NSW GOVERNMENT

NSW Resources Regulator

ARR0001475

MOOLARBEN COAL ANNUAL REHABILITATION REPORT

Monday 1 January 2024 to Tuesday 31 December 2024

Summary table

DETAIL	
Mine	Moolarben Coal
Reference	ARR0001475
Annual report period commencement date	Monday 1 January 2024
Annual report period end date	Tuesday 31 December 2024
Forward program	FWP0001365
Mining leases	ML 1606 (1992), ML 1715 (1992), ML 1605 (1992), ML 1628 (1992), ML 1691 (1992)
Lease holder(s)	Yancoal Moolarben Pty Ltd, Kores Australia Moolarben Coal Pty Limited, Moolarben Coal Mines Pty Limited
Contact	Damien Ryba
Date of submission	Thursday 17 April 2025

Important

The department may make the information in your report and any supporting information available for inspection by members of the public, including by publication on its website or by displaying the information at any of its offices. If you consider any part of your report to be confidential, please communicate this to the department via the message function on this submission within the NSW Resources Regulator Portal.

Mine details

Project description

The Moolarben Coal Complex (MCC) is located approximately 40 kilometres north of Mudgee in the Western Coalfield of New South Wales within the Mid-Western Regional Local Government Area. Moolarben Coal Operations Pty Ltd (MCO) is the operator of the MCC on behalf of the Moolarben Joint Venture (Moolarben Coal Mines Pty Ltd [MCM], Yancoal Moolarben Pty Ltd (YM) and a consortium of Korean power companies). MCO, MCM and YM are wholly owned subsidiaries of Yancoal Australia Limited (Yancoal). All mining operations are conducted in accordance with NSW Project Approval (05_0117) (Moolarben Coal Project Stage 1) as modified, and NSW Project Approval (08_0135) (Moolarben Coal Project Stage 2) as modified. Mining operations and exploration activities at the MCC are also conducted in accordance with the requirements of the conditions of Mining Lease (ML) 1605, ML 1606, ML 1628, ML 1691, and ML 1715 and Exploration Licences (EL) EL6288, EL7073 and EL7074 granted under the Mining Act 1992.

Life of mine

14 years

Current development consents, leases and licences

Development consents granted under the *Environmental Planning and Assessment Act 1979*

PA 05_0117
PA 08_0135
PA 05_0117
PA 05_0117
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PA 05_0117
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Authorisations covering the mining area granted under the *Mining Act 1992*

ML 1606 (1992), ML 1715 (1992), ML 1605 (1992), ML 1628 (1992), ML 1691 (1992)

Any other approvals, licences, or authorities issued by government agencies that are relevant to the progress of mining operation and rehabilitation activities

EPBC 2007/3297
EPBC 2008/4444
EPBC 2013/6926
EPBC 2017/7974

Summary of the scope and/or purpose of the new applications or modifications to existing approvals (if applicable)

Both project approvals (Stage 1 - MP 05_0117 and Stage 2 - MP 08_0135) were modified during the reporting period. The modifications related primarily to the approval of the Central-West Orana Renewable Energy Zone Transmission Project (CWO transmission line). The CWO transmission line is located partially within the approved MCC including within biodiversity offset properties and two Aboriginal heritage management/conservation areas. The consents were modified to facilitate the changes required for the CWO transmission line, as well as separate administrative changes to facilitate the production of potable water from the existing WTP and simplify conditions regarding coal handling and processing. Modifications include: modifications to existing approved layout to accommodate the CWO transmission line, modification of biodiversity conditions to excise areas of interaction/fragmentation associated with the CWO transmission line, removal of heritage conservation requirements in the Bora Creek Management Area, excision of areas of the Red Hills Conservation Area, modifications to facilitate potential water sharing with the CWO project, addition of the existing WTP as a potable water supply source for the MCC, simplification of coal handling and processing

conditions, updates to figures in the consent to include the alignment of the CWO transmission line.

Changes to land ownership and land use

No change of land ownership or land use during the annual reporting period.

Surface disturbance and rehabilitation activities during the reporting period

Surface disturbance and rehabilitation activities that were conducted and an analysis of the progress against the rehabilitation schedule

Mining activities were undertaken in accordance with relevant project approvals and the FWP. During the reporting period mining activities included: overburden removal from OC1, OC3 and OC4, coal extraction from OC1, OC2, OC3 and OC4, drilling and blasting overburden and coal, spoil emplacement in pit in OC1, OC2, OC3 and OC4, bulk shaping of spoil and rehabilitation, construction and operation of water management structures, continued underground development in UG4 and UG2, and extraction of LW 402, LW403, LW404 LW405 and commencement towards UG2. Construction works undertaken during the reporting period included the progression of mining infrastructure for OC3 and OC4. Mine infrastructure works included water management infrastructure and ancillary works. Construction activities commenced or undertaken in the period included: Construction of dam 316A and commencement of dam 316B, construction of water management infrastructure, upgrade of WTP and associated infrastructure, upgrade of the CHPP and associated water management infrastructure. Rehabilitation works during the reporting period were undertaken within OC2, OC3 and OC4. Exploration activities were undertaken in ML1605 and ML1715 during the reporting period, which consisted of a total of 51 exploration holes including two piezometers.

Rehabilitation planning activities that were conducted, including any specialist studies

Specialist review and incorporation of natural landform design into the final landform and associated drainage lines continued in OC4 during the reporting period. Specialist input and review of the Murragamba Creek reinstatement has also continued as well as commencement of the detailed design of the Eastern Creek reinstatement. Both included a review of the base materials and clays to be incorporated into each reinstatement.

Overview of subsidence repair and/or remediation works undertaken

Minor subsidence management actions were required to be undertaken as a result of LW402 to LW404 extraction during the reporting period. These included maintenance of MCO managed access tracks.

Overview of rehabilitation management and maintenance activities

During the reporting period MCO continued to undertake monitoring and maintenance activities within the existing rehabilitated areas. This included erosion repairs, supplementary

planting of tubestock in OC1, OC2 and OC 4 areas, weed management across OC1, OC2 and OC4 areas, and vertebrate pest control across all rehabilitation areas.

Details of any rehabilitation actions taken as required by any letters, notices or directions issued by government agencies, including the NSW Resources Regulator

During the reporting period a Targeted Assessment Program - Revegetation was carried out by the Resources Regulator at MCO. Findings of the TAP and recommendations were provided in a letter to MCO dated 9 January 2025. The letter included a non-compliance official warning regarding the failure to prepare the Rehabilitation Management Plan in the form approved by the Secretary, in relation to the lack of inclusion of fully developed rehabilitation stage plans. MCO is in the process of updating the site Rehabilitation Management Plan to ensure full conformance with the Resources Regulator form and way document.

Details of any rehabilitation areas that have achieved the final land use

No rehabilitation areas at the MCC have achieved the final land use during the reporting period.

Key production milestones

MATERIAL	UNIT	FWP0001365 YEAR 1	THIS REPORT
Stripped topsoil (if applicable)	(m^3)	537,000	214,996
Rock/overburden	(m^3)	66,614,042	71,440,399
Ore	(Mt)	22.1	21.19
Reject material[1]	(Mt)	2.79	2.74
Product	(Mt)	19.3	18.97

[1] This includes coarse rejects, tailings and any other wastes resulting from beneficiation.

Disturbance and rehabilitation statistics

Current disturbance and rehabilitation progression

	ELEMENT	UNIT	THIS REPORT
A1	Total disturbance footprint – surface disturbance	(ha)	2,300.29
B	Total active disturbance	(ha)	1,795.13
C	Rehabilitation – land preparation	(ha)	84.42
D	Ecosystem and land use establishment	(ha)	100.43
E	Ecosystem and land use development	(ha)	320.31
F	Rehabilitation completion	(ha)	0

Rehabilitation key performance indicators (KPIs)

	ELEMENT	UNIT	THIS REPORT
G	New disturbance area	(ha)	113.21
H	New rehabilitation commenced during annual reporting period	(ha)	43.73
I	Established rehabilitation	(ha)	320.31
J	Annual rehabilitation to disturbance ratio	%	0.39
K	Rehabilitated land to total mine footprint	%	13.92

Progressive achievement of established rehabilitation

	ELEMENT	UNIT	THIS REPORT
L	Established rehabilitation for agricultural final land uses	%	0
M	Established rehabilitation for native ecosystem final land uses	%	99.65
N	Established rehabilitation for other/non-vegetated final land uses	%	0.17

Variation to the rehabilitation schedule

Identify the components of the most recent forward program that were not achieved

N/A

Key factors that delayed progressive rehabilitation

N/A

Outline actions that will be included in the forward program and carried out to minimise disturbance and undertake progressive rehabilitation as far as reasonably practical

N/A

Rehabilitation monitoring and research findings

Rehabilitation monitoring

The rehabilitation monitoring carried out in the annual reporting period

Initial establishment monitoring (IEM) was undertaken at two sites to monitor early establishment. IEM sites are based on a rapid assessment and not assessed against completion criteria. No significant weed infestations were observed at these sites. Long term monitoring (LTM) sites recorded vegetation composition was generally comparable to analogue sites with only 8 of the 23 being under or just under the target range. The target proportion of species being typical of the relevant vegetation community outlined in the criteria is 25%. In terms of the target proportion of species being typical of the relevant vegetation community, all except one monitoring site achieved the target community. All LTM sites recorded high threat exotic cover below the completion criteria, with most sites recording less than 1%. Vegetation structure in LTM sites: for Box Gum Shrubby Woodland: median tree cover was just below the target range in OC1, with shrub cover, ground cover and litter cover within the target range. All parameters below the target range in OC4. For Sedimentary Ironbark Forest: median tree cover was just above the target range, with all other parameters within the target range. For Box Gum Grassy Woodland: median tree cover was below the target range, shrub cover just above, ground cover just below and litter cover within the target. Evidence of natural regeneration was observed in most of the older (>5 years) rehabilitation sites.

Status of performance against rehabilitation objectives and rehabilitation completion criteria

The monitoring program that has been implemented

The monitoring program has been designed to measure the progress of rehabilitation program against the proposed rehabilitation objectives, performance indicators and proposed completion criteria for each of the final land use domains. The monitoring program assesses the landform stability, presence of exotic species, resilience, fauna habitat, vegetation composition and structure, and conformance with the final targeted final vegetation communities. The floristic monitoring provides data on the vegetation composition and structure, secondary succession and native fauna habitat. Data is used to assess against the proposed completion criteria by comparison of rehabilitation sites to analogues. Fauna monitoring is undertaken to provide data on fauna use within rehabilitation areas as they develop in complexity, and the suitability as fauna habitat, with comparisons against analogue sites. All monitoring results are assessed against completion criteria including the presence of Allocasuarina species, species composition, structure and functioning, exotic flora and fauna, erosion and landform stability issues. Final landform design and stability completion criteria are monitored and assessed through aerial imagery and LiDAR.

Are all rehabilitation areas in Landform Establishment phase or higher represented in the monitoring program to assess performance against the rehabilitation objectives and approved or, if not yet approved rehabilitation completion criteria and final landform and rehabilitation plan?

Yes

Year rehabilitation areas will be included as part of the monitoring program

An appraisal of whether rehabilitation is moving towards achieving the proposed rehabilitation objectives, approved or, if not yet approved, rehabilitation completion criteria and final landform and rehabilitation plan as soon as reasonably practicable.

Summary of the outcomes of monitoring the Box Gum Shrubby Woodland, Sedimentary Ironbark Forest, Box Gum Grassy Woodland rehabilitation, and OC2/OC3 Ecosystem and species credit sites against the proposed completion criteria: OC1: Domain A Box Gum Shrubby Woodland areas have achieved 10 and partially achieved three of the 13 completion criteria; Domain A Sedimentary Ironbark Forest areas have achieved 10 and partially achieved three of the 13 completion criteria. OC4: Domain A Box Gum Shrubby Woodland areas have achieved eight and partially achieved four of the 12 completion criteria; Domain A Box Gum Grassy Woodland areas have achieved seven and partially achieved five of the 12 completion criteria; Domain A Sedimentary Ironbark Forest areas have achieved eight and partially achieved four of the 12 completion criteria. OC2: Domain D areas have achieved 10 out of 15 completion criteria. The rehabilitation has been assessed as generally tending well towards the proposed completion criteria across all of the final land use domains and should continue to improve as the rehabilitation progresses.

Appraisal description

Rehabilitation is moving towards achieving the final land use as soon as reasonably practicable.

Rehabilitation monitoring program findings

MCO undertakes a comprehensive monitoring program of rehabilitation areas in accordance with the RMP. The monitoring program includes initial establishment monitoring (IEM), long term monitoring (LTM) for composition, structure and ecological functioning, fauna monitoring and a comprehensive rehabilitation walkover. Monitoring is conducted in spring, and results assessed against preliminary rehabilitation completion criteria. In addition to formal monitoring, regular ad-hoc inspections are conducted to monitor seed germination, vegetation growth, erosion, and the presence of weeds and vertebrate pests. IEM is a rapid style assessment of young (≤3 years old) rehabilitated areas, principally to determine germination success, landform stability and early threats to the rehabilitation. The more detailed Long-Term Monitoring (LTM) is applied in older rehabilitation areas (≥4 years old) to evaluate progress of the rehabilitation towards fulfilling agreed or proposed completion criteria, and ultimately the targeted post-mining land use. Progressive rehabilitation of disturbed areas is

undertaken as land becomes available on a campaign basis. The rehabilitated landform therefore consists of a mosaic of areas that have been rehabilitated at different times. Monitoring sites have been selected to incorporate as many rehabilitation campaign areas as possible to provide a representative sample of conditions across each rehabilitated landform. Data is collected at individual sites and interpreted to assess the condition of each rehabilitation campaign, final land use domain or open cut area. The rehabilitation objectives and completion criteria in the RMP apply to the whole of landform scale. There are currently 32 rehabilitation sites monitored across OC1, OC2 and OC4. In the spring 2024 campaign, only sites R33 and R34 were monitored using IEM methodology. All other sites meet the required age for LTM. Analogue sites representative of the target Domain A vegetation communities have been established in the nearby Durridgere State Conservation Area and Goulburn River National Park for the OC1 and OC4 rehabilitated landforms. The representative target vegetation communities for these analogue sites are stated in the current RMP. The rehabilitation outcomes for Domain D (OC2) rehabilitation do not require reference to analogues as they rely on published benchmark conditions for the target BVTs/PCTs (OEH 2017). Fauna monitoring is also undertaken to demonstrate the presence of suitable fauna habitat and utilisation of rehabilitation areas by fauna species as rehabilitation progresses. Surveys included microbat detection, bird surveys and herpetological searches, dam inspections and deployment of four remote cameras within OC1, as well as opportunistic observations of fauna throughout the OC1, OC2 and OC4 rehabilitation areas.

Performance issues and their causes including identification of any knowledge gaps that must be addressed

The majority of rehabilitation areas were reported as trending well towards the proposed completion criteria. Some minor areas of the rehabilitation were identified as not meeting or trending towards the proposed completion criteria. Performance issues include localised slumping, gully and rill erosion, not yet achieving tree, shrub and litter cover values, not yet displaying second generation seedlings. These sites have all been identified in the rehabilitation monitoring management actions report and have been scheduled for maintenance works. In response to identification of similar issues in previous years monitoring, seed mixes have been reviewed and updated during 2024, seeding methods changed, and infill planting undertaken. In addition, to address erosion issues, toolbox talks have been held with rehabilitation contractor operators to explain the importance of ripping on contour and ensuring consistency of rip lines to ensure that potential erosion initiation points are minimised.

Outcomes of rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
A RR0001475						

Outcomes of completed trials and research

N/A

Attachment 1 – Reporting Definitions

REPORTING CATEGORY		DEFINITION
A1	Total disturbance footprint – surface disturbance	All areas within a mining lease that either have at some point in time or continue to pose a rehabilitation liability due to surface disturbance activities. The total disturbance footprint is the sum of the total active disturbance, decommissioning, landform establishment, growth medium development, ecosystem and land use establishment, ecosystem and land use development and rehabilitation completion (see definitions below). Underground mining operations should not include the footprint of underground mining areas/subsidence management areas in the total disturbance footprint.
A2	Underground Mining Area	Underground mining operations areas/subsidence management areas.
B	Total active disturbance	Includes on-lease exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste rock emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped) and temporary stabilised areas (e.g. areas sown with temporary cover crops for dust mitigation and temporary rehabilitation).
C	Rehabilitation – land preparation	Includes the sum of all disturbed land within a mining lease that have commenced any, or all, of the following phases of rehabilitation – decommissioning, landform establishment and growth medium development. Refer to the glossary of terms in this document for the definition of these phases of rehabilitation.

REPORTING CATEGORY		DEFINITION
D	Ecosystem and land use establishment	Includes the area which has been seeded/planted with the target vegetation species for the intended final land use. However, vegetation has not matured to a stage where it can be demonstrated that it will be sustainable for the long term and or require only a maintenance regime consistent with target reference/analogue sites. Typically, rehabilitation areas would be in this phase for at least two years (and usually more) before rehabilitation can be classified as being in the ecosystem and land use development phase. This phase does not apply to infrastructure areas that are being retained as part of final land use for the site.
E	Ecosystem and Land Use Development	Rehabilitation has matured to a level where target revegetation outcomes are on a trajectory towards meeting the final rehabilitation objectives and rehabilitation completion criteria (as verified by monitoring). This phase includes infrastructure areas that are to be retained for an approved post mining land use, following completion of all necessary measures to render the infrastructure fit for this purpose (for example structural integrity).
F	Rehabilitation Completion	The NSW Resources Regulator has determined in writing that the mining area has achieved the approved rehabilitation objectives and approved rehabilitation completion criteria and final landform and rehabilitation plan following the submission of *Form: ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate and/or notification of mine or petroleum site closure.*
G	New active disturbance area	The area of any new active disturbance that has been created during the annual reporting period (definition A1 in Table 5).
H	New rehabilitation commenced during annual reporting period	The sum of any new rehabilitation commenced in the annual reporting period. These areas may be in the rehabilitation land preparation phase or the ecosystem & land use establishment phase (definitions C and D in Table 5).
I	Established rehabilitation (hectares)	The total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5).

REPORTING CATEGORY		DEFINITION
J	Annual rehabilitation to disturbance ratio	The rehabilitation to disturbance ratio (H/G) indicates how many hectares of new rehabilitation are undertaken for each hectare of land disturbed during the year. A ratio of 1/1 indicates that the area of new rehabilitation and disturbance in that year are the same.
K	% Rehabilitated land to total mine footprint	The proportion of the total mine footprint (area of land that has been disturbed by past or present surface disturbance activities) that has established rehabilitation (I/A1 x 100). For open cut mining, the proportion of the total mine footprint verified to be “established rehabilitation” should substantially increase as an operation progresses towards mine closure.
L	Established rehabilitation for agricultural final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5) that have been returned to an agricultural final land use.
M	Established rehabilitation for native ecosystem final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or rehabilitation completion phase (definitions E & F in Table 5) that have been returned to native ecosystem final land use.
N	Established rehabilitation for other/non-vegetated final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5) that have been returned to other/non-vegetated final land use.

Attachment 2 – Definitions

WORD	DEFINITION
Active	In the context of rehabilitation, land associated with mining domains is considered 'active' for the period following disturbance until the commencement of rehabilitation.
Active mining phase of rehabilitation	In the context of rehabilitation, the active mining phase of rehabilitation constitutes the rehabilitation activities undertaken during mining operations such as salvaging and managing soil resources, salvaging habitat resources, and native seed collection. This phase also includes management actions taken during operations to manage risks to rehabilitation and enhance rehabilitation outcomes such as selective handling of waste rock and management of tailings emplacements.
Analogue site	In the context of rehabilitation, an analogue site is a 'reference site' that represents an example of the defining characteristics (such as vegetation composition and structure or agricultural productivity) of the final land use. Characteristics of analogue sites can be assessed to develop the rehabilitation objectives and completion criteria for final land use domains.
Annual rehabilitation report and forward program	As described in the Mining Regulation 2016.
Annual reporting period	As defined in the Mining Regulation 2016.
Closure	A whole-of-mine-life process, which typically culminates in the relinquishment of the mining lease. It includes decommissioning and rehabilitation to achieve the approved final land use(s).
Decommissioning	The process of removing mining infrastructure and removing contaminants and hazardous materials.
Decommissioning Phase of Rehabilitation	Activities associated with the removal of mining infrastructure and removal and/or remediation of contaminants and hazardous materials. In the context of the rehabilitation management plan this phase of rehabilitation may also include studies and assessments associated with decommissioning and demolition of infrastructure or works carried out to make safe or 'fit for purpose' built infrastructure to be retained for future use(s) following lease relinquishment.

WORD	DEFINITION
Department	The Department of Regional NSW.
Disturbance	See Surface Disturbance.
Disturbance area	An area that has been disturbed and that requires rehabilitation. This may include areas such as on-licence exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped), and areas requiring rehabilitation that are temporarily stabilised (i.e. managed to minimise dust generation and/or erosion).
Domain	An area (or areas) of the land that has been disturbed by mining and has a specific operational use (mining domain) or specific final land use (final land use domain). Land within a domain typically has similar geochemical and/or geophysical characteristics and therefore requires specific rehabilitation activities to achieve the associated final land use.
Ecosystem and Land Use Development	This phase of rehabilitation consists of the activities to manage maturing rehabilitation areas on a trajectory to achieving the approved rehabilitation objectives and completion criteria. For vegetated land uses this phase may include processes to develop characteristics of functional self-sustaining ecosystems, such as nutrient recycling, vegetation flowering and reproduction, and increasing habitat complexity, and development of a productive, self-sustaining soil profile. This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management.
Ecosystem and Land Use Establishment	This phase of rehabilitation consists of the processes to establish the approved final land use following construction of the final landform. For vegetated land uses this rehabilitation phase includes establishing the desired vegetation community and implementing land management activities such as weed control. This phase of rehabilitation may also include habitat augmentation such as installation of nest boxes.
Exploration	Has the same meaning as that term under the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

WORD	DEFINITION
Final landform and rehabilitation plan	As defined in the Mining Regulation 2016.
Final land use	As defined in the Mining Regulation 2016.
Form and way	Means the form and way approved by the Secretary. Approved form and way documents are available on the Department's website.
Growth Medium Development	This phase of rehabilitation consists of activities required to establish the physical, chemical and biological components of the substrate required to establish the desired vegetation community (including short lived pioneer species. This phase may include spreading the prepared landform with topsoil and/or subsoil and/or soil substitutes, applying soil ameliorants to enhance the physical, chemical and biological characteristics of the growth media, and actions to minimise loss of growth media due to erosion.
Habitat	Has the same meaning as that term under the *Biodiversity Conservation Act 2016* and the *Fisheries Management Act 1994* (as relevant).
Indicator	An attribute of the biophysical environment (e.g. pH, topsoil depth, biomass) that can be used to approximate the progression of a biophysical process. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion (i.e. defined end point). It may be aligned to an established protocol and used to evaluate changes in a system.
Land	As defined in the *Mining Act 1992.*
Landform Establishment	This phase of rehabilitation consists of the processes and activities required to construct the final landform. In addition to profiling the surface of rehabilitation areas to the approved final landform profile this phase may include works to construct surface water drainage features, encapsulate problematic materials such as tailings, and prepare a substrate with the desired physical and chemical characteristics (e.g. rock raking or ameliorating sodic materials).
Large mine	As defined in the Mining Regulation 2016.
Lease holder	The holder of a mining lease.

WORD	DEFINITION
Life of mine	The timeframe of how long a mine is approved to mine, from commencement to closure.
Mine rehabilitation portal	Means the NSW Resources Regulator's online portal that lease holders must use (via a registered account) to: ■ upload rehabilitation geographical information system (GIS) spatial data ■ develop rehabilitation GIS spatial data (using online tracing functions) ■ generate rehabilitation plans and rehabilitation statistics using the map viewer and Rehabilitation Key Performance Indicator functionalities. Data submitted to the mine rehabilitation portal is collated in a centralised geodatabase for use by the NSW Resources Regulator to regulate rehabilitation performance of lease holders.
Mining area	As defined in the *Mining Act 1992*.
Mining domain	A land management unit with a discrete operational function (e.g. overburden emplacement), and therefore similar geophysical characteristics, that will require specific rehabilitation treatments to achieve the final land use(s).
Mining land	As defined in the *Mining Act 1992.*
Native vegetation	Has the same meaning as that term under section 60B of the *Local Land Services Act 2013.*
Overburden	Material overlying coal or a mineral deposit.
Performance indicator	An attribute of the biophysical environment (for example pH, slope, topsoil depth, biomass) that can be used to demonstrate achievement of a rehabilitation objective. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion, that is, a defined end point. It may be aligned to an established protocol and used to evaluate changes in a system.

WORD	DEFINITION
Phases of rehabilitation	The stages and sequences of actions required to rehabilitate disturbed land to achieve the final land use. The phases of rehabilitation are: ■ active mining ■ decommissioning ■ landform Establishment ■ growth medium development ■ ecosystem and land use establishment ■ ecosystem and land use development.
Progressive rehabilitation	The progress of rehabilitation towards achieving the approved rehabilitation completion criteria. This may be described in terms of domains, phases, performance indicators and rehabilitation completion criteria.
Rehabilitation Completion	The final phase of rehabilitation when a rehabilitation area has achieved the approved rehabilitation objectives and rehabilitation completion criteria for the final land use. Rehabilitation areas may be classified as complete when the NSW Resources Regulator has determined in writing that the relevant rehabilitation obligations have been fulfilled following submission of *Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate* application by the lease holder.
Rehabilitation Completion criteria	As defined in the Mining Regulation 2016.
Rehabilitation cost estimate	As defined in the Mining Regulation 2016.
Rehabilitation management plan	As defined in the Mining Regulation 2016.
Rehabilitation objectives	As defined in the Mining Regulation 2016.
Rehabilitation risk assessment	As defined in the Mining Regulation 2016.
Rehabilitation schedule	The defined timeframes for progressive rehabilitation set out in the forward program.

WORD	DEFINITION
Relevant stakeholders	Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes: ■ the relevant development consent authority ■ the local council ■ the relevant landholder(s) ■ community consultative committee (if required under the development consent) or equivalent consultative group ■ affected land holder(s) ■ government agencies relevant to the final land use ■ affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities) ■ local Aboriginal communities, and ■ any other person or body determined by the Minister to be a relevant stakeholder in relation to a mining lease.
Risk	The effect of uncertainty on objectives. It is measured in terms of consequences and likelihood (AS/NZS ISO 31000:2009).
Secretary	The Secretary of the Department.
Security deposit	An amount that a mining lease holder is required to provide and maintain under a mining lease condition, to secure funding for the fulfilment of obligations under the lease (including obligations that may arise in the future).
Surface disturbance	Includes activities that disturb the surface of the mining area, including mining operations, ancillary mining activities and exploration.
Tailings	A combination of the fine-grained solid material remaining after the recoverable metals and minerals have been extracted from the mined ore, and any process water[2].
Waste	Has the same meaning as that term under the *Protection of the Environment Operations Act 1997*.

[2] Commonwealth of Australia (DITR), 2007. *Tailings Management*.

Attachment 3 – Rehabilitation Complaints

DATE	COMPLAINANT	COMPLAINT DETAILS	RESPONSE DETAILS	STATUS OF RESPONSE	DATE RESPONSE COMPLETED (IF APPLICABLE)

Attachment 4 – Stakeholder consultation

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
7 Mar 2023	Moolarben CCC	General update on community interaction, operations and exploration, environmental monitoring, community complaints, rehabilitation, biodiversity offset management, and employment and COVID-19 controls at MCO. Information on the Independent water quality study conducted. Update on the Underground 2 Modification. Update on the Open Cut 3 extension project.	Nil General Update	No maters raised.
15 Oct 2024	NSW Resources Regulator	Compliance audit program - compliance with the prescribed standard conditions outlined in Schedule 8A Part 2 of the Mining Regulation 2016.	Rehabilitation risk assessment - required by clause 7 and rehabilitation management plan - required by clause 10.	Nil action required.
3 Sep 2024	Moolarben CCC	General update on community interaction, operations and exploration, environmental monitoring,	Nil - general update	No matters raised

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
		community complaints, rehabilitation, biodiversity offset management and employment. Update on OC3 extension project. Update on UG2 modification. Update on Energy Co transmission line.		
4 Jun 2024	Moolarben CCC	General update on community interaction, operations and exploration, environmental monitoring, community complaints, rehabilitation, biodiversity offset management and employment. Update on OC3 extension project. Update on UG2 modification.	Nil - general quarterly update	No matters raised
6 Jun 2023	Moolarben CCC	General update on community interaction, operations, exploration, environmental monitoring, community complaints, rehabilitation, biodiversity offset management, employment, and COVID-19	Nil General Update.	No matters raised.

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
		controls at MCO. Update on the Underground 2 Modification. Update on the OC3 Extension Project. Information on the emergency water discharge license.		
5 Sep 2023	Moolarben CCC	General update on community interaction, operations and exploration, environmental monitoring, community complaints, rehabilitation, biodiversity offset management, and employment and COVID-19 controls at MCO. Information on the Independent water quality study conducted. Update on the Underground 2 Modification. Update on the Open Cut 3 extension project.	Nil General Update.	No maters raised.
28 Nov 2023	Moolarben CCC	General update on community interaction, operations and exploration, environmental monitoring, community complaints,	Nil General Update.	No matters raised.

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
		rehabilitation, biodiversity offset management, employment, and COVID-19 controls at MCO. Update on the Underground 2 Modification. Update on the Open Cut 3 Extension Projects.		
13 Nov 2024	NSW Resources Regulator	The NSW Resources Regulator undertook a compliance audit - targeted assessment program (TAP) - Revegetation, on site on the 13 November 2024	The TAP focused on how revegetation is being undertaken to achieve sustainable rehabilitation outcomes. Matters subject to observation were in accordance with the TAP guideline document for revegetation.	Correspondence was received by the RR on 9 January 2025 summarising the outcomes of the TAP audit. Major requirements for MCO were the preparation of a revised Rehabilitation Risk Assessment, and updates to the Rehabilitation Management Plan. The Rehabilitation Risk Assessment was completed on 25 February 2025.
3 Dec 2024	Moolarben CCC	General update on community interaction, operations and exploration, environmental monitoring, community complaints, rehabilitation, biodiversity offset management and employment. Update on OC3 extension project. Update on UG2 modification. Discussed progress of UG2 extraction plan.	Nil - general update	No matters raised

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
5 Mar 2024	Moolarben CCC	General update on community interaction, operations and exploration, environmental monitoring, community complaints, rehabilitation, biodiversity offset management and employment. Update on OC3 extension project. Update on UG2 modification.	Nil - general quarterly update.	No matters raised.

Attachment 5 – Plans

Plan 1A.pdf

Plan 1B Contours.pdf