NSW GOVERNMENT

NSW Resources Regulator

ARR0001255

BOGGABRI COAL ANNUAL REHABILITATION REPORT

Sunday 1 January 2023 to Sunday 31 December 2023

Contents

Summary table

DETAIL	
Mine	Boggabri Coal
Reference	ARR0001255
Annual report period commencement date	Sunday 1 January 2023
Annual report period end date	Sunday 31 December 2023
Forward program	FWP0001147
Mining leases	ML 1755 (1992), CL 368 (1973)
Lease holder(s)	CHUGOKU ELECTRIC POWER AUSTRALIA RESOURCES PTY. LTD., NS BOGGABRI PTY LIMITED, BOGGABRI COAL PTY LIMITED
Contact	Elsie Gretton
Date of submission	Saturday 30 March 2024

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

Boggabri Coal Mine (BCM) is an open cut coal mine located 15 km north-east of the township of Boggabri in north-western NSW. BCM is managed by Boggabri Coal Operations Pty Ltd on behalf of Idemitsu Australia's (IA) subsidiary Boggabri Coal Pty Ltd and its JV partners (Chugoku Electric Power Australia Resources Pty Ltd and NS Boggabri Pty Limited). BCM operates in accordance with SSD09_0182 which was granted on 18 July 2012 which enables the continuation of open cut mining until the end of 2033. Mining operations are progressing northward, extracting up to 8.6 Mtpa of ROM coal utilising truck and shovel mining methods. Progressive rehabilitation of the overburden emplacement areas is undertaken as areas achieve the final landform design. Up to 4.2 Mtpa of ROM coal can be processed at the CHPP, with the ability to bypass ROM coal to produce high quality semisoft coking, PCI and thermal coal products which is transported to the Port of Newcastle by rail for sale to the export market.

Life of mine

13 years

Current development consents, leases and licences

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

SSD 09-0182 (MOD 7)
SSD 09-0182 (MOD 7)
SSD 09-0182 (MOD 7)
SSD 09-0182 (MOD 7)
SSD 09-0182 (MOD 7)
SSD 09-0182 (MOD 7)
SSD 09-0182 (MOD 7)

Authorisations covering the mining area granted under the *Mining Act 1992*

ML 1755 (1992), CL 368 (1973)

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

EPL 12407
EPBC 2009/5256 (as varied)

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

Modification 8 (MOD 8) to SSD 09_0182 progressed through the planning approvals process throughout the reporting period. An amendment was sought to the MOD 8 application in November 2022, to vary the mine plan and ultimately seek approval to increase the depth of mining to the Templemore seam to recover approximately 28.1 Mt of additional ROM coal. MOD 8 was proposed to extend the mine life by three years until the end of 2036. This application was approved on the 22 January 2024. Approvals under the Commonwealth EPBC Act are yet to be issued, with the final assessment being considered by the Commonwealth Department of Climate Change, Energy, the Environment and Water. Modification 9 (MOD 9) to SSD 09_0182 was lodged on 21 October 2022 and sought approval for the operation of a mobile rock crushing facility and associated fleet within the approved Mine Disturbance Boundary at BCM; the construction and use of a new Pre-Shift Information (PSI) Site at a location closer to active mining operations and access to the new site via a section of the former Leard Forest Road (which has previously been closed to the public), and minor administrative changes to conditions of SSD 09_0182 relating to the management of rehabilitation activities to align requirements with recent amendments to the Mining Regulation 2016. MOD 9 was granted on 2 March 2023.

Changes to land ownership and land use

There have been no changes to land ownership and land use within the Project Boundary during the 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

There was 35.97 ha of additional surface disturbance during the reporting period. The Forward Program had forecast three areas of disturbance to the south of the Mine Infrastructure Area which is associated with the approved Irrigation Area. Following further investigations, it was decided that the Irrigation Area would not be used during the reporting period. There was 21.44 ha of Land Prepared for Rehabilitation during the reporting period. This additional area has been shaped ready for the application of seeds and tubestock in 2024. Areas of rehabilitation planted in 2019/2020 have progressed from the Ecosystem and Land Use Establishment phase to Ecosystem and Land Use Development phase during the reporting period.

Rehabilitation planning activities that were conducted, including any specialist studies

Rehabilitation planning activities were completed throughout the reporting period to align the site with the requirements under the NSW Rehabilitation Reforms. These include the planning for: · A tree thinning trial proposed by WSP to lower stem density in older rehabilitation to increase native groundcover and midstory species. · Existing rehabilitation management practices to be carried out including weed and pest management and repair works for any erosional structures as they appear; and · Continued progressive rehabilitation in accordance with the rehabilitation schedule.

Overview of subsidence repair and/or remediation works undertaken

No underground mining is undertaken at BCM and hence no subsidence repairs were undertaken during the reporting period. During the 2023 reporting period, focus continued to be given to the investigation of and planning for the repair and stabilisation of areas which have been affected by the numerous storm events experienced over the last few years.

Overview of rehabilitation management and maintenance activities

Monitoring of rehabilitation areas and analogue sites is undertaken by specialist independent consultants on an annual basis. This monitoring is undertaken by WSP using a modified Landscape Function Analysis methodology. Ecological rehabilitation monitoring is undertaken at three replicate sites per each stage of rehabilitation on a 1:14,000 scale to provide statistically valid data that is used to guide rehabilitation maintenance activities. Maintenance/contingency activities included a range of activities including: ·

Supplementary seeding of vegetated areas; · Weed and pest control; · Application of soil ameliorants; and · Repair of any eroded areas. Maintenance and corrective actions continued to focus on the monitoring and identification of areas requiring further control and/or remedial actions. This included the planning and repair of areas of erosion which have been identified following the numerous storm events which have been experienced during 2020 to 2023.

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

BCOPL did not receive any regulatory actions in relation to rehabilitation during the reporting period.

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

Whilst monitoring has demonstrated that areas of rehabilitation are trending well towards the final land use objectives, no areas of rehabilitation have achieved the final land use during the reporting period.

Key production milestones

MATERIAL	UNIT	FWP0001147 YEAR 1	THIS REPORT
Stripped topsoil (if applicable)	(m^3)	43,800	91,113
Rock/overburden	(m^3)	62,453,265	60,331,673
Ore	(Mt)	8.22	8.07
Reject material[1]	(Mt)	1.61	1.06
Product	(Mt)	6.7	6.89

[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
A	**Total surface disturbance footprint**	(ha)	1,532.92
B	**Total active disturbance**	(ha)	1,212.38
C	**Land prepared for rehabilitation**	(ha)	21.44
D	**Ecosystem and land use establishment**	(ha)	30.88
E	**Ecosystem and land use development**	(ha)	268.22
F	**Rehabilitation completion**	(ha)	0

Rehabilitation key performance indicators (KPIs)

	ELEMENT	UNIT	THIS REPORT
G	**Total new active disturbance area**	(ha)	NA - this value will display after 2nd year ARR submission as calculation relies on comparison between sequential yearly ARR data
H	**New rehabilitation commenced during annual reporting period**	(ha)	NA - this value will display after 2nd year ARR submission as calculation relies on comparison between sequential yearly ARR data
I	**Established rehabilitation**	(ha)	268.22
J	**Annual rehabilitation to disturbance ratio**	%	NA - this value will display after 2nd year ARR submission as calculation relies on comparison between sequential yearly ARR data
K	**Rehabilitated land to total mine footprint**	%	17.5

Progressive achievement of established rehabilitation

	ELEMENT	UNIT	THIS REPORT
L	**Established rehabilitation - agricultural final land uses**	%	0
M	**Established rehabilitation - native ecosystem final land uses**	%	99.99
N	**Established rehabilitation - other/non-vegetated final land uses**	%	0

Variation to the rehabilitation schedule

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

All components of the previous forward program were achieved for 2023.

Key factors that delayed progressive rehabilitation

During 2020 to 2022, multiple storm events occurred which resulted in sections of erosions on the previously rehabilitated landform. No new rehabilitation was completed during 2022 due to the focus on repairs for this area. Rehabilitation recommenced progress in accordance with the rehabilitation schedule in 2023 with approximately 21.44 ha of Land being Prepared for Rehabilitation.

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

Biodiversity monitoring of rehabilitation areas is completed annually to assess the biodiversity status of rehabilitated areas to further guide rehabilitation methodologies, procedures and maintenance activities, in order to achieve site rehabilitation objectives. The monitoring reports on aspects of ecosystem establishment and ecosystem development. Generally, the monitoring has shown: · Mean species richness is highest in the 2010 and 2011 rehabilitation, with lowest in 2008 rehabilitation; · Most mine rehabilitation sites met or exceeded the native species richness, native overstorey projected foliage cover and mid storey cover BBAM benchmarks.; · All rehabilitation monitoring locations failed to meet the relevant criteria for exotic species richness; and · Structural characteristics are mostly absent across the rehabilitation area, except where stag trees had been replaced. Fauna surveys identified 52 diurnal species from the seven replicate monitoring sites. Four threated species were recorded, including the Brown Treecreeper, Painted Honeyeater, Speckled Warbler and Turquoise Parrot. Four native species were recorded via infra-red/motion sensor cameras, including Short-beaked Echidna, Red-necked Wallaby, Common Wallaroo and Eastern Grey Kangaroo.

Status of performance against rehabilitation objectives and rehabilitation completion criteria

The monitoring program that has been implemented

The biodiversity monitoring program has identified that the native species richness within the rehabilitation areas is trending towards or exceeding the native species richness of the neighbouring analogue sites. The monitoring has identified that the exotic species richness is greater than the required benchmark in the neighbouring Leard State Forest sites. Ongoing weed management on the rehabilitation areas will be undertaken over time in order to bring these into alignment. Structural characteristics are mostly absent within the rehabilitation areas. The installation of stag trees and bush timber salvaged during clearing has built on the structural characteristics of the rehabilitation whilst woodland areas are further developed and these features establish naturally. No salinity was observed on rehabilitation areas. Whilst the landform is identified to be generally showing signs of stability, the extreme rainfall conditions experienced during the period of 2020 to 2022 resulted in areas of erosion and slumping. Works programs were developed and completed to repair and remediate these areas during 2022 and 2023. The remediation works will be subject to ongoing monitoring and maintenance to ensure the best chance of success.

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?

0

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

2024

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.

The completed rehabilitation areas are progressing towards meeting the rehabilitation completion criteria. As noted above, there were areas of significant erosional features which have since been remediated and repaired. These areas will require further attention and are subject to ongoing work programs.

Appraisal description

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

Rehabilitation monitoring program findings

Landform erosion was identified in areas with well established woodland vegetation which required remediation works to be completed. During 2022, a specialist rehabilitation consultant was commissioned to undertake a review of these landform erosion areas and to develop the required work program. Following the completion of the remediation and repair works in 2023, monitoring was undertaken to assess the effectiveness of these works. Monitoring of these areas will be completed annually. Biodiversity monitoring of rehabilitation areas is completed annually to assess the biodiversity status of rehabilitated areas to further guide rehabilitation methodologies, procedures and maintenance activities, in order to achieve site rehabilitation objectives. The monitoring reports on aspects of ecosystem establishment and ecosystem development. Monitoring for the reporting period commenced on 8 October 2023 at seven (of 10) replicate monitoring sites located within the 3, 5, 6, 7, 12, 13 and 15-year-old mine rehabilitation age-classes. Grassy woodland native ecosystem (secondary domain) within the mine rehabilitation area is known from two replicate monitoring sites: being RH2017 and RH2020. Sampling was undertaken at these locations during 2023 as well as a further five sites associated with shrubby woodland/ forest native ecosystem (RH2008D, RH2010, RH2011, RH2016 and RH2018A). The 2023 monitoring program involved the following sampling methodologies: · One single modified BioBanking Assessment Methodology (BBAM) plot, species inventories only. · Photo point monitoring (to track changes in plant growth and ecology of the rehabilitated areas). · Salinity monitoring within the BioBanking vegetation 20 x 20 m quadrat (observational). · Canopy species recruitment and presence of reproductive structures monitoring

(observational). · One 20-minute bird and general fauna area search within 80 m (approximately 2 ha) of fixed monitoring sites on separate mornings.

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

Further work is proposed to be undertaken as part of the Final Void and Mine Closure Plan. This Plan is required to be prepared by the end of December 2025 in accordance with conditions of SSD 09_0182. The Plan is to investigate future stability of the landforms, long term groundwater recovery and void characteristics. The Plan will be required to demonstrate that the long term landform will not generate a pit lake, the emplaced spoil has the capacity to drain to the natural environment and drained water will not adversely affect the downstream environment.

Outcomes of rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
RRT0001069	Flora and Fauna Monitoring	To collect baseline information (including from analogue sites beyond CL 368) to provide comparative data for assessment of the success of rehabilitation works.	As part of the ongoing biodiversity monitoring program for the BCM as described within the approved Biodiversity Management Plan, this monitoring of flora and fauna communities will be conducted within and beyond the surrounding Leard State Forest (including analogue sites beyond CL 368).	14 Dec 2033	Ongoing	Yes
RRT0001070	Nest Box Management Plan	Installation of nest boxes in rehabilitation areas to provide suitable habitat for displaced fauna.	Further detail is described within the approved Biodiversity Management Plan. The total hollow numbers for rehabilitation areas are to match the estimated loss of hollows in the clearing area, with 50% of these to be installed within 10 years of rehabilitation age and all nest boxes are to be installed within 15 years of offset establishment. Each nest box will be monitored every five years.	31 Dec 2033	Ongoing	Yes
RRT0001071	Eucalypt Thinning Monitoring Program Trial	To determine the baseline condition and any subsequent changes to biodiversity values within the BCM mine rehabilitation in response to the thinning trials (as per biodiversity audit recommendation).	Monitoring to evaluate the success of the thinning trials and/or identify potential failures to enable adaptive management of future thinning activities to occur within the mine rehabilitation areas.	31 Dec 2033	Ongoing	Yes

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
RRT0001072	Growth Media Evaluation	Analysis to confirm the adequacy of the were any limitations	xx	31 Dec 2033	Ongoing	Yes
RRT0001073	Growth Media Evaluation (Full Detail)	To investigate the suitability of growth media utilised on mine rehabilitation and to determine any limitations requiring remediation.	In early 2016, BCOP commissioned a preliminary evaluation of growth media within the 2008 to 2014 rehabilitation areas (Landloch, 2016). The assessment was conducted in accordance with the procedure detailed in the Soil Management Protocol (SMP). Samples were subject to soil surface descriptions, morphological descriptions, field tests and laboratory analysis. Recommendations from this work have been incorporated into the rehabilitation methodology implemented onsite.	31 Dec 2033	Ongoing	Yes

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
13 Oct 2023	NSW Resources Regulator	Response via the NSW Resources Regulator's online portal	Proposed rehabilitation objectives for BCM	NSW Resources Regulator provided approval of Rehabilitation Objectives
1 Feb 2023	NSW Resources Regulator	Response from NSW Resources Regulator via the NSW Resources Regulator's online portal	Spatial theme data to support the Final Landform and Rehabilitation Plan	NSW Resources Regulator refused spatial theme data and provided comments
15 Mar 2023	NSW Resources Regulator	Submission via the NSW Resources Regulator's online portal	Spatial theme data to support the Final Landform and Rehabilitation Plan	Updated in response to the comments provided 1 February 2023
6 Sep 2023	NSW Resources Regulator	Response via the NSW Resources Regulator's online portal	Proposed rehabilitation objectives for BCM	NSW Resources Regulator refused Objectives and provided comments
29 Sep 2023	NSW Resources Regulator	Submission via the NSW Resources Regulator's online portal	Spatial theme data to support the Final Landform and Rehabilitation Plan	Updated in response to the comments provided 6 September 2023
25 Nov 2022	NSW Resources Regulators	Submission via the NSW Resources Regulator's online portal	Spatial theme data to support the Final Landform and Rehabilitation Plan	NSW Resources Regulator to provide approval or feedback
15 Mar 2023	NSW Resources Regulator	Submission via the NSW Resources Regulator's online portal	Proposed rehabilitation objectives for BCM	NSW Resources Regulator to provide approval or feedback

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
6 Oct 2023	NSW Resources Regulator	Submission via the NSW Resources Regulator's online portal	Proposed rehabilitation objectives for BCM	Updated in response to the comments provided 6 September 2023

Attachment 5 – Plans

Plan 1A Current Status of Mining and Rehabilitation.pdf

Plan 1B Current Landform Contours.zip