



**NSW DEPARTMENT OF
PRIMARY INDUSTRIES**

Environmental Management Guidelines for Industry

THE ANNUAL ENVIRONMENTAL MANAGEMENT REPORT (AEMR)

The AEMR consolidates Government reporting requirements relating to environmental management and rehabilitation of mines by addressing:

- a) The current status of:
 - approvals;
 - leases;
 - licences;
 - environmental risk management and control strategies;
- b) For the previous 12 month period:
 - mining, mine development, and rehabilitation in relation to the MOP;
 - environmental performance in relation to the collective conditions of approvals, leases and licences;
 - community relations and liaison.
- c) It also looks to the next 12 months by:
 - proposing improvements in environmental performance and management systems;
 - specifying environmental and rehabilitation targets to be achieved.

The AEMR is to be prepared using the format described in this guideline. Copies of the format are also available from the Department's web site, or the Department's Environmental Officers. An abbreviated form based format may be used for small mines with low environmental risks.

All mines are to submit an AEMR report every year regardless of the level of activity. For a mine which has been inactive during the AEMR period, reporting requirements may, in most circumstances, be met by submission of the tables of the AEMR with a covering letter stating there have been no site activities.

The reporting period for an AEMR will have been set either as part of the Department's letter of response to a MOP or its response to the previous AEMR. Generally the AEMR must be submitted within 28 days of the end of the reporting period.

The Department's response will depend upon the degree of other agency involvement, the environmental sensitivity of the site, the most recent site visit or inspection, and the previous performance of the mine operator. The Department may:

- organise a site inspection and integrated review of the AEMR involving other government agencies. Agencies may include the Environment Protection Authority, Department of Land and Water Conservation, local council, National Parks and Wildlife Service, and any other agencies with a statutory interest in the site;
- review the AEMR in conjunction with a site visit, from officer(s) of the Department without the involvement of other agencies;
- undertake desk review relying on a recent previous site visit for site specific information.

Following the review, the Department will provide a written response which may:

- comment on the adequacy or otherwise of the report as provided;
- address the adequacy of environmental and rehabilitation performance over the reporting period;
- comment or make recommendations on quality improvement and application of best practice;

- issue a direction to undertake specific operations, remedial actions, or supplementary studies;
- issue a direction to address non-compliances with conditions of the mining lease which have been identified in the AEMR or subsequent review and inspection.

To be acceptable, an AEMR must meet the Department's content and format guidelines for AEMR documents

Environmental performance, as documented by an AEMR will be evaluated using the following criteria:

- **For mining operations** disturbance of land as proposed in the accepted MOP, progressive rehabilitation of land according to the MOP rehabilitation schedule, conduct of operations using methods proposed in the MOP, and compliance with environmental conditions of all consents leases and licences, including reporting requirements;
- **At final rehabilitation and mine closure**; demonstrably meeting all mine closure and rehabilitation commitments.

The AEMR may be made available for viewing by members of the public at the Department's offices.

For further information and contact details see www.dpi.nsw.gov.au/minerals
Telephone (02) 4931 6605 Email environment@dpi.nsw.gov.au

Guidelines and Format for Preparation of an Annual Environmental Management Report:

Documents should be completed using the headings and tables of this guide. As this guide applies regardless of the stage in the mine life cycle and the nature of operations, there may be some sections which are not relevant to a specific mine site. These should be noted as not applicable. Copies of the format are available from the Department’s web site, or the Department’s Environmental Officers.

At the discretion of the Department, these guidelines may be adapted to suit the specific circumstances of a mine site or mine operator. An abbreviated form based format may be used for small mines with low environmental risks.

To minimise repetition of reports required by various agencies, any matter (plans and rehabilitation detail excepted) that is required by a report to another agency may be referenced in the MOP rather than repeated. One copy of the report is to be submitted to the Department, and copies distributed directly to nominated Government agencies.

1 TITLE BLOCK

Name of mine			
Titles/Mining Leases			
MOP Commencement Date	/ /	MOP Completion date	/ /
AEMR Commencement Date	/ /	AEMR End date	/ /
Name of leaseholder			
Name of mine operator (if different)			
Reporting Officer			
Title			
Signature			
Date			

2 EXAMPLE CONTENTS PAGE

PLANS

- Land Preparation
- Mining Activities
- Rehabilitation
- Vertical Sections

SUPPORTING TEXT

- 1 Introduction
- 2 Summary of Operations
- 3 Environmental Management
- 4 Community Relations
- 5 Rehabilitation
- 6 Activities proposed for next AEMR period

Page

TABLES

- 1 Production and Waste Schedule
- 2 Stored Water
- 3 Environmental Controls
- 4 Rehabilitation Summary
- 5 Maintenance Activities

ATTACHMENTS

- Aerial photograph if available
- (List attachments)

3 PLANS REQUIRED

Plans, current at the end date of the reporting period of the same scale and with equivalent information to **Plan 3 Land Preparation, Plan 4 Proposed Mining Activities** and **Plan 5 Proposed Rehabilitation** of the current MOP must be provided together with appropriate sections. These plans are also to include activities proposed for the next AEMR period. If available, provide a recent aerial photograph and other photographs to illustrate operations and environmental performance.

Where final rehabilitation outcomes have been further developed since the MOP was submitted or since the previous AEMR, an amended version of **Plan 6 Final Rehabilitation for Lease Relinquishment** should be included with the AEMR.

Mine lease holders without access to surveyed plans, and less than 10 hectares total disturbance, may derive plans from a convenient base map/plan with activity areas and features drawn by hand provided there is sufficient accuracy and detail to adequately describe activities and their impact. If contours are not shown, slopes and drainage lines must be clearly marked.

4 HEADINGS, SUPPORTING TEXT, AND TABLES

1. INTRODUCTION

1.1 Consents, Lease and Licences

Provide a current list with date of grant (and if time limited duration) of leases, subleases, consents, approval or licenses. Also include the date of acceptance of the current MOP and details of any MOP amendments since the previous AEMR.

1.2 Mine Contacts

Provide contact details for the current mine manager and environmental manager.

1.3 Actions Required at Previous AEMR Review

Tabulate actions arising from the AEMR and annual inspection of the previous year or any other directions given by the Department’s environmental officers.

TABLE 1. Actions Required

Action Required	Where dealt with in this AEMR

2 OPERATIONS DURING THE REPORTING PERIOD

2.1 Exploration	2.6 Waste Management
2.2 Land Preparation	2.7 Ore and Product Stockpiles
2.3 Construction	2.8 Water Management
2.4 Mining	2.9 Hazardous Material Management
2.5 Mineral Processing	2.10 Other Infrastructure Management

For each of section, where relevant, describe:

- activities during the reporting period, focussing on variations to the proposed MOP;
- the reasons for any variations, and whether or not the Department was notified;
- the extent of activities should be shown on plans.

TABLE 2 Production and Waste Summary

	Cumulative Production (cubic metres)		
	Start of Reporting Period	At end of Reporting Period	End of next reporting period (estimated)
Topsoil stripped			
Topsoil used/spread			
Waste Rock			
Ore			
Processing Waste			
Product (units)			

TABLE 3: STORED WATER

(if more than one storage of each type, list separately)	Volumes held (cubic metres)		
	Start of Reporting Period	At end of Reporting Period	Storage Capacity
Clean water			
Dirty water			
Controlled discharge water (salinity trading schemes)			
Contaminated water			

3 ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

If risks have not been previously been identified, **Table 3 Environmental Risk Identification** of the MOP format (page 17 of this guide) should be included at this point of the AEMR.

Document the implementation and effectiveness of control strategies for environmental risks identified in the MOP, previous AEMR or environmental management plan (EMP).

3.1 Air pollution	3.8 Weeds	3.15 Bushfire
3.2 Erosion and sediment	3.9 Blasting	3.16 Mine subsidence
3.3 Surface water pollution	3.10 Operational noise	3.17 Hydrocarbon contamination
3.4 Ground water pollution	3.11 Visual, stray light	3.18 Methane drainage/ventilation
3.5 Contaminated polluted land	3.12 Aboriginal heritage	3.19 Public safety
3.6 Threatened flora	3.13 Natural heritage	3.20 Other issues and risks
3.7 Threatened fauna	3.14 Spontaneous combustion	

Matters which should be described for each identified issue or risk. Include:

Environmental Management

- whether the proposed control strategy was adequate to manage risks associated with operations during the reporting period;
- variations from proposed control strategies implemented during the reporting period, the reasons for them, and whether or not the Department was notified (include initiatives to improve or further assure acceptable performance, or to deal with new risks identified during the reporting period).

Environmental Performance

- summarise monitored data, including relevant meteorological data. Data need not be included but must be available on request;
- list, monitoring and performance reports required by any other licence or agency;
- review performance outcomes;
- if useful, append photographs;

Reportable incidents

- summarise incident reporting required by conditions of lease, licence or risk management and monitoring strategies;
- review all incidents which led to non-compliance with conditions of a mining lease, development consent or other licence;
- reference incident report documents previously provided to the Department or another agency;

Further Improvements

- describe initiatives proposed for the next reporting period to improve or further assure acceptable performance.

4 COMMUNITY RELATIONS**4.1 Environmental Complaints**

List complaints, dates, and company responses to them.

4.2 Community Liaison

List and describe meetings, inspections, and other community involvement. Copies of minutes or meeting notes must be made available on request.

5 REHABILITATION (this AEMR period)**5.1 Buildings**

Describe buildings renovated or removed including:

- the nature, construction, heritage status and condition;
- health and safety issues related to renovation or removal (eg asbestos);
- contamination issues during and subsequent to renovation or removal;
- future use agreements or options;
- ongoing maintenance requirements;
- variations from the MOP, the reasons for them, and whether or not the Department was notified;
- the extent of activities should be shown on plans.

5.2 Rehabilitation of Disturbed Land

Describe for each area rehabilitated or subject to rehabilitation during the AEMR period:

- variations in activities undertaken to those proposed in the MOP, the reasons for them, and whether or not the Department was notified;
- agreed post rehabilitation landuse and whether that land use has been achieved at this point of time;
- post mining rural land capability classification and whether that land use has been achieved at this point of time;
- landform details including slopes, erosion controls, and drainage lines;
- the physical, relevant chemical characteristics, acid forming and contaminating potential, spontaneous combustion potential, and thickness of emplaced waste materials;
- characteristics of cover material including sealing/drainage layers, subsoil/topsoil, their thicknesses and methods of laying and compaction
- vegetation species and their density, distribution, and state/maturity including of any threatened species;
- the anticipated progression of vegetation to maturity, and its dependencies and risks;
- present and future habitat for native and, if identified, threatened fauna;
- weeds or other unwanted vegetation;
- details of any erosion present;
- erosion, pollution and contamination risks with passive strategies in place for managing and mitigating them;

- if there are pollution risks, either monitoring data which establishes that water leaving, or likely to leave the rehabilitated area, is of acceptable quality, or a description of proposals to obtain that data.
- safety risks with passive strategies in place for managing and mitigating them;
- fences and other barriers;
- further works necessary to meet completion criteria;
- the rehabilitation targets and outcomes achieved compared to commitments made through conditioning, stakeholder negotiations, and those described in Mining Operations Plans;
- ensure each area is located on the appropriate plan with rehabilitation extent, cross-sections, drainage patterns/pathways, slopes, and vegetation communities shown;
- photographs and sketches to support text descriptions should be included.

5.3 Other Infrastructure

Describe other rehabilitation undertaken including of exploration activities, infrastructure, shafts, adits, dams, and the installation or maintenance of fences, bunds, and any other works.

5.4 Rehabilitation Trials and Research

Outline the outcomes of trials, research projects, and other initiatives undertaken during the reporting period to enhance or assure rehabilitation outcomes. Reports must be made available on request.

5.5 Further Development of the Final Rehabilitation Plan

Where final rehabilitation outcomes and the strategies to achieve them have not yet been agreed between stakeholders, describe the steps that will be undertaken to progress agreement during the next reporting period.

Outline proposed rehabilitation trials, research projects, and other initiatives to be undertaken during the next reporting period.

Where final rehabilitation outcomes have been further developed since the MOP was submitted or since the previous AEMR, the outcomes should be described as required for **MOP Section 5: Final Rehabilitation** (page 16).

6 ACTIVITIES PROPOSED IN THE NEXT AEMR PERIOD

Any fundamental change in activity to that proposed in the MOP may require submission of a new MOP. However if changes are of a minor nature, at the discretion of the Department's environmental officer, this section may be used to propose an amended MOP. If that is the case, information presented is to be in the format and detail required for a MOP.

If activities proposed are consistent with the MOP, descriptions do not need to be repeated, however, the extent of proposed activities should be referenced to the current MOP and shown on plans.

TABLE 4: Rehabilitation Summary

		Area Affected/Rehabilitated (hectares)		
		To date	Last report	Next Report (estimated)
A: MINE LEASE AREA				
A1	Mine Lease(s) Area			
B: DISTURBED AREAS				
B1	Infrastructure area (other disturbed areas to be rehabilitated at closure including facilities, roads)			
B2:	Active Mining Area (excluding items B3 - B5 below)			
B3	Waste emplacements, (active/unshaped/in or out-of-pit)			
B4	Tailings emplacements, (active/unshaped/uncapped)			
B5	Shaped waste emplacement (awaits final vegetation)			
ALL DISTURBED AREAS				
C REHABILITATION PROGRESS				
C1	Total Rehabilitated area (except for maintenance)			
D: REHABILITATION ON SLOPES				
D1	10 to 18 degrees			
D2	Greater than 18 degrees			
E: SURFACE OF REHABILITATED LAND				
E1	Pasture and grasses			
E2	Native forest/ecosystems			
E3	Plantations and crops			
E4	Other (include nonvegetative outcomes)			

F1

F2

TABLE 5: Maintenance Activities On Rehabilitated Land

(This period's activities and activities proposed in the next reporting period)

NATURE OF TREATMENT	Area Treated (ha)		Comment/control strategies/ treatment detail
	Report period	Next period	
Additional erosion control works (drains re-contouring, rock protection)			
Re-covering (detail - further topsoil, subsoil sealing etc)			
Soil treatment (detail - fertiliser, lime, gypsum etc)			
Treatment/Management (detail - grazing, cropping, slashing etc)			
Re-seeding/Replanting (detail - species density, season etc)			
Adversely Affected by Weeds (detail - type and treatment)			
Feral animal control (detail - additional fencing, trapping, baiting etc)			

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