- 5.1 describe the rehabilitation monitoring that will be undertaken;
- 5.2 describe how often monitoring will be undertaken.

## APPENDIX 1

### MINE CLOSURE PLAN FOR SMALL MINING OPERATIONS

This is the pro forma for the submission of a mine closure plan under Part 2 of the *Statutory Guidelines for Mine Closure Plans*.

To be considered small mining operations for the purposes of these guidelines:

1. The activities **must not** be for the mining of uranium, mineral sands or rare earth elements; and
2. The activities **must** be limited to the following activities:
  - a. Scraping and detecting.
  - b. Dry blowing.
  - c. The following activities for a total footprint of 10 hectares (ha) or less:
    - i. Mining excavations (pits, costeans, quarries, shafts, winzes, harvesting, dredging), leaching operations and tailing treatment operations.
    - ii. Any construction activities incidental or conducive to the activities including plant, tailings storage facilities and overburden dumps.

# Mine Closure Plan for Small Mining Operations

1. COVER PAGE	
If this mine closure plan is submitted as part of a mining proposal, confirm whether the below details are as per Section 1 of the mining proposal. If there are any differences please complete the below.	
<b>Project Title:</b>	<b>Tenement(s):</b>
<b>Operator(s):</b>	
<b>Contact Name:</b>	
<b>Address:</b>	
<b>Phone:</b>	<b>Email:</b>
<b>Date:</b>	

2. PROJECT SUMMARY	
If this mine closure plan is submitted as part of a mining proposal, confirm whether section 2.1 and 2.2 are the same as Section 3 and 4 of the mining proposal and proceed to question 3 below. If there are any differences or this is a reviewed mine closure plan complete 2.1 and 2.2 below.	
2.1 Describe the operation including major mine activities, land disturbances, tenements and other land tenure.	
2.2 A site plan(s) is attached that includes: <ul style="list-style-type: none"> <li>• The location of the operation.</li> <li>• All proposed and existing site activities.</li> <li>• Tenement boundaries and labels.</li> <li>• A north indication.</li> <li>• A key or labelling of all infrastructure and activities.</li> </ul>	<b>Yes</b>



### 3. POST-MINING LAND USE AND STAKEHOLDER ENGAGEMENT

If this mine closure plan is submitted as part of a mining proposal, confirm whether the below details are the same as Section 10 of the mining proposal and proceed to question 3.3.

**Yes**

If there are any differences or this is a reviewed mine closure plan, complete 3.1 and 3.2 below.

3.1 What are the underlying and/or pre-existing land uses of the area?

3.2 List those stakeholders affected by rehabilitation and mine closure and any consultation undertaken to date.

3.3 Is the underlying/pre-existing land use expected to change after the completion of mining?

**Yes**

**No**

3.4 If **yes at 3.3**, describe the changed end land use. Note: if the underlying/pre-existing land use is expected to change after completion of mining then consultation is expected to be conducted with the relevant stakeholders.

3.5 Has engagement been undertaken with stakeholders affected by a change in land use?

**Yes**

**No**

3.6 Describe the strategy for ongoing stakeholder engagement:

#### 4. CLOSURE OUTCOMES, COMMITMENTS AND IMPLEMENTATION

4.1 Describe the rehabilitation commitments for any landform(s) (e.g. waste rock landform, tailings storage facility, heap leach):

4.2 Please note, the tenement conditions will be imposed under the *Mining Act 1978* if this mine closure plan is approved. If you have any objections to these, please detail in section 4.3.

- All mining related landforms and disturbances must be rehabilitated, in a progressive manner where practicable, to ensure they are safe, stable, non-polluting, integrated with the surrounding landscape and support self-sustaining, functional ecosystems or alternative agreed outcome to the satisfaction of the Executive Director, Resource and Environmental Compliance, Department of Mines, Industry Regulation and Safety.
- All excavations will be backfilled and/or closed to ensure they are stable and safe, to the satisfaction of the Executive Director, Resource and Environmental Compliance Division, DMIRS.
- Placement of waste material must be such that the final footprint after rehabilitation will not be impacted upon by pit wall subsidence or be within the zone of pit instability to the satisfaction of the Executive Director, Resource and Environmental Compliance, Department of Mines, Industry Regulation and Safety.
- All waste materials, rubbish, plastic sample bags, abandoned equipment and temporary buildings to be removed from the mining prior to or at the termination of the operation.
- Any watercourses that are disturbed by mining operations will be restored, as far as practicable, to the pre-disturbance conditions.
- Any shafts will be covered, fenced or otherwise made safe to the satisfaction of the Executive Director, Resource and Environmental Compliance Division, DMIRS.
- All chemicals and hydrocarbons will be removed from site prior to or at the termination of the operation.

For heap leach and/or vat leach facilities:

- Upon discontinuation of use of heap leach or vat leach facilities, the lessee to appropriately flush each facility to ensure the absence of free cyanide within the facility.

4.3 Describe any modified or additional rehabilitation and closure commitments; or any objections you have to the above conditions:

4.4 Confirm that you will keep records, documents or other evidence to demonstrate that the above commitments have been met.

**Yes**

4.5 Confirm that you will provide evidence to DMIRS to demonstrate the completion of these commitments at the end of operations.

**Yes**

## 5. CLOSURE MONITORING AND MANAGEMENT

5.1 Describe the rehabilitation monitoring that will be undertaken to demonstrate you have met the closure commitments in section 4:<sup>1</sup>

5.2 How often will this monitoring be conducted (e.g. annually)?

<sup>1</sup> Monitoring is required to demonstrate the advancement towards, and achievement of, the closure outcomes and commitments for the site through the implementation of rehabilitation activities and closure commitments. An appropriate monitoring program would also include records of mining areas before disturbance, or appropriate analogue sites, that may be used as reference points in monitoring the progress of rehabilitated areas towards achieving closure outcomes. It is expected that the Annual Environmental Report will include an update on the progress towards meeting those outcomes and that the monitoring results provided will serve to demonstrate these outcomes.

## GLOSSARY

<b>Activity</b>	Elements of the organisation's activities or products or services that can interact with the environment. These include routine and non-routine activities.
<b>Authorised company/person</b>	A company or person authorised by the tenement holder to submit a mining proposal or mine closure plan to DMIRS.
<b>Disturbed</b>	Area where vegetation has been cleared and/or topsoil (surface cover) removed.
<b>Domain</b>	A group of landform(s) or infrastructure that has similar rehabilitation and closure requirements and outcomes.
<b>Closure</b>	A whole-of-mine-life process that typically culminates in tenement relinquishment, including decommissioning and rehabilitation.
<b>Closure Outcomes</b>	Required outcome for each aspect that will allow return of disturbed land to a safe, stable, non-polluting/non-contaminating landform in an ecologically sustainable manner that is productive and/or self-sustaining and is consistent with the agreed post-mining land use.
<b>Completion Criteria</b>	Agreed standards or levels of performance that indicate the success of rehabilitation.
<b>EARS2 System</b>	EARS 2 is a DMIRS online system for submitting environmental compliance reporting. EARS 2 allows online lodgement and tracking of Annual Environmental Reports (AER) and Mining Rehabilitation Fund (MRF) reports.
<b>Environmental Group Site (EGS)</b>	A grouping of individual tenements for the purposes of further distinguishing the operations which make up a particular Project. Multiple Environmental Group Sites can be created within one Project. Each Environmental Group Site will contain a separate set of tenements, which collectively will make up all the tenements for the Project.
<b>DMIRS Environmental Objectives</b>	The related environmental objective for each environmental factor is the desired goal that, if met, will indicate that the proposed activities are not expected to have a significant impact on that factor of the environment. These objectives are identified in the Environmental Objectives Policy for Mining (2020).
<b>Heap leach</b>	A facility used to extract minerals and/or other compounds from ore by placing the ore on a liner and adding chemicals through drip systems.
<b>Key Stakeholder</b>	Post mining land owners/managers and relevant regulators.
<b>Life Of Mine</b>	Expected duration of mining and processing operations.
<b>Mining Proposal</b>	A document in the form and content as required by the <i>Guidelines for Mining Proposals in Western Australia</i> .
<b>Mine Closure Plan</b>	A document in the form and content as required by the <i>Guidelines for Mine Closure Plans in Western Australia</i> .
<b>Maintain</b>	To keep in existence or continuance; preserve; retain: or To keep in a specified state, position, etc.
<b>Monitoring</b>	The observation and checking of the progress or quality of performance over a period of time.
<b>Post-mining land use</b>	A land use that occurs after the cessation of mining operations.
<b>Project</b>	The total integrated mining operations in which a number of sites contribute to the overall operation to supply ore, processing facilities and disposal of waste products.

<b>Rehabilitation</b>	The return of disturbed land to a safe, stable, non-polluting/ non-contaminating landform in an ecologically sustainable manner that is productive and/or self-sustaining consistent with the agreed post-mining land use.
<b>Rehabilitation obligations</b>	Commitments, outcomes, criteria, conditions or obligations relating to rehabilitation and mine closure whether under a tenement condition, mining proposal, mine closure plan or otherwise.
<b>Residual Risk</b>	Risk remaining after risk treatment.
<b>Revision</b>	A numerical identifier of a mining proposal or mine closure plan. If modification and resubmission of an approved mining proposal or mine closure plan is required, the revision number must be updated prior to resubmission (e.g. 4.0 updated to 5.0).
<b>Risk</b>	The chance of something happening that will have an impact on objectives. It is measured in terms of consequences, and their likelihood of occurrence.
<b>Risk Analysis</b>	Process to comprehend the nature of risk and to determine the level of risk.
<b>Risk Assessment</b>	Overall process for risk identification, risk analysis and risk evaluation.
<b>Risk Identification</b>	Process of finding, recognizing and describing risks.
<b>Risk Management</b>	Coordinated activities to direct and control an organization with regard to risk.
<b>Risk Management Framework</b>	Set of components that provide the foundations and organisational arrangements for designing, implementing, monitoring, reviewing and continually improving risk management.
<b>Risk Pathway</b>	The causal mechanism through which a hazard/risk would be realised/occur.
<b>Risk Treatment</b>	Process to modify risk.
<b>Shaft</b>	A vertical or inclined opening of uniform and limited cross section made for finding or mining ore.
<b>Stakeholder</b>	A person or representatives of an organisation that can affect, be affected by, or perceive themselves to be affected by, a decision or activity. A decision maker can be a stakeholder.
<b>Source of Risk</b>	Source of potential harm, or situation with the potential to cause loss or adverse impact. These should also include sources that may only have potential unplanned interactions with the environment (i.e. accidents/incidents).
<b>Tailings Storage Facility</b>	An area used to store and consolidate tailings.
<b>Vat leach</b>	A facility used to extract minerals and/or other compounds from ore by placing an ore slurry within a tank/vessel along with chemicals and mixing/agitating the solution.
<b>Version</b>	An identifier that reflects a change to a mining proposal or mine closure plan that occurs during assessment. If DMIRS requests modification and resubmission of a document during assessment, the version number must be updated prior to resubmission (e.g. 4.0 updated to 4.1).
<b>Winze</b>	A steeply inclined shaft.

Government of Western Australia

**Department of Mines, Industry Regulation  
and Safety**

8.30am – 4.30pm

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