NSW GOVERNMENT

NSW Resources Regulator

ARR0001490

MANGOOLA COAL MINE ANNUAL REHABILITATION REPORT

Monday 1 January 2024 to Tuesday 31 December 2024

Summary table

DETAIL	
Mine	Mangoola Coal Mine
Reference	ARR0001490
Annual report period commencement date	Monday 1 January 2024
Annual report period end date	Tuesday 31 December 2024
Forward program	FWP0001379
Mining leases	ML 1747 (1992), ML 1817 (1992), ML 1626 (1992)
Lease holder(s)	Mangoola Coal Operations Pty Limited
Contact	Brooke York
Date of submission	Tuesday 15 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

Mangoola Coal Mine (Mangoola) is a truck and shovel, open cut coal mine operated by Mangoola Coal Operations Pty Ltd which is owned by Glencore Coal Pty Ltd (Glencore). Project Approval (PA) 06_0014 was granted on 7 June 2007 and authorised the extraction of up to 13.5 million tonnes per annum (Mtpa) Run of Mine (ROM) coal, as well as operation of a Coal Handing and Preparation Plant (CHPP) and train loading facility. In April 2021 the NSW Independent Planning Commission (IPC) approved the Mangoola Coal Continued Operations (MCCO) Project (SSD 8642) which allows for continued mining in the southern mining area (Main Pit and South Pit), as well as a new mining area to the north of Wybong Road referred to as Wybong Pit. The site holds Mining Lease (ML) 1626, ML1747, ML1815 and ML1817. This Annual Rehabilitation Report covers the 12-month period from 1 January 2024 to 31 December 2024.

Life of mine

6 years

Current development consents, leases and licences

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

SSD 8642
SSD 8642
SSD 8642
SSD 8642
SSD 8642
SSD 8642
SSD 8642
SSD 8642
SSD 8642
SSD 8642
SSD 8642
SSD 8642

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

ML 1747 (1992), ML 1817 (1992), ML 1626 (1992)

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

ML 1815
EPL 12894
EPBC 2018/8280
Surface Water and Groundwater Licences

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

EPBC 2018/8280 was amended on 20 Feb 2024 to extend deadlines in conditions 9 and 10 to 30 June 2024. This amendment allowed time for BSA establishment and credit retirement.

Changes to land ownership and land use

No changes to land ownership or land use have occurred during the 2024 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

Coal extraction continued in the existing Southern Mining Area (Main Pit/South Pit), and in the Northern Extension Area (Wybong Pit). Disturbance and rehabilitation areas are generally in alignment with 2024 predictions made in the previous Forward Program. 178.9 ha of new disturbance was completed in 2024 (compared to the 168.4 ha forecast for 2024 in the previous Forward Program. 80.9 ha of rehabilitation was completed (compared to the 80.5 ha forecast for 2024 in the previous Forward Program). Other activities completed during 2024 included: • Commencement of tailings capping; • Continued exploration drilling, and Limit of Oxidation (LOX) holes; •Establishment of minor access tracks and laydown areas as required; • General vegetation management ahead of mining; and • Installation of water management features in accordance with the Mangoola Water Management Plan as required.

Rehabilitation planning activities that were conducted, including any specialist studies

The following rehabilitation planning activities were conducted during 2024: • Due diligence inspection of heritage sites is undertaken ahead of disturbance • Ecological monitoring was undertaken in the mine rehabilitation areas which includes flora and fauna monitoring. • Mangoola prepare an Annual Rehabilitation and Closure Plan (ARCP) on a calendar year basis, which provides direction and guidance for the rehabilitation and land management activities at site. The plan details responsibilities for land management and rehabilitation activities, as well as nominated timeframes for completion. The plan also documents key performance indicators and associated deliverables for Mangoola's rehabilitation performance on an annual basis in line with GCAA requirements. •Conceptual mine closure planning is completed internally.

Overview of subsidence repair and/or remediation works undertaken

Mangoola is an open cut mine and no subsidence repair or remediation is required at the site.

Overview of rehabilitation management and maintenance activities

Mangoola Coal undertakes an annual rehabilitation monitoring program to assess the progression of rehabilitation and as a method to identify maintenance and corrective actions. The following actions were undertaken as per the recommendations from the annual rehabilitation monitoring program: • weed control • feral animal control •

erosion control • addition of soil ameliorants to overcome potential constraints • repair of fences, access tracks and other general related land management activities.

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

No letters, notices or directions regarding rehabilitation were received during the reporting period.

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

No areas were relinquished during the 2024 reporting period.

Key production milestones

MATERIAL	UNIT	FWP0001379 YEAR 1	THIS REPORT
Stripped topsoil (if applicable)	(m^3)	76,000	370,881
Rock/overburden	(m^3)	34,348,826	34,985,068
Ore	(Mt)	11.16	11.47
Reject material[1]	(Mt)	2.64	2.36
Product	(Mt)	8.52	9.11

[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)	2,583.57
B	Total active disturbance	(ha)	1,532.2
C	Rehabilitation – land preparation	(ha)	3.81
D	Ecosystem and land use establishment	(ha)	463.2
E	Ecosystem and land use development	(ha)	584.36
F	Rehabilitation completion	(ha)	0

Rehabilitation key performance indicators (KPIs)

	ELEMENT	UNIT	THIS REPORT
G	New disturbance area	(ha)	128.51
H	New rehabilitation commenced during annual reporting period	(ha)	84.68
I	Established rehabilitation	(ha)	584.36
J	Annual rehabilitation to disturbance ratio	%	0.66
K	Rehabilitated land to total mine footprint	%	22.62

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**	%	99.97
N	**Established rehabilitation for 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

There were no components of the 2024 forward program that were not achieved.

Key factors that delayed progressive rehabilitation

No factors significantly delayed the progressive rehabilitation schedule in 2024.

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

Rehabilitation and disturbance at Mangoola will be carried out in accordance with the RMP and Forward Programs as far as reasonably practical. Actions will also be completed in accordance with the Life of Mine (LoM) planning process and the processes outlined in GCAA 11.16 Rehabilitation Management.

Rehabilitation monitoring and research findings

Rehabilitation monitoring

The rehabilitation monitoring carried out in the annual reporting period

The 2024 Rehabilitation Monitoring Report concluded that while the sites are trending towards criteria, no sites currently meet all the required performance criteria. Four LTM sites meet all the cover-based criteria, and 18 sites do not meet the canopy cover criteria because they exceed it. Similarly, there are several sites that do not pass the understory criteria because they exceed the maximum threshold. It was also noted that because much of the understory in the North Pit Rehab is composed of Acacia species, that are considered “shrubs” under the BAM, the true number of “woody stems” per hectare was frequently underestimated when using the BAM definition of a tree. A number of recommendations to revise the monitoring criteria were made, specifically around the thresholds for canopy cover, understorey cover, groundcover, and stem cover.

Status of performance against rehabilitation objectives and rehabilitation completion criteria

The monitoring program that has been implemented

The objective of the rehabilitation monitoring program is to track the progress of rehabilitation works and document any changes in floristics, structure and habitat condition, specifically in relation to rehabilitation objectives and completion criteria. The monitoring program will continue to be undertaken within rehabilitated and non-mined areas until it can be demonstrated that rehabilitation has satisfied the objectives and completion criteria. Information from this monitoring program will also be used to refine completion criteria as required. To track changes to biodiversity values at the monitoring sites, the LTM results are compared to their relevant RMP performance indicators and triggers. This assists in identifying where management actions have been successful and where they may require review. IEM sites are not compared to the performance indicators due to their relatively young age. The IEM sites which graduate to LTM sites are compared at 4 years of age and in future monitoring events. The methodology forms a statistically rigorous sampling process for the collection of all rehabilitation data. For each of the aspects assessed during the annual inspection, performance data is captured as part of the GCAA Rehabilitation Report Card process. An internal report comprising a GIS based site plan and accompanying data tables summarising monitoring outcomes and performance for each success indicator is prepared at the conclusion of each monitoring year.

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.

An Annual Rehabilitation Walkover inspection is undertaken at Mangoola Open Cut to provide a qualitative assessment of the success of rehabilitation to date, review the trajectory of rehabilitation as areas progress towards completion, and provide discussion and recommendations for future rehabilitation. The assessment determined that rehabilitation is generally moving towards achieving the proposed completion criteria and FLRP. LTM sites were assessed against the criteria for canopy, understory and ground cover, as well as tree survival, stem density and weed cover.

Appraisal description

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

Rehabilitation monitoring program findings

To provide an opportunity to assess the progression of rehabilitation completed at Mangoola, a rehabilitation monitoring program has been developed. This includes: • Annual rehabilitation monitoring • Annual rehabilitation walkover inspection • Annual GCAA inspection • Annual Rehabilitation Report Card The ecological monitoring program commenced with baseline surveys in 2007 and surveys and reporting have been undertaken annually since (some components are more frequent). At the monitoring sites both qualitative and quantitative data are collected to provide adequate data to assess progress against relevant performance indicators, rehabilitation objectives and completion criteria. Rehabilitation monitoring requirements currently include Initial Establishment Monitoring (IEM) and Long Term Monitoring (LTM) for Targeted Native Vegetation Rehabilitation. IEM is applied to sites that are ≤3 years old and LTM is applied to rehabilitation that is a minimum of four years since establishment. The Rehabilitation Monitoring Program for 2024 included 40 IEM sites, 51 LTM sites, and 8 reference sites. The monitoring parameters of the IEM sites relate to identifying key and dominant species (native and exotic including high threat/priority weeds) to determine germination success and landform stability. IEM results are assessed to determine: • if there are any emerging risks to rehabilitation, including areas where rehabilitation may be failing and require early intervention • identify if triggers have been met for preventative or mitigation controls to

minimise the impacts of emerging issues in accordance with the TARP • provide data that may inform continuous improvement of rehabilitation records. The key aspects of the LTM sites relate to: •richness and diversity of native and exotic species (including high threat/priority weeds) •cover and abundance • the structure and habitat they provide. The monitoring results will be assessed and utilised in the continual improvement and refinement of revegetation/regeneration techniques. Based on the outcomes of the rehabilitation monitoring program, a maintenance program will be implemented so that rehabilitation is sustainable for the long term. The scope of the maintenance program will include implementation of, as necessary, weed and feral animal control, re-seeding or planting and erosion and sediment control works. It is envisaged that this program will be continued as required until it can be demonstrated that the rehabilitation has satisfied the completion criteria.

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

The 2024 rehabilitation monitoring made recommendations for the LTM sites, in two main categories: • Areas requiring thinning – includes areas that have dense coverage of understory species (particularly Acacia) that will limit the ability of the rehabilitation to meet relevant performance criteria if not amended. •Weed control – areas with high priority weed species based on walkthrough observations. Recommendations for the IEM sites included recommendations for areas requiring erosion repair, weed control, and planting of key eucalypt species.

Outcomes of rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
RRT0001074	Threatened Terrestrial and Epiphytic Orchids	A major study is being undertaken on site relating to the translocation of terrestrial orchid species Assess the viability of different translocation methods in achieving conservation outcomes.	Translocation plots have been established in offset and rehabilitation areas, with reference sites based in nearby buffer lands. Undertaken since 2010, comprising the salvage and relocation of over 2700 orchid cores. Annual monitoring is undertaken to assess the viability of different translocation methods in achieving conservation outcomes. Another trial undertaken includes divide and grow Cymbidium canaliculatum that have been damaged and collected during tree felling operations	31 Dec 2030	Ongoing	Yes
RRT0001075	Tailings Dam Desiccation Enhancement Using Tubestock Planting	Experiments have been set up to test the dewatering capacity of tailings by vegetation	TD1 was planted with 6 trial species in 2018 with evaluation of tailings water content and plant growth evaluated	31 Dec 2028	Ongoing	Yes
RRT0001076	Flora Species Translocations	To enhance landscape function and plant species diversity/ages. Viability of different translocation methods in achieving conservation outcomes.	Certain species have been identified during ecological pre-clearing surveys that are suitable for translocation in the rehabilitation areas. Excavation with soil matter and transported to pre excavated hole in existing	31 Dec 2030	Complete	Yes

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
			rehabilitation area, where plant is planted and watered for establishment			
RRT0001077	Flora Species Translocations	To enhance landscape function and plant species diversity/ages. Viability of different translocation methods in achieving conservation outcomes	Certain species have been identified during ecological pre-clearing surveys that are suitable for translocation in the rehabilitation areas. Excavation with soil matter and transported to pre excavated hole in existing rehabilitation area, where plant is planted and watered for establishment	31 Dec 2030	Ongoing	Yes
RRT0001078	Pomaderris reperta translocation	Conservation & translocation of Pomaderris reperta with the aim to evaluate the effectiveness of propagation and translocation & extend on distribution within the natural range of the species	Two 12m x 12m translocation plots have been established within establishing Mangoola rehabilitation and two identical sized plots located in Mangoola offset land. Ongoing monitoring and research will be conducted to evaluate the effectiveness of the translocation project. Excavation of identified plots and transplanting into trial plots.	31 Dec 2030	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
7 Feb 2024	Community Consultative Committee (CCC)	Quarterly Meeting	Operational update to CCC members	None relating to rehabilitation
31 Jan 2023	CCC	Quarterly meetings 31/01/2023 9/05/2023 25/07/2023 14/11/2023	Operational update for CCC members	None relating to rehabilitation
12 Dec 2023	Resources Regulator	Letters, meetings, site inspection	ROBJ approval, RCE investigation	Provide information as requested. Rework 3.4Ha area of rehabilitation.
8 May 2024	Community Consultative Committee (CCC)	Quarterly Meeting	Operational update to CCC members	None relating to rehabilitation
1 Jun 2024	Community	Community Newsletter	Operations and rehabilitation update to community.	Nil
17 Oct 2024	Community	Meeting	Tour of rehabilitation	Nil
21 Nov 2024	Upper Hunter Mining Dialogue (UHMD)	Site tour	Tour of rehabilitation with Home Schools	Nil
23 May 2024	Upper Hunter Mining Dialogue (UHMD)	Site tour	Tour of rehabilitation with St Joseph's Primary Denman	Nil
10 Sep 2024	Upper Hunter Mining Dialogue (UHMD)	Site tour	Tour of rehabilitation with Scone High School	Nil
13 Nov 2024	Community Consultative Committee (CCC)	Quarterly Meeting	Operational update to CCC members	None relating to rehabilitation

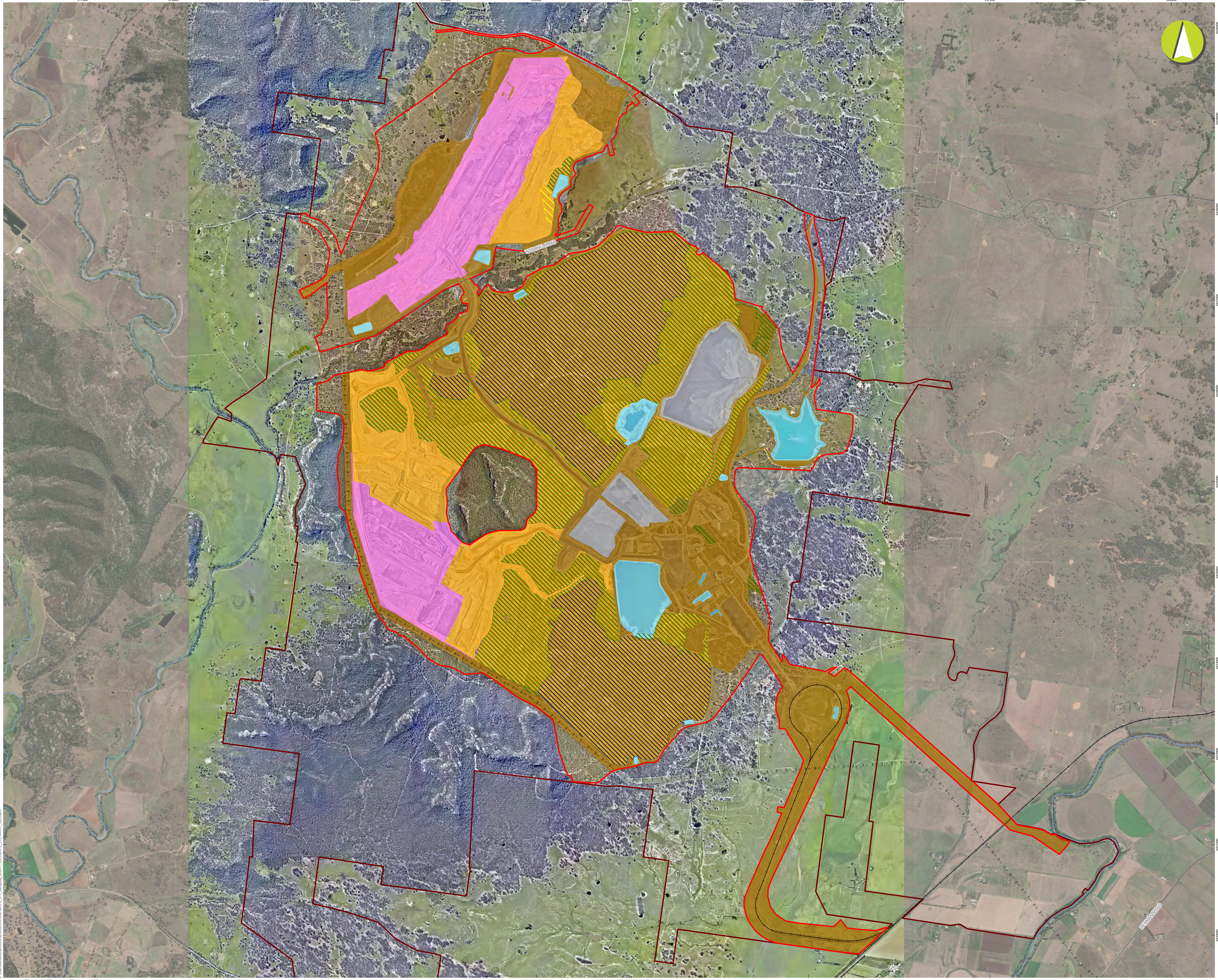
DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
1 Dec 2023	Community	Newsletter 1/12/2023 Community Event at Wybong Hall	Operational update to community	None relating to rehabilitation

Attachment 5 – Plans

GLN12_013_ARRFP_Plan1A_CurrentStatusMining_2025_V6.pdf

GLN12_013_ARRFP_Plan1B_CurrentLandformContours.pdf

Listed plans attached below for web publication with permission of Resources Regulator (email 7/4/2025)



LEGEND

- Project Approval Boundary
- Approved Disturbance Boundary
- Road
- Railway
- Watercourse
- Electricity Transmission Line

Mining Domain Type

- Domain 1: Infrastructure Area
- Domain 2: Tailings Storage Facility
- Domain 3: Water Management Area
- Domain 4: Overburden Emplacement Area
- Domain 5: Active Mining Area (Open cut void)

RehabPha

- Ecosystem and Land Use Development
- Ecosystem and Land Use Establishment
- Landform Establishment

0 250 500 750 1,000 m
Scale: 1:20,000

Imagery: Glencore, January 2025

Source: GDA2020 MGA Zone 56

Date: 28/03/2025

Sheet Size : A1

INTEGRATED ENVIRONMENTAL MANAGEMENT AUSTRALIA
www.iema.com.au

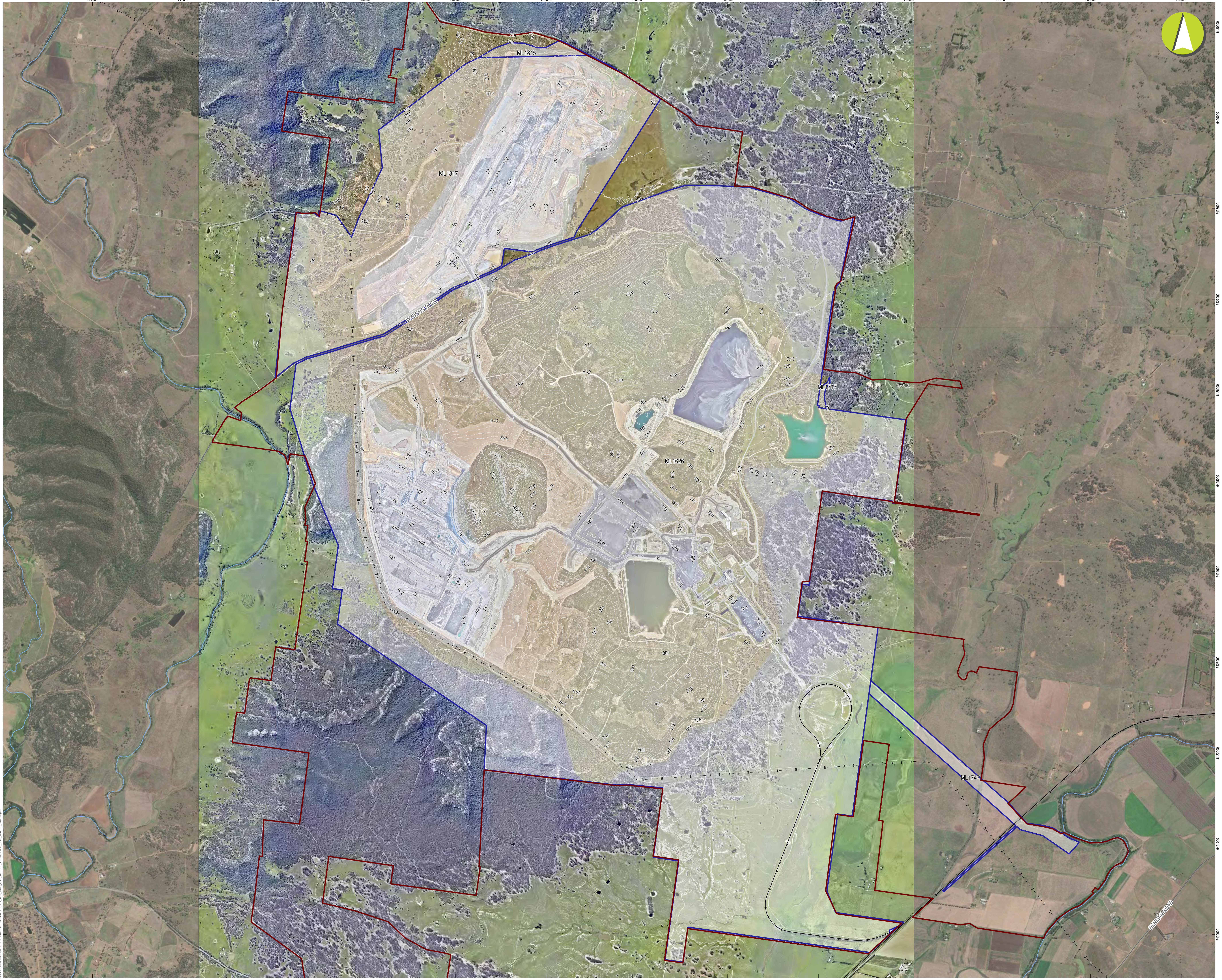
GLENCORE

Glencore Mangoola Mine Complex

Current Status of Mining and Rehabilitation

PLAN 1A

Mine name	Mangoola Mine Complex
Plan name	Mangoola Coal Mine ARRFP
Year of anticipated relinquishment	
Data theme submission ID No.	7460, 7461
Spatial Reference	GDA2020 MGA Zone 56
Plan date (date created)	28/03/2025



LEGEND

- Mine Lease Boundary
- Project Approval Boundary
- Current Landform Contours (5m)
- Railway
- Road
- Watercourse
- Electricity Transmission Line

Scale: 1:20,000 (0 – 250 – 500 – 750 – 1,000 m)

Imagery: Glencore, January 2025

Source: GDA2020 MGA Zone 56

Date: 28/03/2025

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Sheet Size : A1

Glencore Mangoola Mine Complex

Current Landform Contours

PLAN 1B

Mine name	Mangoola Mine Complex
Plan name	Mangoola Coal Mine ARRFP
Year of anticipated relinquishment	
Data theme submission ID No.	7457
Spatial Reference	GDA2020 MGA Zone 56
Plan date (date created)	28/03/2025