



Mudgee Dolomite and Lime – Buckaroo Rehabilitation Management Plan



CONTENTS

1	PART 1 – INTRODUCTION	1
1.1	History of Operations	1
1.2	Current development Approvals	1
1.3	Land Ownership and Land Use	2
2	PART 2 FINAL LAND USE	6
2.1	Regulatory requirements for rehabilitation	6
2.2	Final land use options assessment	20
2.3	Final land use statement	22
2.4	Final land use and mining domains	22
3	PART 3 REHABILITATION RISK ASSESSEMNT	24
3.1	Specific Risks relating to Rehabilitation	25
4	PART 4 REHABILITATION OBJECTIVES AND COMPLETION CRITERIA	31
4.1	Rehabilitation Objectives	31
4.2	Rehabilitation objectives – stakeholder consultation	34
4.3	Completion Criteria	34
5	PART 5 FINAL LANDFORM AND REHABILITATION PLAN	34
6	PART 6 REHABILITATION IMPLIMENTATION	37
6.1	Rehabilitation Tables	39
6.2	Relinquishment	46
6.3	Active Mining	46
6.4	Landform Establishment	47
7	PART 7 – REHABILITATION QUALITY ASSURANCE PROCESS	50
8	PART 8 – REHABILITION MONITORING PROGRAM	50
8.1	Rehabilitation Monitoring	50
9	PART 9 RESEARCH AND REHABILITATION RESEARCH, MODELLING AND TRAILS	51
10	PART 10 – INTERVENTION AND ADAPTIVE MANAGEMENT	52
10.1	Threats to Rehabilitation	52
10.2	Trigger Action Response Plan	52
11	PART 11 – REVIEW, REVISION AND IMPLEMENTATION	58
11.1	REview of the RMP	58
11.2	Implementation of the RMP	58

TABLES

Table 1: Summary of Current Consents, Authorisations and Licences	2
Table 2: Land Ownership	2
Table 3: Approvals	7
Table 4: Domains for the Buckaroo Mine	22
Table 5: Domains and Assets	23
Table 6: Summary of Risks and Risk Management	24
Table 7: Identification of Risks and Mitigation - Geology	25
Table 8: Identification of Risks and Mitigation – Erosion and Sediment Control	26
Table 9: Identification of Risks and Mitigation - Soils	27
Table 10: Identification of Risks and Mitigation – Flora and Fauna	28
Table 11: Identification of Risks and Mitigation – Bushfire	30
Table 12: Identification of Risks and Mitigation – Water Management	31
Table 13: Rehabilitation Objectives	31
Table 14: Summary of Rehabilitation Phases Proposed for Completion in the Period	38
Table 15: Rehabilitation data showing Domains at commencement and final period	49
Table 16: Rehabilitation Monitoring	50
Table 17: Trigger Action Response Plan (TARP)	53
Table 18: Responsibilities for Implementation of MOP	58

ATTACHMENTS

ATTACHMENT 1 – Copy of Development Approval

ATTACHMENT 2 – Plans

Summary Table	
Name of Mine:	Buckaroo (Limestone/Dolomite Mine Buckaroo)
Application/Title	ML919 (1973)
Determination Expiry	18 February 2043
Name of Lease Holder:	R.K Murdoch Pty Limited

1 PART 1 – INTRODUCTION

1.1 HISTORY OF OPERATIONS

This Rehabilitation management Plan (RMP) relates to operations at mine site referred to as Buckaroo Limestone and Dolomite Mine (MDL Buckaroo). R.K Murdoch (trading as MDL) operates the Buckaroo mine, with purpose for extracting limestone, structural clay and dolomite, located in NSW approximately 9 kilometres (km) east north east of Mudgee. The site is within the Mid-Western Regional Local Government Area. The Buckaroo mine and surrounding lands are zoned RU1 Primary Production pursuant to the Mid-Western Regional Local Environmental Plan 2012. The subject mine is contained within Lots 102, 103, 120 and 110 in DP 755418, being 544 Buckaroo Road, Buckaroo.

No permanent infrastructure is located at the Buckaroo mine site. MDL offices are located separately at the nearby Buckaroo Mine/processing plant. The site has two existing pits referred to as Pit 1 Limestone quarry and Pit 2 Dolomite quarry. The Pit 1 limestone quarry has been worked historically for a longer period, and the footprint is not to be expanded. Pit 2 Dolomite quarry has been focus of most work the previous Mining Operations Plan and will see an increase in area over the life of the RMP.

1.2 CURRENT DEVELOPMENT APPROVALS

The site is a Level 2 mine. The Buckaroo Mine received development consent under the *Environmental Planning and Assessment Act, 1979* on 6th August 1980. Development approval was granted by Mudgee Shire Council (now Mid-Western Regional Council) for the site (2.8/80) to coincide with the mining lease application. The Mining Lease (ML919) was granted in February 1981 within an area of 56.67ha (renewal to 17 February 2023).

The site also holds a current Environment Protection Licence 2588. Scheduled activities include:

- Extractive activities - > 50000 – 100000 T annual capacity to extract, process or store;
- Mineral processing - > 30000 – 100000 T annual processing capacity; and
- Mining for minerals - > 50000 – 100000 T annual production capacity.

Approvals are summarised in Table 1, below.

Table 1: Summary of Current Consents, Authorisations and Licences

REF	DESCRIPTION	EXPIRY DATE
Mining Tenements		
ML919	Mining Lease held by MDL Pty Limited. Granted 18 Feb 1981; the PLL covers an area of 56.67ha, without a depth restriction.	18/02/2043
Development Approvals		
DA 2.8/80 (Council minute 923/80)	Development Approval for Limestone mine	(Determined 11/8/80)
Ownership and Access		
Access	The land is owned by MDL and no separate land access agreement is in place. The access and haul road from the mine to Buckaroo public road is shared. The neighbouring land owner and Mine operator – Mid-Western Regional Council also utilise the haul road.	
Other Approvals and Licences		
EPL 2588	MDL hold an EPL for the subject site (issued 13 Dec 1999) which also covers the processing plant on separate title to the mine.	Anniversary 01 September

1.3 Land Ownership and Land Use

The land on which the Buckaroo Mine is located is owned land by RK Murdoch. The following table provides a summary of the land tenure of the general area as well as a schedule of ownership, occupancy and leases over the mining lease area consistent with the ownership and land use figure (refer 1.3.1 below).

The access road to Buckaroo Mine is via a public bitumen sealed and gravel road (Buckaroo Lane and Buckaroo Road), and shared access within Lot 3 DP619374 (MDL Buckaroo Processing plant site), Lot 2 DP1022470 (owned by MWRC site of Council quarry) and Lot 2 DP1227923 (private land).

Table 2: Land Ownership

PROPERTY DETAILS	TENURE	LANDUSE	FINAL LAND USE
LOT 154 DP 755418 472 Buckaroo Road	Freehold	grazing	
LOT 2 DP 1227923 540 Buckaroo Road	Council	Quarry	

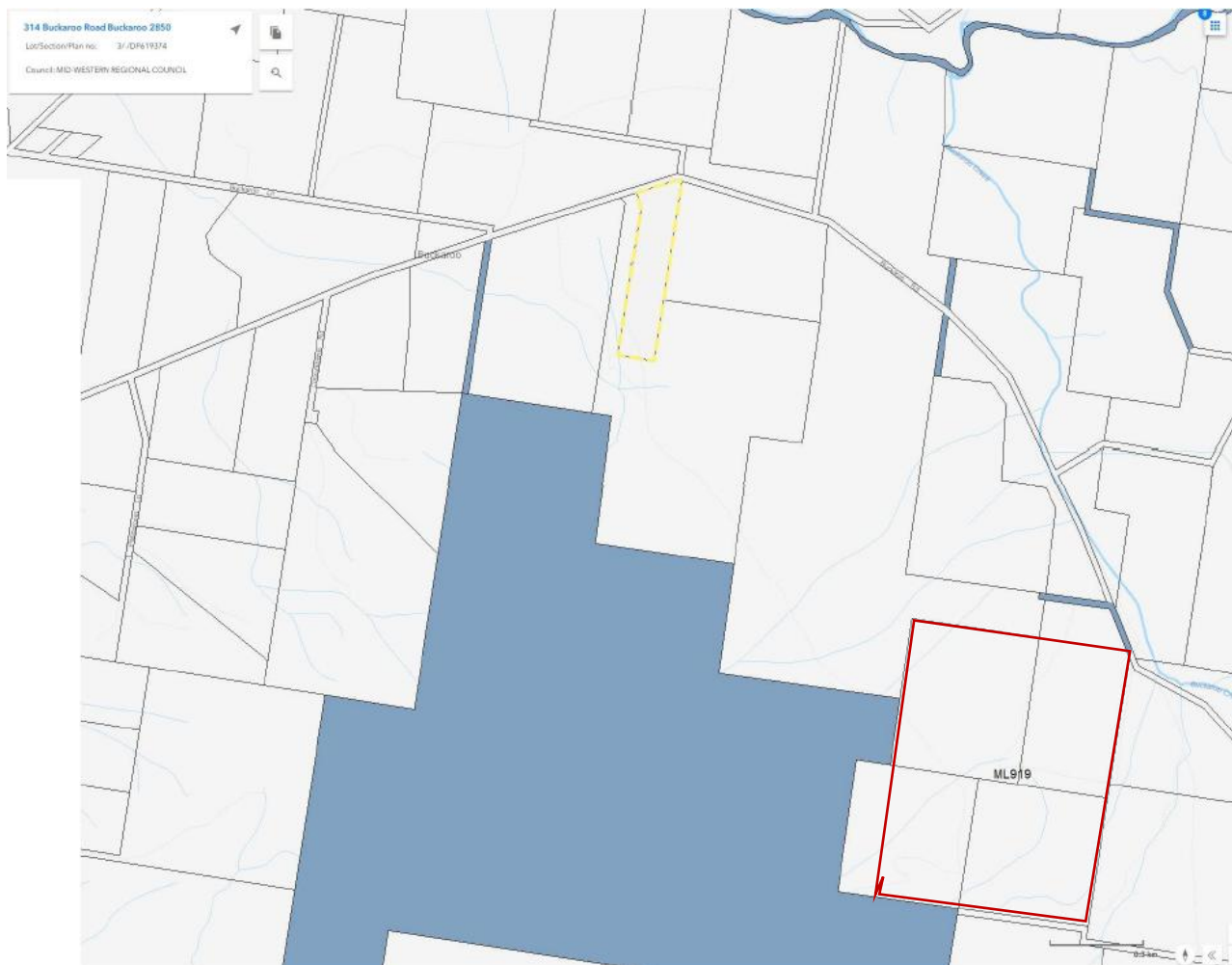
PROPERTY DETAILS	TENURE	LANDUSE	FINAL LAND USE
LOT 2 DP 1022470 312 Buckeroo Road	Council	Grazing	
LOT 3 DP 619374 312 Buckeroo Road	Freehold	Infrastructure	Infrastructure
LOT 1 DP 1227923 371 Buckeroo Road	Freehold	Grazing	
LOT 166 DP 755415 566 Buckeroo Road	freehold	Grazing	
LOT 1 DP 518279 617 Lue Road	Freehold	Grazing	
LOT 174 DP 755418 Buckeroo road	Freehold	Grazing	

ML919 is in vicinity to the above-mentioned Council quarry, which is utilised on a campaign basis. To the west Mount Buckaroo forms a significant topographic feature which buffers the mine site and forms well-timbered slopes, whereas the land to north east is dominated by primary production (grazing) and associated scattered rural residential land use.

Figure 1 Regional Context



Figure 3 Crown Land



2 PART 2 FINAL LAND USE

2.1 REGULATORY REQUIREMENTS FOR REHABILITATION

The regulatory requirements for the rehabilitation that apply to the mining area contained within the following documents:

- Conditions of development consent DA2.8/80
- ML919 Granted 18 Feb 1981; and associated new standard rehabilitation conditions on mining leases (attachment 1)

The relevant requirements are specified in the following table.

Table 3: Approvals

REGULATION	REQUIREMENTS
Development Consent DA2.8/80	No specific conditions relating to rehabilitation
Mining lease Conditions	
Part 2 Standard conditions	
Division 1 Protection of the environment and rehabilitation	<p>4 Must prevent or minimise harm to environment</p> <p>(1) The holder of a mining lease must take all reasonable measures to prevent, or if that is not reasonably practicable, to minimise, harm to the environment caused by activities under the mining lease.</p>
	<p>5 Rehabilitation to occur as soon as reasonably practicable after disturbance</p> <p>The holder of a mining lease must rehabilitate land and water in the mining area that is disturbed by activities under the mining lease as soon as reasonably practicable after the disturbance occurs</p>
	<p>6 Rehabilitation must achieve final land use</p> <p>(1) The holder of a mining lease must ensure that rehabilitation of the mining area achieves the final land use for the mining area.</p> <p>(2) The holder of the mining lease must ensure any planning approval has been obtained that is necessary to enable the holder to comply with subclause (1).</p> <p>(3) The holder of the mining lease must identify and record any reasonably foreseeable hazard that presents a risk to the holder's ability to comply with subclause (1).</p> <p>(4) In this clause—</p>

REGULATION	REQUIREMENTS
	<p>final land use for the mining area means the final landform and land uses to be achieved for the mining area—</p> <p>(a) as set out in the rehabilitation objectives statement and rehabilitation completion criteria statement, and</p> <p>(b) for a large mine—as spatially depicted in the final landform and rehabilitation plan, and</p> <p>(c) if the final land use for the mining area is required by a condition of development consent for activities under the mining lease—as stated in the condition.</p> <p>planning approval means—</p> <p>(a) a development consent within the meaning of the Environmental Planning and Assessment Act 1979, or</p> <p>(b) an approval under that Act, Division 5.1.</p>
Division 2 Risk assessment	<p>7 Rehabilitation risk assessment</p> <p>(1) The holder of a mining lease must conduct a risk assessment (a rehabilitation risk assessment) that—</p> <p>(a) identifies, assesses and evaluates the risks that need to be addressed to achieve the following in relation to the mining lease—</p> <p>(i) the rehabilitation objectives,</p> <p>(ii) the rehabilitation completion criteria,</p> <p>(iii) for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan, and</p> <p>(b) identifies the measures that need to be implemented to eliminate, minimise or mitigate the risks.</p> <p>(2) The holder of the mining lease must implement the measures identified.</p>

REGULATION	REQUIREMENTS
	<p>(3) The holder of a mining lease must conduct a rehabilitation risk assessment—</p> <p>(a) for a large mine—before preparing a rehabilitation management plan, and</p> <p>(b) for a small mine—before preparing the rehabilitation outcome documents for the mine, and</p> <p>(c) whenever a hazard is identified under clause 6(3)—as soon as reasonably practicable after it is identified, and</p> <p>(d) whenever given a written direction to do so by the Secretary.</p>
<p>Division 3 Rehabilitation documents</p>	<p>8 Application of Division</p> <p>This Division does not apply to a mining lease unless—</p> <p>(a) the security deposit required under the mining lease is greater than the minimum deposit prescribed under the Act, section 261BF in relation to that type of mining lease, or</p> <p>(b) the Secretary gives a written direction to the holder of the mining lease that this Division, or a provision of this Division, applies to the mining lease.</p>
	<p>9 General requirements for documents</p> <p>A document required to be prepared under this Division must—</p> <p>(a) be in a form approved by the Secretary, and</p> <p>Note— The approved forms are available on the Department's website.</p> <p>(b) include any matter required to be included by the form, and</p> <p>(c) if required to be given to the Secretary—be given in a way approved by the Secretary.</p>
	<p>10 Rehabilitation management plans for large mines</p>

REGULATION	REQUIREMENTS
	<p>(1) The holder of a mining lease relating to a large mine must prepare a plan (a rehabilitation management plan) for the mining lease that includes the following—</p> <p>(a) a description of how the holder proposes to manage all aspects of the rehabilitation of the mining area,</p> <p>(b) a description of the steps and actions the holder proposes to take to comply with the conditions of the mining lease that relate to rehabilitation,</p> <p>(c) a summary of rehabilitation risk assessments conducted by the holder,</p> <p>(d) the risk control measures identified in the rehabilitation risk assessments,</p> <p>(e) the rehabilitation outcome documents for the mining lease,</p> <p>(f) a statement of the performance outcomes for the matters addressed by the rehabilitation outcome documents and the ways in which those outcomes are to be measured and monitored.</p> <p>(2) If a rehabilitation outcome document has not been approved by the Secretary, the holder of the mining lease must include a proposed version of the document.</p> <p>(3) A rehabilitation management plan is not required to be given to the Secretary for approval.</p> <p>(4) The holder of the mining lease—</p> <p>(a) must implement the matters set out in the rehabilitation management plan, and</p> <p>(b) if the forward program specifies timeframes for the implementation of the matters—must implement the matters within those timeframes.</p>
	<p>11 Amendment of rehabilitation management plans</p> <p>The holder of a mining lease must amend the rehabilitation management plan for the mining lease as follows—</p>

REGULATION	REQUIREMENTS
	<p>(a) to substitute the proposed version of a rehabilitation outcome document with the version approved by the Secretary—within 30 days after the document is approved,</p> <p>(b) as a consequence of an amendment made under clause 14 to a rehabilitation outcome document—within 30 days after the amendment is made,</p> <p>(c) to reflect any changes to the risk control measures in the prepared plan that are identified in a rehabilitation risk assessment—as soon as practicable after the rehabilitation risk assessment is conducted,</p> <p>(d) whenever given a written direction to do so by the Secretary—in accordance with the direction.</p>
	<p>12 Rehabilitation outcome documents</p> <p>(1) The holder of a mining lease must prepare the following documents (the rehabilitation outcome documents) for the mining lease and give them to the Secretary for approval—</p> <p>(a) the rehabilitation objectives statement, which sets out the rehabilitation objectives required to achieve the final land use for the mining area,</p> <p>(b) the rehabilitation completion criteria statement, which sets out criteria, the completion of which will demonstrate the achievement of the rehabilitation objectives,</p> <p>(c) for a large mine, the final landform and rehabilitation plan, showing a spatial depiction of the final land use.</p> <p>(2) If the final land use for the mining area is required by a condition of development consent for activities under the mining lease, the holder of the mining lease must ensure the rehabilitation outcome documents are consistent with that condition.</p>

REGULATION	REQUIREMENTS
	<p>13 Forward program and annual rehabilitation report</p> <p>(1) The holder of a mining lease must prepare a program (a forward program) for the mining lease that includes the following—</p> <p>(a) a schedule of mining activities for the mining area for the next 3 years</p> <p>(b) a summary of the spatial progression of rehabilitation through its various phases for the next 3 years,</p> <p>(c) a requirement that the rehabilitation of land and water disturbed by mining activities under the mining lease must occur as soon as reasonably practicable after the disturbance occurs.</p> <p>(2) The holder of a mining lease must prepare a report (an annual rehabilitation report) for the mining lease that includes—</p> <p>(a) a description of the rehabilitation undertaken over the annual reporting period,</p> <p>(b) a report demonstrating the progress made through the phases of rehabilitation provided for in the forward program applying to the reporting period,</p> <p>(c) a report demonstrating progress made towards the achievement of the following—</p> <p>(i) the objectives set out in the rehabilitation objectives statement,</p> <p>(ii) the criteria set out in the rehabilitation completion criteria statement,</p> <p>(iii) for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan.</p>

REGULATION	REQUIREMENTS
	<p>(3) If a rehabilitation outcome document has not been approved by the Secretary, the holder of the mining lease must rely on a proposed version of the document.</p> <p>(4) The holder of the mining lease must give the forward program and annual rehabilitation report to the Secretary.</p> <p>(5) In this clause— annual reporting period means each period of 12 months commencing on—</p> <p>(a) the date on which the mining lease is granted, or</p> <p>(b) if the Secretary approves another date in relation to the mining lease—the other date.</p>
	<p>14 Amendment of rehabilitation outcome documents and forward program</p> <p>(1) This clause applies to—</p> <p>(a) a rehabilitation outcome document if it has been approved by the Secretary, and</p> <p>(b) a forward program if it has been given to the Secretary.</p> <p>(2) The holder of a mining lease must not amend a document to which this clause applies that relates to the mining lease unless—</p> <p>(a) the Secretary gives the holder a written direction to do so, or</p>

REGULATION	REQUIREMENTS
	<p>(b) the Secretary, on written application by the holder, gives a written approval of the amendment.</p> <p>(3) The holder of the mining lease must amend the document in accordance with the Secretary's direction or approval.</p> <p>(4) Nothing in this clause prevents the holder of a mining lease preparing a draft amendment for submission to the Secretary for approval.</p>
	<p>15 Times at which documents must be prepared and given</p> <p>(1) The holder of a mining lease must do the following before the end of the initial period—</p> <p>(a) prepare a rehabilitation management plan, and</p> <p>(b) prepare rehabilitation outcome documents and give them, other than the rehabilitation completion criteria statement, to the Secretary for approval, and</p> <p>(c) prepare a forward program and give it to the Secretary.</p> <p>(2) The holder of the mining lease must prepare a forward program and annual rehabilitation report and give them to the Secretary before—</p> <p>(a) 60 days after the last day of each annual reporting period, commencing with the annual reporting period in which the forward program was given to Secretary under subclause (1)(c), or</p> <p>(b) a later date approved by the Secretary.</p>

REGUALTION	REQUIREMENTS
	<p>(3) A rehabilitation completion criteria statement relating to completion of rehabilitation during a period covered by a forward program must be given to the Secretary for approval when the forward program is required to be given to the Secretary.</p> <p>(4) The holder of the mining lease must prepare updated rehabilitation outcome documents for the mining lease and give them to the Secretary for approval before—</p> <p>(a) 60 days after a development consent is modified following an application referred to in clause 20(1)(b), or</p> <p>(b) a later date approved by the Secretary.</p> <p>(5) A rehabilitation completion criteria statement is not required to be given to the Secretary under subclause (4) unless a rehabilitation completion criteria statement has already been given to the Secretary under subclause (3).</p> <p>(6) The Secretary may, by written notice, direct the holder of a mining lease to prepare, or give to the Secretary, a document required to be prepared under this Division at a time other than that specified in this clause.</p> <p>(7) The holder of the mining lease must comply with the direction.</p> <p>(8) In this clause—</p> <p>initial period means the period commencing when the mining lease is granted and ending—</p> <p>(a) 30 days, or other period approved by the Secretary, after this Division first applies to the mining lease, or</p> <p>(b) if this Division applies to the mining lease because of an increase in the required security deposit—</p> <p>(i) when the surface of the mining area is disturbed by activities under the mining lease, or</p>

REGULATION	REQUIREMENTS
	<p>(ii) at a later date approved by the Secretary.</p>
	<p>16 Certain documents to be publicly available</p> <p>(1) This clause applies to the following documents—</p> <p>(a) a rehabilitation management plan,</p> <p>(b) a forward program,</p> <p>(c) an annual rehabilitation report.</p> <p>(2) The holder of a mining lease must make a document to which this clause applies publicly available by—</p> <p>(a) publishing it on its website in a prominent position, or</p> <p>(b) if the holder does not have a website— providing a copy of it to a person—</p> <p>(i) on the written request of a person, and</p> <p>(ii) without charge, and</p>

REGULATION	REQUIREMENTS
	<p>(iii) within 14 days after the request is received.</p> <p>(3) If a document is published on the website of the holder of the mining lease, the holder must ensure that it is published—</p> <p>(a) for a rehabilitation management plan—within 14 days after it is prepared or amended, or</p> <p>(b) for a forward program or an annual rehabilitation report—within 14 days after it is given to the Secretary or amended,</p> <p>(4) Personal information within the meaning of the Privacy and Personal Information Protection Act 1998 is not required to be included in a document made available to a person under this clause.</p>
Division 4 Records, reporting and notification	<p>17 Records demonstrating compliance</p> <p>The holder of a mining lease must create and maintain records of all actions taken that demonstrate compliance with each of the conditions set out in this Part.</p> <p>Note— The Act, sections 163D and 163E provide for the form in which records must be kept and the period for which they must be retained.</p>
	<p>18 Report on non-compliance</p> <p>(1) The holder of a mining lease must provide the Minister with a written report detailing any non-compliance with—</p>

REGULATION	REQUIREMENTS
	<p>(a) a condition of the mining lease, or</p> <p>(b) a requirement of the Act or this Regulation relating to activities under the mining lease.</p> <p>(2) The holder of the mining lease must provide the report within 7 days after becoming aware of the non-compliance.</p> <p>(3) The holder of the mining lease must ensure the report—</p> <p>(a) identifies the condition of the mining lease, or the requirement of the Act or this Regulation, to which the non-compliance relates, and</p> <p>(b) describes the non-compliance and specifies the date or dates on which, or the period during which, the non-compliance occurred, and</p> <p>(c) describes the causes or likely causes of the non-compliance, and</p> <p>(d) describes the action that has been taken, or will be taken, to mitigate the effects, and to prevent any recurrence, of the non-compliance.</p>
	<p>19 Nominated contact person</p> <p>(1) The holder of a mining lease must nominate a natural person to be the contact person with whom the Secretary can communicate in relation to the mining lease for the purposes of the Act.</p> <p>Note— The Act, section 383 sets out the ways in which notices or other documents may be issued or given to, or served on, a person for the purposes of the Act.</p>

REGULATION	REQUIREMENTS
	<p>(2) The holder of the mining lease must give written notice to the Secretary of—</p> <p>(a) the full name and contact details of the nominated person—within 28 days after the date on which the standard conditions apply to the mining lease under clause 31A of this Regulation, and</p> <p>(b) any change in nomination or in the nominated person's contact details—within 28 days after the change occurs.</p> <p>(3) The holder of the mining lease must ensure that the contact details for the nominated person include the person's phone number and postal and email addresses.</p>
<p>Division 5 Applications relating to development consent</p>	<p>20 Additional requirements—application for or to modify development consent</p> <p>(1) The holder of a mining lease must give written notice to the Secretary within 10 days after—</p> <p>(a) making an application for development consent that relates to the mining area, or</p> <p>(b) making an application for modification of a development consent—</p> <p>(i) under the Environmental Planning and Assessment Act 1979, section 4.55(2), and</p> <p>(ii) that proposes to modify a condition of the consent that relates to rehabilitation of the mining area in a way that may affect an obligation under the mining lease relating to rehabilitation of the mining area</p> <p>(2) This clause does not apply if the development is State significant development.</p>

2.2 FINAL LAND USE OPTIONS ASSESSMENT

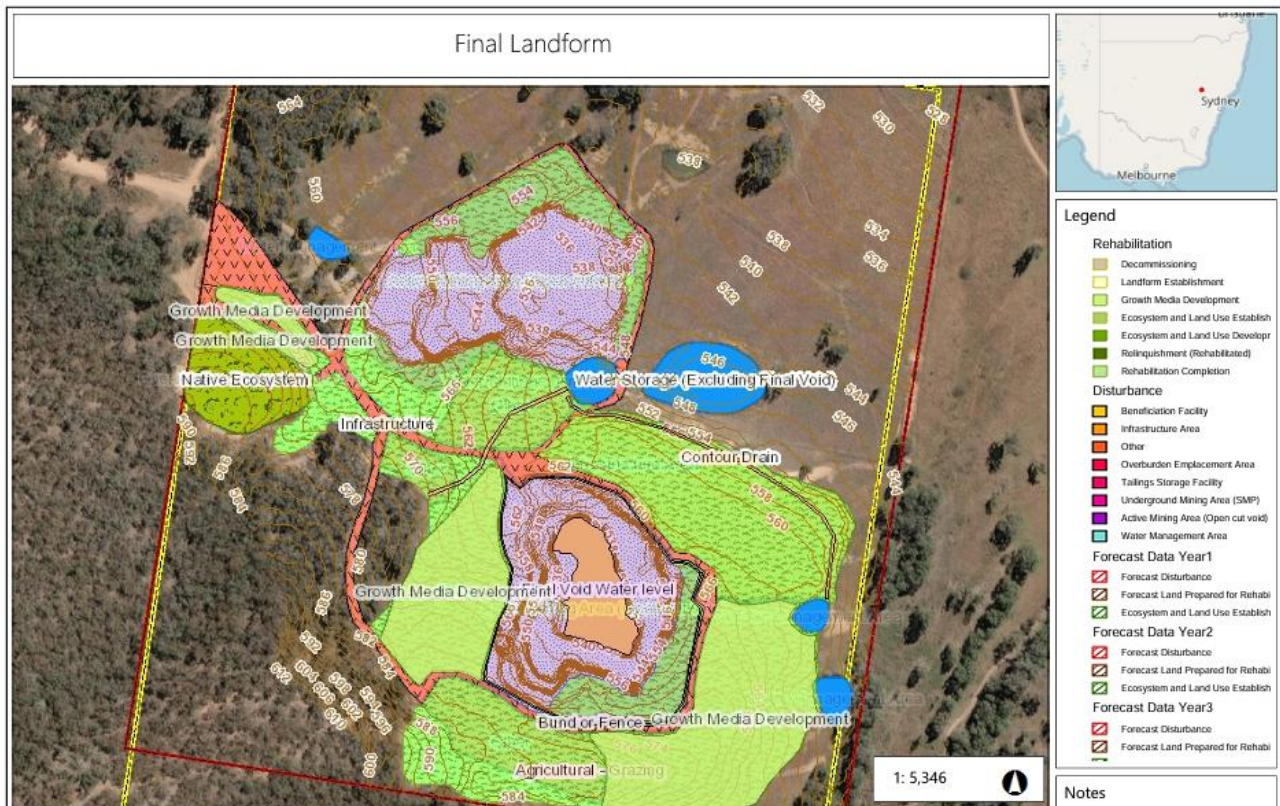
The final land use options were prepared during the preparation of the former MOP. Land use at Buckaroo Mine will be predominantly returned to a mostly revegetated stabilised site - stabilised landform with pasture similar to surrounding areas with access roads, water structures and voids to remain.

The post-mining land use has been determined to ensure that the long term maintenance of the site is not greater than the surrounding environment and that the post-mining land use is compatible with the surrounding land fabric and land use requirements (grazing with scattered native trees). Restoring the land to a safe, stable condition and establishing a situation to support regeneration of self-sustaining pasture species is appropriate in this regard. The final land form will incorporate the existing sediment control measures.

The final land use is consistent with the pre-development landscape. Land use is governed by the Mid-Western Regional Local Environmental Plan, RU1 Primary Production zone. The predominate surrounding land use is grazing.

The final landform plan which details land use is shown on in Figure 1 below and can be accessed via the portal.

Figure 1 Final Landform



2.3 FINAL LAND USE STATEMENT

Overall the goal is to achieve, native regenerating vegetation species and improved pasture establishing towards the goal of being suitable for land integration between undisturbed habitat on slopes of Mount Buckaroo and grazing land to the east on cleared undulating foot slopes currently grazed. The post mining land use goal is supported by the following objectives for the Buckaroo Mine:

- Be consistent with the relevant land zoning (currently zoned RU1 Primary Production pursuant to the Mid-Western Local Environmental Plan 2012).
- Provide for the safety of employees and other stakeholders during and following the closure of the mining operations.
- Create a stable final landform with acceptable post mining land vegetation (considering the adjacent sloped woodland areas and active grazing lands).
- Rehabilitation of disturbed areas to provide a sustainable plant cover.
- Minimise the potential for long-term environmental impact and liability as well as environmental impacts from closure activities.
- Where water management infrastructure and voids are to remain following closure, the area will be safe and not pose an unacceptable environmental or safety risk.
- Comply with relevant regulatory requirements and attain regulatory consensus on the successful closure and rehabilitation of the site.
- Reduce the need for long term monitoring and maintenance by achieving effective rehabilitation.
- Complete the closure, decommissioning and rehabilitation works as quickly and cost effectively as possible whilst achieving the objectives outlined; and
- Ensure that the design for site works consider extreme events and other natural processes such as drought and bushfire risk.

2.4 FINAL LAND USE AND MINING DOMAINS

Domains are summarised below in **Table 5**. The areas are based on the maximum disturbance and relate to the rehabilitation cost estimate. The plans have been updated in 2022 for upload to the Rehabilitation Portal. The areas of activities are determined by approximating activities using survey contour data and aerial photography.

Table 4: Domains for the Buckaroo Mine

Final Land Use Domain	Code	Mining Domain	Code
Native Ecosystem	A	Infrastructure	1
Agriculture – Grazing	B	Water Management Areas	3
Water Management Areas	F	Overburden Emplacement Area	4
Infrastructure	I	Open Cut Void	5
Final Void	J	Stockpiles	8
		Rehabilitation Area – Grazing	8

Table 5: Domains and Assets

MINING DOMAIN	DESCRIPTION	KEY ASSETS	AREA
Primary Domain Code 1 - Infrastructure	Includes 'human settlement' assets such as any fixed plant and equipment, explosive storage shed and roads.	Internal access roads, magazine storage area.	5.3ha
Primary Domain Code 3 Water Management Areas	Environmental assets such as natural drainage lines, constructed drainage and the water storages and water management dams.	Sediment basins.	1.2ha
Primary Domain Code 4 Overburden Emplacement	Overburden from Pit 2 placed in designated area.	Active area within MOP period	1.1
Primary Domain Code 5 – Open Cut Void	Open cut mining that will leave an open pit void (final void) at mine closure.	Active area (includes Pit 1 Pit 2 voids)	8.6ha
Primary Domain Code 8 Other - Stockpile	Product and material stockpile area.	Stockpiles	2.3ha
Primary Domain Code 8 – Other-Rehab Area	Rehabilitation will be towards self -sustaining pasture.	Rehabilitation areas 1, 2 and 3	4.89ha
Final Land Use Code I - Infrastructure	Access roads to remain post-mining.	Magazine storage shed/Access roads	2.3ha
Final Land Use Code F – Water Management Area	Sedimentation dams to remain post-mining.	Dams	1.2ha
Final Land Use Code B Agriculture Grazing	Rehabilitation will be towards pasture suitable to adjacent grazing land.		10ha
Final Land Use Code J Final Void	Area of final void. (Plan 3)		9.1ha
Final Land Use A Native Ecosystem	Rehabilitation will be towards a transition from pasture area with woodland species		1.9ha

3 PART 3 REHABILITATION RISK ASSESSEMENT

MDL carried out formal risk assessment with WHS facilitator in 2018. Review of the BBRA in February 2020 has identified risks that require specific measures to be documented and implemented in operation of the mine. **Table 6** summarises the risks/hazards, and where specific management measures are documented.

Table 6: Summary of Risks and Risk Management

HAZARD	E.G. RISK EVENT	DOCUMENTATION OF CONTROLS / MANAGEMENT PLAN
Off lease disturbance	Earthworks are carried out outside the lease boundary. Breach of lease conditions. Additional rehabilitation obligations are included (RCE needs amendment).	Physical boundaries and no-go zones established. New survey data with contours as part of plans.
Security	Unauthorised entry resulting in theft, damage, injury to public	Signs, and fences Web Site MDL Induction procedure MDL-HSMS-PCP-04 Explosives Control Plan
Soil and Water	Excessive erosion on site Sediment discharge	RMP
Flora and Fauna	Weed control failure Timbered habitat is disturbed Pests and venomous reptile injuries to workers Inappropriate revegetation species attempted to be established	MDL Induction procedure H&S Management System RMP
Bushfire hazard	Bushfire hazard Fire ignited due to equipment activities	MDL-HSMS-PLN-08 Bushfire Management Plan
Rehabilitation	Lack of topsoil occurring Failure to rehabilitate and stabilise exposed areas Inappropriate storage of topsoil and timber leading to inadequate material for rehabilitation	RMP
Weather	Personnel working outside suffers illness due to exposure to weather Wet working conditions incidents Drought hinders rehabilitation success/ lack of rainfall for planting	H&S Management Procedures
Chemicals	Hydrocarbon spill causing environmental damage Incorrect disposal of waste(s) and oils	H&S Management System MDL Induction procedure
Dust generation	Excessive dust generated during stripping, mining, or haulage activities	H&S Management System MDL Induction procedure
Noise Generation	Generation of noise causing complaint	H&S Management System MDL Induction procedure
Subcontractors	Contractor fails to comply with site requirements causing incident	Contractor supervision H&S Management System MDL Induction procedure
Visitors	Visitor fails to comply with site requirements causing incident	Visitor supervision H&S Management System MDL Induction procedures

Primarily, risks are managed at MDL by the implementation of a Health and Safety Management System supported by several plans and procedures.

Risks identified pertaining to rehabilitation are addressed in this plan. The compliance management register will be utilised to assist in recording obligations and managing risks.

The Form and Way documentation was used in the preparation of the RMP. As such, for the Buckaroo Mine, the rehabilitation planning and management included in the RMP is considered appropriate.

3.1 SPECIFIC RISKS RELATING TO REHABILITATION

The following refers to risks in relation to rehabilitation activities during the period. Risks to rehabilitation have been reviewed as part of the preparation the plan.

3.1.1 GEOLOGY AND GEOCHEMISTRY

Extensive geochemical characterisation studies have not been undertaken. No risk for spontaneous combustion (organics) aspects are identified.

The materials are subdivided into three (3) main groups (Cleared vegetation & topsoil (minimal), overburden, and product – road base materials, limestone and dolomite). Geology related risks to rehabilitation considered include:

- Potential damage to topsoils as a result of changes in physical conditions and storage;
- Material is not suitable as a foundation for rehabilitation; and
- Risks associated with geotechnical failure of pit walls.

Table 7: Identification of Risks and Mitigation - Geology

Impact	Mining Stage	Key Mitigation/Management
Potential damage to soils as a result of changes in physical conditions	Operations, Closure	<ul style="list-style-type: none"> • Separation of stockpiles according to characteristics. • On-going monitoring and refinement of stockpiles for rehabilitation landform shaping.
Material is not suitable as a foundation for rehabilitation	Operations, Closure	Material set aside for final landform is to be based on the quality of material for rehabilitation based on site experience, with reference to the rehabilitation objectives.
Geotechnical failure of pit walls	Operations, Closure	Principally a concern for the safety of workers. <ul style="list-style-type: none"> • Implement the H&S Management System. • Ongoing risk assessment to ensure the stability and safety for final landforms and slopes.

3.1.2 MATERIAL PRONE TO SPONTANEOUS COMBUSTION

The risk of spontaneous combustion at Buckaroo Mine is low due the lack of carbonaceous material deposits.

3.1.3 MATERIAL PRONE TO GENERATING ACID MINE DRAINAGE

There are no known Acid Mine Drainage issues at Buckaroo Mine. If acid mine drainage issues were identified, the following could be implemented:

- Solutions, such as selective stockpiling, to manage material would be implemented.
- Reported in the annual reports.

3.1.4 MINE SUBSIDENCE

The site does not have historical subsidence. The identified risk due to potential for subsidence final land use is low. No specific mitigation measures are proposed in relation to rehabilitation activities and potential for subsidence.

3.1.5 EROSION AND SEDIMENT CONTROL

The main risks associated with erosion and sediment at Buckaroo Mine are potential pollution of waters used for stock watering and instability of rehabilitation areas. Risks of erosion and sedimentation are managed in accordance with the RMP. Surface water management generally, is through diversion of clean runoff and containment of dirty runoff and treatment within sediment basins/pit sump.

Table 8: Identification of Risks and Mitigation – Erosion and Sediment Control

Impact	Mining Stage	Key Mitigation/Management
Site drainage may result in run-off water containing suspended solids.	Operation	Permanent basins and stabilised drains are installed for operational phases. Rock armoured contours and catch drains are installed in rehabilitation areas.
Risk of pollution of waters and impacts and degradation on rehabilitation areas	Operation	Operational erosion and sediment controls used by MDL at the site, include: <ul style="list-style-type: none"> • Clean water diversion drains and banks; • Catch drains; • Sediment dams/pit sump; • Inspections /Monitoring records; • Completion of revegetation works; and • Training.
The final landform does not include a drainage pattern capable of conveying runoff from the newly created areas whilst minimising erosion and sedimentation.	Closure	Water management area - to remain for post mining land use.
Soil stockpiles are eroded and rehabilitation resource lost	Operation, Closure	Topsoil, vegetation and rehabilitation material stockpile area established away from active areas.

3.1.6 SOIL TYPE(S) AND SUITABILITY

Land preparation ahead of mine operations involving clearing of vegetation, stripping and stockpiling of any topsoil will necessitate the construction of appropriate erosion and sediment control structures. Topsoils occurring at the site are minimal.

Table 9: Identification of Risks and Mitigation - Soils

Impact	Mining Stage	Key Mitigation/Management
Lack of topsoil materials	Closure	<ul style="list-style-type: none"> • Soil saving strategies in place. Addition of cleared logs and trunks to be placed in rehabilitated areas to assist in seed stock and volume, and soil stability.
Loss of topsoil during recovery and rehabilitation	Operations and Closure	<ul style="list-style-type: none"> • Top soil/ rehabilitation material management measures to be implemented, such as weed control and erosion management.
Contamination of soils by spills during operation and closure.	Operations and Closure	<ul style="list-style-type: none"> • Safe handling of hazardous materials, and no storage onsite of significant volumes.
Disruption of soils because of operations	Operation, Closure	<ul style="list-style-type: none"> • Site practices to ensure that topsoil and soil resources are managed during preparation and pre-stripping. • Mining activities to avoid rehabilitation areas through clear designation of work areas and plans.
Damage to soils from erosion, compaction and other physical disturbance.	Operations, Closure	<ul style="list-style-type: none"> • Compaction avoided through no-go zones and stockpile separation.

3.1.7 TOPSOIL MANAGEMENT

The current Pit 2 footprint will be expanded as per the Plan 3. Minor additional topsoil volume is expected from this development (no new stockpile area is required). Development of the overburden dump has secured additional topsoil resource in 2019. The topsoil/rehabilitation material can be directly used in the rehabilitation Areas or stockpiled within the designated area.

Key controls are identified below:

- Topsoil saving or use will be determined at stripping with top layer in soil profile to be segregated from other sub soils where practical. Where possible stripping when moist, to help maintain soil structure and reduce dust generation.
- Preference will be given to placing rehabilitation material directly within rehabilitation areas or bund walls that require stabilisation and vegetation.
- Designated rehabilitation stockpiles are to be located away from mining product, trafficable areas and drains in the designated area.
- Any stockpiles that have evidence of any weed growth will be only treated prior to the use in rehabilitation areas if it is a noxious weed;
- Weeds are acknowledged to add to organic matter in the soil, and will be treated accordingly.

3.1.8 MATERIAL AND SOIL CHARACTERISATION

Material other than topsoil generated from earthworks and mining activities will be managed in the following manner:

- Reused for general fill, profiling, and useful land forming means.
- The material will be utilised in the exhausted areas for final land forming purposes.
- Final landforms will be free draining for the most part, with the identified basins and the pit voids proposed to form permanent water holding/management structures.
- Material storage and landforms will take into consideration safety of workers, wildlife safety and future planned end land use, pasture for grazing.

3.1.9 FLORA AND FAUNA

The post mining land use aims to have contiguity with adjacent grazing land and transitions to woodland on slopes (i.e. near magazine store) in rehabilitation Area 1. Some trunks and limbs will be salvaged for use in the rehabilitation works.

Table 10: Identification of Risks and Mitigation – Flora and Fauna

Impact	Mining Stage	Key Mitigation/Management
Infestation of noxious weeds in rehabilitation areas	Operations and Closure	Key weed management controls include: <ul style="list-style-type: none"> • Regular inspections to identify areas requiring management. • Consultation with relevant stakeholders and other road users on the access road. • Follow-up inspections to assess the effectiveness of the weed management measures. • Control of vehicular access to the site. • Ensure that equipment introduced to the site is cleaned to remove plant residues; and • Use of mechanical controls and chemical sprays to control weed infestations.
Unplanned disturbance to pasture and habitat outside the planned mining areas.	Operations and Closure	<ul style="list-style-type: none"> • Demarcation of work areas with planned bunds and haul roads.
Seed bank in soil is unviable and natural regeneration and/or seeding of pasture and other flora species is not successful.	Operation, Closure	The key controls in place to minimise the risk to flora and fauna include: <ul style="list-style-type: none"> • Weed and pest management. • Rehabilitation monitoring and maintenance. • Appropriate soil stockpiling methods.
Appropriate choice of species for rehabilitation (esp. in transition to woodlands on slopes in Area 1)	Operation, Closure	To minimise the risk to flora and fauna revegetation:

Impact	Mining Stage	Key Mitigation/Management
		<ul style="list-style-type: none"> The native flora species list for Buckaroo Quarry to be referred to below. The previous pasture areas will include grass species (not all native). Cover crop of oats or like may be utilised to build soil organic matter.

Species List for Final Land Use Rehabilitation Area – Native Ecosystem

This area is a transition between the pasture (cleared of majority of tall trees) and the woodland of the slopes of Mt Buckaroo.

Native Vegetation Establishment¹:

Common Name	Scientific Name
Weeping Myall	<i>Acacia pendula</i>
Mudgee Wattle	<i>Acacia spectabilis</i>
Hickory Wattle	<i>Acacia penninervis</i>
Stringy Bark Wattle	<i>Acacia linearifolia</i>
Round Leaved Wattle	<i>Acacia uncinata</i>
White Box	<i>Eucalyptus albens</i>
Yellow Box	<i>Eucalyptus meliodora</i>
Red Iron Bark	<i>Eucalyptus sideroxylon</i>
Red Stringybark	<i>Eucalyptus macrohycha</i>
Grey Box	<i>Eucalyptus micocarpa</i>
Apple Box	<i>Eucalyptus bridgesiana</i>
Kurrajong	<i>Brachychiton populneus</i>
Everlasting	<i>Helichrysum diosmifolium</i>
Grevillea	<i>Grevillea floribunda</i>
Pink Honey-myrtle	<i>Melaleuca erubesceris</i>

Grass Species list

Type	Active
Oats	Winter
Millet	Summer
Couch	Summer
Fescues	All year
Microlaena sp.	All year
Austrodanthonia sp.	All year

(NB. mix thoroughly before broadcasting)

¹ Flora and fauna species recorded as occurring are recorded in the previous adopted MOP (2014). Flora species are noted only for rehabilitation reference in this MOP.

3.1.10 SLOPES AND SLOPE MANAGEMENT

Rehabilitation risks associated with open cut mining operations include the consideration of natural topography, slopes, and drainage management. The changes proposed to the landscape potentially significantly influence the drainage patterns. A stock proof fence would remain at closure to prevent wildlife and stock entering the void. The site requires ongoing risk assessment by the Mine Production Manager to ensure the stability and safety for operational and final landforms/slopes. Monitoring of the rehabilitation areas will note any instability in the landform and rectification works.

3.1.11 HERITAGE

The key, heritage related risks to rehabilitation considered include:

- Unauthorised direct disturbance of Aboriginal heritage artefacts.
- Indirect impacts on archaeological/cultural significant sites/areas.

No listed European heritage sites are recorded in vicinity to Mine areas. The National Parks and Wildlife Act 1974 (NPW Act) provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unknowingly harm an object without an AHIP (Aboriginal Heritage Impact Permit). The site was subject to assessment under Part 4 of the EP&A Act which would have functioned as a due diligence process, however since that time an AHIMS (Aboriginal Heritage Information Management System) has been developed and Due Diligence Guidelines established. MDL can proceed with caution. However, if any Aboriginal objects are found, MDL will stop work and notify the appropriate authority. If human remains are found, MDL will stop work, secure the site and notify the NSW Police and the appropriate authority.

3.1.12 BUSHFIRE

Bushfire poses a potential risk to rehabilitation. Asset protection zones (APZ) should be maintained around the magazine store. APZ are to be kept clear of tall vegetation.

MDL-HSMS-PLN-08 Bushfire Management Plan does not directly refer to risk to rehabilitation, however will address bushfire management measures for the operational site.

Table 11: Identification of Risks and Mitigation – Bushfire

Impact	Mining Stage	Key Mitigation/Management
Bushfire impacts on the success of rehabilitation areas	Operations and Closure	<ul style="list-style-type: none"> • The potential bushfire risk posed from fuel loads is reviewed annually before each bushfire season. Mechanical removal of fuel sources by clearing fire breaks and asset protection zones. • Restriction of ignition sources. • Magazine storage to have maintained APZ.
The natural assets/rehabilitation areas of the Buckaroo Mine are damaged during bushfire	Operations and Closure	<ul style="list-style-type: none"> • MDL would inspect rehabilitation material stockpiles & any rehabilitation areas after bushfire events and account for any additional works required and timing.

3.1.13 SURFACE AND GROUNDWATER

The water management system and structures (sediment dams/diversions) will be monitored by the Mine Production Manager or delegated staff/ consultant to ensure all dirty water is treated prior to any overflow or discharge offsite. No groundwater interaction is proposed as part of the Buckaroo Mine operations.

Table 12: Identification of Risks and Mitigation – Water Management

Impact	Mining Stage	Key Mitigation/Management
Sedimentation occurs with loss of topsoil from rehabilitation areas or	Operations and Closure	<ul style="list-style-type: none"> Erosion and sedimentation controls to be implemented Training; Inspections and maintenance of rehabilitation area catch drains and bunds.
Dirty runoff enters natural drainage.	Operations and Closure	<ul style="list-style-type: none"> Basins installed and maintained. Regular inspections.

4 PART 4 REHABILITATION OBJECTIVES AND COMPLETION CRITERIA

4.1 REHABILITATION OBJECTIVES

Mining Domains can be defined as land management units within the mine site, usually with unique operational and functional purpose and therefore similar geophysical characteristics. Primary domains outline current land use.

Final Land Use Domains are land management units characterised post mining land use objectives.

Rehabilitation Objectives are available via the portal.

Draft Objectives have been reproduced below.

Table 13: Rehabilitation Objectives (subject to approval)

Rehabilitation Objective Category	Rehabilitation Objectives	Spatial Reference (e.g. A3)
Landform stability	The final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	A4
Landform stability	Landform that is commensurate with surrounding natural landform and where appropriate, incorporates geomorphic design principles.	A4
Bushfire	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	A4
Surface water	Runoff water quality from mine site is similar to, or better than the pre- disturbance runoff water quality.	A4

Ecological rehabilitation	Ecological rehabilitation objective 1: The vegetation composition of the rehabilitation is recognisable as the target vegetation community (e.g. Plant Community Type 6(PCT) contained within the BioNet Vegetation Classification). Vegetation Formation: Dry Sclerophyll Forests (Shrubby sub-formation). Vegetation Class: Western Slopes Dry Sclerophyll Forests. PCT Name: Red Stringybark - Inland Scribbly Gum open forest on steep hills in the Mudgee - northern section of the NSW South Western Slopes Bioregion. PCTID: 323	A4
Ecological rehabilitation	Ecological rehabilitation objective 2: The vegetation structure of the rehabilitation is recognisable as, or is trending towards (based on ongoing monitoring data) the target vegetation community.PCT 323 Name: Red Stringybark - Inland Scribbly Gum open forest on steep hills in the Mudgee - northern section of the NSW South Western Slopes Bioregion	A4
Ecological rehabilitation	Ecological rehabilitation objective 3: Levels of ecosystem function have been established that demonstrate the rehabilitation is self- sustainable.	A4
Land contamination	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm.	A4
Removal of infrastructure	All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials.	B1
Land contamination	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm.	B1
Management of waste and process materials	Residual waste materials stored on site (e.g. tailings, coarse rejects and other wastes) will be appropriately contained / encapsulated so it does not pose any hazards or constraints for intended land use.	B1
Landform stability	The final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	B1
Landform stability	Landform that is commensurate with surrounding natural landform and where appropriate, incorporates geomorphic design principles.	B1
Bushfire	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	B1
Surface water	Runoff water quality from mine site is similar to, or better than the pre- disturbance runoff water quality	B1
Agricultural revegetation	Revegetation is sustainable for the long-term and only requires maintenance that is consistent with the intended final land use.	B1
Agricultural revegetation	Land use capability is capable of supporting the target agricultural land use.	B1

Water approvals	Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the Water Management Act 2000) and where required ensure sufficient licence shares are held in the water source(s) to account for water take.	G3
Surface water	Runoff water quality from mine site is similar to, or better than the pre- disturbance runoff water quality.	G3
Land contamination	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm.	G3
Landform stability	The final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	G3
Removal of infrastructure	All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials.	I1
Retention of infrastructure	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.	I1
Retention of infrastructure	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	I1
Landform stability	The final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	I1
Land contamination	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm.	I1
Surface water	Runoff water quality from mine site is similar to, or better than the pre- disturbance runoff water quality.	I1
Removal of infrastructure	All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials.	J5
Surface water	Runoff water quality from mine site is similar to, or better than the pre- disturbance runoff water quality.	J5
Groundwater	Groundwater quality meets the requirements of the relevant development consent(s) / Environment Protection Licence and does not present a risk of environmental harm	J5
Groundwater	Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	J5
Landform stability	The final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	J5

Land contamination	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm.	J5
Water approvals	Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the Water Management Act 2000) and where required ensure sufficient licence shares are held in the water source(s) to account for water take.	J5

4.2 REHABILITATION OBJECTIVES – STAKEHOLDER CONSULTATION

This section is not applicable. Rehabilitation objectives were developed under the former MOP and following consultation with the relevant agencies at that time.

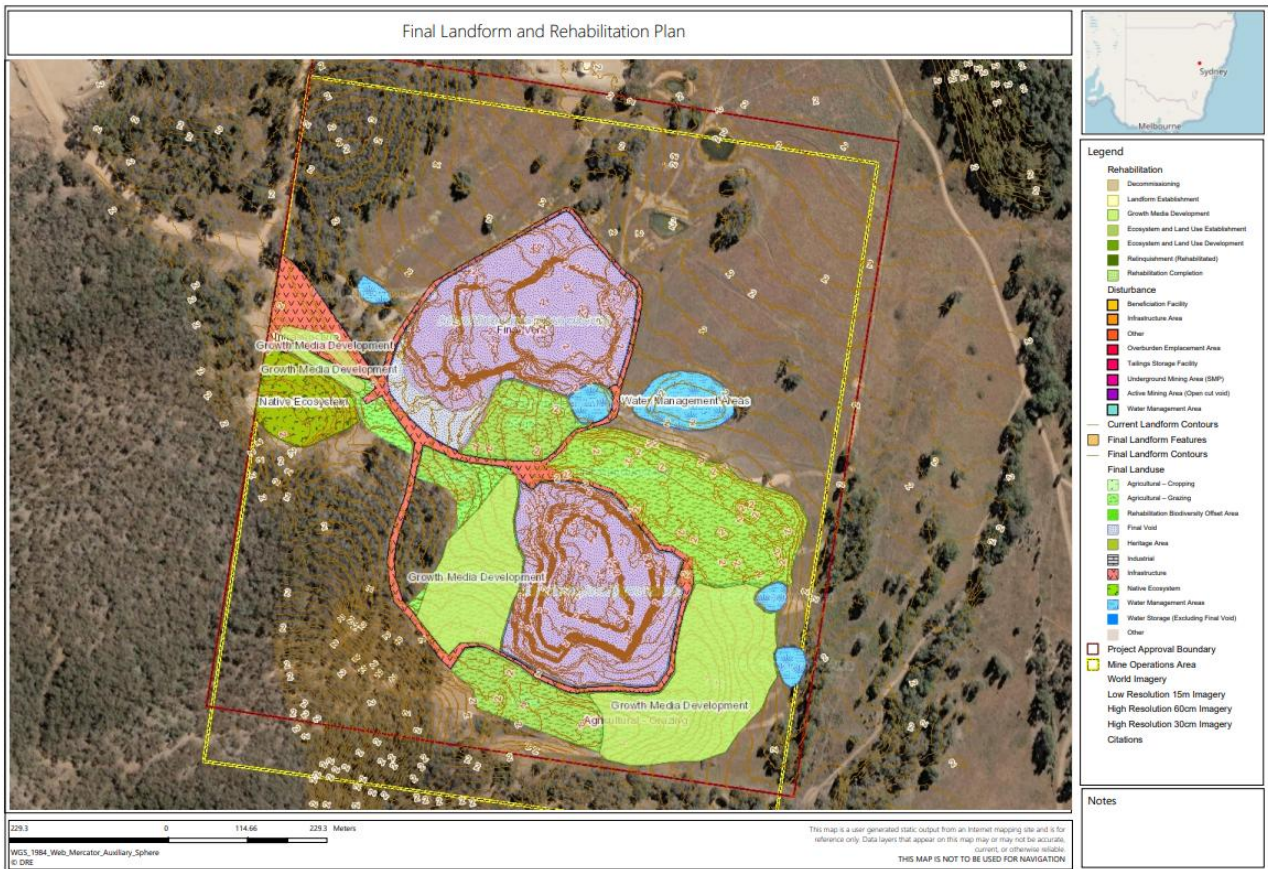
4.3 COMPLETION CRITERIA

Completion criteria will be prepared when the mine approaches closure in the Form and Way provided by the NSW Resources Regulator and upload via the Rehabilitation Portal.

5 PART 5 FINAL LANDFORM AND REHABILITATION PLAN

The final land form and rehabilitation plan spatially defines the proposed final landform at completion of the rehabilitation. It is noted that the final land fore was not included on a condition of development consent for the project. The Final Land Use Plan and Final Landform Contours as uploaded to the Rehabilitation Portal are illustrated below (and Attachment A).

Plan 1 Final Landform Features



Plan 2 Final Landform Contours



6 PART 6 REHABILITATION IMPLEMENTATION

Progressive rehabilitation of the site is limited to the previous overburden placement areas (Areas 1, 2 and 3). The rehabilitation works will focus on ensuring stabilisation of final landform at Area 1, maintenance and weed management within Area 2 and growth medium development at Area 3 and similar for established lower batter areas of Area 1. Ongoing stockpiles of topsoil and rehabilitation material (vegetation for mulch/tree hollows/logs) is stored. Rehabilitation work with reference to the domains is described below.

Note: No additional rehabilitation areas are proposed during the period to 2026. Plans have not been prepared.

The overarching rehabilitation and closure objective for Buckaroo Mine is to create stable, non-polluting post mining landforms that allow the achievement of the post mining land use – i.e. grazing land. This will be achieved through a series of conceptual phases which are described as:

- Phase 1: Decommissioning – removal of hard stand areas, mobile plant, and any waste materials.
- Phase 2: Landform Establishment – incorporates gradient, slope, aspect, drainage, and material characterisation.
- Phase 3: Growth Medium Development – incorporates physical, chemical and biological components of the growing media and ameliorants that are used to optimise the potential of the media in terms of the preferred vegetative cover.
- Phase 4: Ecosystem Establishment – incorporates revegetated lands and habitat augmentation; species selection, species presence and growth together with weed and pest animal control/management and establishment of flora.
- Phase 5: Ecosystem Sustainability – incorporates components of floristic structure, community structure and function which are the key elements of a sustainable landscape; and
- Phase 6: Relinquished Land - lands that have met the required mine rehabilitation and closure requirements for lease relinquishment.

No rehabilitation at Buckaroo Mine will likely be relinquished during the period. There will be rehabilitation areas within phases of landform establishment, growth medium development, and ecosystem establishment at the end of the period.

Table 14: Summary of Rehabilitation Phases Proposed for Completion in the Period

REHABILITATION PHASE	DOMAIN						
	1I (Infrastructure - Infrastructure)	1B (Infrastructure - Grazing)	3F (Water Man Areas – Water Man Areas)	4A (overburden -Native Ecosystem)	8B (Stockpile - Grazing)	5J (Void - Void)	8B (Rehab Area – Grazing)
Active Mining Area	✓	✓	✓	✓	✓	✓	x
Decommissioning	x	x	x	x	x	x	✓
Landform Establishment	x	x	✓	x	x	x	✓
Growth Medium Development	x	x	x	x	x	x	✓
Ecosystem Establishment	x	x	x	x	x	x	✓
Ecosystem Sustainability	x	x	x	x	x	x	x
Relinquished Land	x	x	x	x	x	x	x

6.1 REHABILITATION TABLES

This section provides a table for each phase of rehabilitation: Decommissioning, Landform Establishment, Growth Medium Development, Ecosystem Establishment, Ecosystem sustainability, and Relinquished Land.

Phase - Decommissioning

Objective	Performance indicator	Completion Criteria	Justification/Source	Complete (Yes/No)	Progress at Start of MOP	Progress at end of MOP
Domain 1 - Infrastructure Area						
All plant and equipment and waste materials to be removed.	All mobile plant removed	Complete removal of plant. (All mobile equipment will be removed).		No	Not commenced	Still used
	All hardstand areas and wastes removed.	Complete removal of wastes and ripping of hardstand areas (access roads to remain).		No	Not commenced	Still used
Domain 3 - Water Management Area						
Water management area to meet rehabilitation objectives (landscape, & water quality)	Removal of sediment from dams	Removal of excess sediment from the sediment basins to prepare for use as a stock dam.		No	Not commenced	Still used
Domain 4 – Overburden Emplacement Area & Domain 5 – Stockpile & Domain 6 - Open Cut Void/Active Mine						
Area to be safe and stable.	Ground surface free of stockpiled materials.	Removal complete and ground surface free of loose material.		No	Not commenced	Still used
All hazardous materials and any contaminated materials removed.	Hazardous materials and equipment removed	Removal complete.		No	Not commenced	Still used
Salvage of all possible Topsoil/growing material for use.	Topsoil is used in rehab areas at decommissioning.	Utilise topsoil stockpiles, no volume remains stockpiled.		No	Operations Ongoing	In Progress
	Weed growth - Ensure rehabilitation material is free of noxious weeds.	Any stockpiles having evidence of any noxious weed growth will be treated. Prior to re-spreading, weed growth will be treated from the exposed surface of the stockpiles, if required, to minimise the transport of noxious weeds into rehabilitated areas.		No	Operations Ongoing	In Progress

Phase – Landform Establishment

Objective	Performance indicator	Completion Criteria	Justification/Source	Complete (Yes/No)	Progress at Start of MOP	Progress at end of MOP
Domain 1 - Infrastructure Area						
Landform blends in with surrounding landscape and is stable.	Non -4WD vehicle able to traverse roads for future farm tracks.	Tracks remain in place and are trafficable.	Landowner requirement	No	Commenced	Operations ongoing
Domain 3 - Water Management Area						
Water management area to meet rehabilitation objectives (landscape, & water quality). No water pollution from site.	Dam reshaping as required	Re-shaping dams (where required) in accordance with their intended use, this may involve re-sizing, ensuring they are shaped to enhance future stock access point or functionality.	Landowner requirement	No	Commenced	Operations ongoing
	Erosion and soil loss	Erosion control structures are installed at intervals commensurate with the slope of the landform.	Condition 5 Consent	No	Commenced	Water management storage structures in place.
Domain 4 – Overburden Emplacement Area & Domain 5 – Stockpiles & Domain 6 - Open Cut Void/Active Mine						
Reshaping and rehabilitation of current voids and emplacement areas in accordance with the MOP	Progressive rehabilitation	Documented in AEMR. Rehab areas monitored as AREA 1, 2 and 3.	Condition 5 Consent	Yes	Operations ongoing.	Progressive rehabilitation continuing.
	Pit walls – have negligible risk for slope failure.	To achieve the rehabilitation objectives, bench faces are to be stable.	Safety	No	Operations ongoing.	Operations ongoing.
Domain 7 – Rehabilitated Area - Pasture						
Landform blends in with surrounding landscape and is stable.	Slope to integrate with natural surface with no large rills.	Stable landform recorded at AEMR acceptance.		Yes	Commenced (Area 3)	Progressive rehabilitation (continuing in Areas 1, 2 & 3)
Domain A - Infrastructure						
As per Domain 1.						
Domain B - Water Management Area						
Water management as per Domain 3.						
Domain D - Rehabilitation Area – Pasture & Domain E - Rehabilitation Area – Woodland						
As per Domain 7						
Domain E - Final Void						
Final void – As per Domain 6. (The final void will be progressed during this MOP period)						



Phase – Growth Medium Development

Objective	Performance indicator	Completion Criteria	Justification/Source	Complete (Yes/No)	Progress at Start of MOP	Progress at end of MOP
Domain 7 – Rehabilitated Area - Pasture						
Ensure long term preferred vegetation is not competing with short term weeds to the detriment of rehabilitation.	Weed growth encountered and noxious weed species treated.	Noxious weed growth will be treated, if required, to minimise the transport of weeds into and within rehabilitated areas. (Weeds are acknowledged to add to organic matter in the soil, and will be treated accordingly only if noxious, in this phase).		No	Operations Ongoing	Commenced.
Landform blends in with surrounding landscape and is stable.	No large rills recorded, and topsoil layer is developing structure.	Drainage bunds and landform remain stable through rock and/or vegetation cover. Surface cover is achieved with weeds/natural emergence or cover crop.		No	Commenced Area 1 and Area 2.	Progressive rehabilitation continuing.
Domain D - Rehabilitation Area – Pasture & Domain E - Rehabilitation Area – Woodland						
Soil properties show a top layer that includes organic matter.	Soil properties recorded based on visual assessment and include a developing structure.	Soil has top layer with organic material of variable depth (range of 50-100mm).		No	Operations ongoing.	Operations ongoing. Progressive rehabilitation continuing.

Phase – Ecosystem Establishment

Objective	Performance indicator	Completion Criteria	Justification/Source	Complete (Yes/No)	Progress at Start of MOP	Progress at end of MOP
Domain 3 - Water Management Area						
Water Management as per the MOP plans	Basins located with bunds, diversion drains from exposed areas	All storages are stable and established to complement final landform.		No	Water management storage structures in place.	Complete
	Erosion and soil loss	Erosion control structures are installed at intervals commensurate with the slope of the landform.		No	Operations ongoing	Complete
Domain 7 – Rehabilitated Area – Pasture						
As per Domain D.						
Domain B - Water Management Area						
Water management as per Domain 3						
Domain D - Rehabilitation Area – Pasture						
Effective maintenance and management of rehabilitation areas.	Development of species variation – pasture species and weeds.	Inspection shows species that are regenerating/ establishing include mix of forb and grass pasture species and non-noxious weeds from the surrounding land.		No	Not yet complete.	Rehabilitation continuing to meet this criteria.
Domain E - Rehabilitation Area – Woodland						
Effective maintenance and management of rehabilitation areas.	Tree hollows and large logs used in rehabilitation	Where appropriate and practical, structures such as tree hollows, logs and other woody debris will be incorporated into the final landform to augment the habitat value of the proposed vegetated areas, and form micro habitats for small animals such as lizards.		No	Hollows kept stockpiled for use in rehabilitation.	Hollows continue to be used in rehabilitation.
	Development of species variation – flora and weeds	Undesirable species (weeds) to not dominate the tall woodland species as groundcover. Introduction and spread of weeds and pests, should be prevented and an active program in place to minimise their presence.		No	Weed and pest management ongoing.	Weed and pest management to continue.
	Development of tall vegetation – native species	Inspection shows species that are establishing include over-storey species from the surrounding species of Mixed box-gum grassy woodland. (Refer to Section 3.1.9 Flora and Fauna for list of species).		No	Not commenced.	Not commenced.

Phase – Ecosystem Sustainability

Objective	Performance indicator	Completion Criteria	Justification/Source	Complete (Yes/No)	Progress at Start of MOP	Progress at end of MOP
Domain D - Rehabilitation Area – Pasture & Domain E – Rehabilitation Area - Woodland						
Establishment of pasture and open woodland species as part of rehabilitation.	Development of species variation – preferred flora and weeds	At most 30% cover of undesirable species (weeds).		No	Weed and pest management ongoing.	Weed and pest management to continue.
	Final rehabilitation	Rehabilitation maintenance is to be completed in accordance with the rehabilitation objectives.		No	Not commenced	Maintenance ongoing
	Minimal weeds and pests in domain	Introduction and spread of weeds and pests, should be prevented and an active program in place to minimise their presence.		No	Weed and pest management ongoing.	Weed and pest management to continue.
	Development of species variation – native regenerating grasses, shrubs and weeds	Inspection shows species that are regenerating/ establishing include understorey and scattered over-storey species from the surrounding species of Mixed box-gum grassy woodland. No bare surfaces >20 m ² in area or >10 m in length down slope.		No	Rehabilitation ongoing.	Not yet complete

Phase – Relinquished Land

Objective	Performance indicator	Completion Criteria	Justification/Source	Complete (Yes/No)	Progress during period	Progress at end of period
Domain A - Infrastructure						
Roads and fences are retained for ongoing access as part of larger grazing property	Roads remain with adequate drainage installed.	Roads are retained as agreed by the landholder in trafficable condition without 4wd.	Landholder requirement.	No	Roads in place	Not yet complete
	Fences are retained as required for safety of stock and wildlife and as required by the landholder.	Stock fencing is installed as required based on final landform and access to water storages.	Landholder requirement.	No	Not all constructed	Not yet complete
Domain B - Water Management Area						
Water Management as storages to be utilised as farm dams	Basins located with bunds, diversion drains from exposed areas	All storages are stable and established to complement use for stock water.		No	Water management storage structures in place.	Complete
	Erosion and soil loss	Erosion control structures are installed at intervals commensurate with the slope of the landform.		No	Operations ongoing	Complete
Domain D - Rehabilitation Area – Pasture						
Establishment of pasture species as part of rehabilitation.	Final rehabilitation	All surfaces should be revegetated to a condition similar to vegetation in comparable to other adjoining 'extensive agriculture' grazing areas (as agreed with the landowner) No major hazards for wildlife safety or stock.	Landholder requirement.	No	Rehabilitation ongoing.	Not yet complete
	Development of species variation – native regenerating flora	Inspection shows species that are regenerating/ establishing include species from the surrounding species of pasture. Minimum of 70% vegetative cover is present.		No	Rehabilitation ongoing in Aras 1, 2 & 3.	Not yet complete
Domain E – Rehabilitation Area - Woodland						
Establishment of woodland species as part of rehabilitation.	Final rehabilitation	All surfaces should be revegetated to a condition of vegetation in comparable to other 'disturbed' grazing & grazed woodland areas. No hazards for wildlife safety or stock.	Landholder requirement.	No	Rehabilitation ongoing.	Not yet complete



Objective	Performance indicator	Completion Criteria	Justification/Source	Complete (Yes/No)	Progress during period	Progress at end of period
	Development of species variation – native regenerating flora	<p>Inspection shows species that are regenerating/establishing include understorey and over-storey species from the surrounding species of pasture and grassy woodland species occurring on slopes.</p> <p>Minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present). No bare surfaces >20 m² in area or >10 m in length down slope.</p>		No	Rehabilitation ongoing.	Not yet complete
Domain I - Final Void						
Final Voids are shaped for relinquishment	Pit walls – have negligible risk for slope failure.	To achieve the rehabilitation objectives, bench faces are to be stable.	Safety	No	Operations ongoing.	Operations ongoing.
	Fences and bunds are retained as required for safety of stock and wildlife and as required by the landholder.	Safety fence and/or stock fencing is installed as required based on final landform and high wall addressing both the Pit 1 and Pit 2 voids.	Safety/ Landholder requirement.	No	Not all constructed	Not yet complete

6.2 RELINQUISHMENT

No rehabilitation lands are proposed to be relinquished in this period.

Roads, magazine storage shed, and basins (future farm dams) are to remain at end of mine life.

6.3 ACTIVE MINING

MINING DOMAINS

1 - INFRASTRUCTURE AREAS

This domain will be active for the period. The existing Buckaroo Mine infrastructure area includes transportable items, crib room and mobile plant only (that could be removed in one day). The magazine store is to remain as storage for the landowner.

3 - WATER MANAGEMENT AREA

This domain will be active for the period. During the period, the primary water storages (any pit sump and primary sediment basin) may be re-shaped (where required) in accordance with their functionality during the active phase and the final intended landform. Stabilisation of dam walls and diversion drains will occur. Sediment basins will be cleaned, shaped, and stabilised for a permanent water storage if required.

4 – OVERBURDEN EMPLACEMENT

This domain will be active for the period. Extension of the footprint will generally be in a south easterly direction, with final landform to be graded to ensure landscape stability and drainage are appropriate.

5 -OPEN CUT VOID

This domain will be active for the period.

The following activities will be carried out during the period:

The mining activity will primarily be contained within the disturbed areas. The floor of the mine will be lowered, with no major clearing required. Some minor area of pre-stripping and clearing is required for the dolomite mine.

Land preparation ahead of mine operations involving clearing of vegetation, stripping and stockpiling of topsoil will necessitate the construction of appropriate safety and erosion and sediment control structure/ bund at the quarry limit. Other equipment may need to be used particularly with the vegetation removal. The plant typically on site would be used for forming stockpiles.

Clearing will be constrained to the footprint area of the planned mining areas (based on estimated demand). Salvage of materials for use in the rehabilitation works will continue.

Topsoil and rehabilitation materials will be to be stockpiled for future use in the designated area south of the Pit 1. Estimated stripped topsoil quantities will be recorded in production summaries annually.

All exhausted mining areas will be graded to allow surface water from the whole mine area to drain to the existing water management system outside the final void. Any waste rock and

overburden retained is to be used in the final void. The gradients will be checked prior to the placement of any topsoil. Exhausted mined areas will be shaped (with benches to remain).

8 – OTHER - STOCKPILES

This domain will be active for the MOP period. Stockpiles outside the main working pad (infrastructure domain) include oversized rock, various product material stockpiles, and topsoils and rehabilitation material stockpiles.

8 – REHABILITATED AREA – GRAZING

This domain (includes current rehabilitation Areas 1-3) will be excluded from any active mining activities. The rehabilitation areas will be monitored to record the progress towards relinquishment. Weed management will be ongoing in the MOP period.

6.4 LANDFORM ESTABLISHMENT

I – INFRASTRUCTURE

Access roads will remain in this domain post-mining. No rehabilitation is proposed in the period.

F - WATER MANAGEMENT AREA

This domain will be active for the period.

B - AGRICULTURE – GRAZING

For rehabilitation actions relevant for this domain in the MOP period (refer to Mining Domain 8 above) – Rehabilitation Area – Grazing).

A - REHABILITATION AREA – NATIVE ECOSYSTEM

Where appropriate and practical, structures such as tree hollows, logs and other woody debris will be incorporated into the final landform to augment the habitat value of the proposed vegetated areas. Introduction and spread of noxious weeds and pests, is to be prevented and their presence in the final domain will be managed.

J – FINAL VOID

There will be no specific rehabilitation associated with the final void at Buckaroo Mine during the period. Generally, with the completion of earth-bunding to remove potential future vehicle access to the void area this domain will not have any actions until post mining phase.

ALL DOMAINS – REHABILITATION MONITORING

Rehabilitation monitoring data will be included in annual report. No additional disturbance is proposed during the period.

The progress of mining and timing associated progressive rehabilitation will be affected by market demands and conducive weather conditions for works to occur. Rehabilitated land (Areas 1-3) have been subject to treatments to achieve successful landform and growth medium development.

Table 15: Rehabilitation data showing Domains at commencement and final period

At Start of Period 2023			At End of Period 2025	
Mining Domain	Rehabilitation Phase	Hectares	Final Landform	Hectares
1 - Infrastructure	Active	5.3	A - Infrastructure	2.3
3 – Water Management	Active	1.2	B – Water Management	1.2
4 – Overburden Emplacement	Active	1.1	E – Rehabilitation Area - Woodland	1.9
5 – Open Cut Void	Active	8.6	I - Final Void	9.1
8 - Stockpiles	Active	2.3	D - Rehabilitation Area - Pasture	10ha
8 – Rehabilitation Area - Grazing	Growth Medium Development/ Ecosystem establishment AREA 1 and AREA 2	1.85		
8 – Rehabilitation Area - Grazing	Growth Medium Development AREA 3	3.04		

7 PART 7 – REHABILITATION QUALITY ASSURANCE PROCESS

MDL will review the rehabilitation quality assurance process. The RMP will be updated following that review.

8 PART 8 – REHABILITATION MONITORING PROGRAM

8.1 REHABILITATION MONITORING

MDL have adopted a program for monitoring and reporting rehabilitation. Final landform and site decommissioning works will trigger the concluding works whereby any interim measures adopted as part of the rehabilitation process are to be finalised. Closing monitoring and reporting is to be performed, with success of site rehabilitation to be signalled by meeting all adopted completion criteria once approved.

Monitoring measures adopted for rehabilitation areas are described in this section. Rehabilitation monitoring will be divided into rehabilitation areas to be recorded based on location.

8.1.1 REHABILITATION MONITORING PROGRAM

The monitoring elements that are to be undertaken are referred below in relation to the relevant rehabilitation phases.

Table 16: Rehabilitation Monitoring

PERFORMANCE INDICATOR /CATEGORY	MONITORING ELEMENTS	MONITORING FREQUENCY	RECORDS
Phases – Active, Decommissioning and Landform Establishment			
Water Management and Erosion Control	Site inspection and visual assessment of surface water drainage systems (integrity of surface drains, bunds, dams and sediment ponds).	Annual Quarterly After major rainfall	AEMR - Site inspection and visual assessment to be conducted on an annual basis. FORM - Internal monitoring to be conducted on a quarterly basis and after any major rainfall event.
Negligible risk for slope failure – stability of void.	Pit walls & bench stability general observation.	Annual	AEMR - MDL Production Manager to ensure benches are safe - Ongoing.
Progressive rehabilitation	Area (ha), phase and activities of rehabilitation documented.	Annual Quarterly As works performed.	AEMR - Annual recording by MDL (AEMR). FORM - Quarterly inspection. FORM – Rehabilitation Record.
Salvage and stockpile of possible topsoil/growing material	Stripping details and volume of stockpiles to be recorded and any treatment.	Annual As works performed.	AEMR - Stockpile data. FORM – Rehabilitation Record.
Weed management	Treatment records for stockpiles and rehabilitation areas.	As works performed.	FORM – Rehabilitation Record.
Phases – Ecosystem Establishment			
Progressive rehabilitation	Annual rehabilitation inspection – monitoring of natural regeneration against set parameters in completion criteria.	Annual Quarterly	AEMR - Annual recording by MDL (AEMR). FORM - Quarterly inspection. FORM – Rehabilitation Record.

8.1.2 RECORDS DURING BUCKAROO MINE OPERATIONS

During active mining operations, MDL will maintain records. This information will provide a valuable baseline for comparison with later rehabilitation monitoring outcomes. Such records may include:

- AEMR records.
- Quarterly Inspection Forms (regular environmental monitoring records).
- Rehabilitation Work Record Forms – (including record of watering of rehabilitation areas).
- Environmental incident records - a record of any pollution incidents.

Any surface water monitoring will relate to the completion criteria (not required by approval or licences).

8.1.3 REHABILITATION METHODOLOGY RECORDS

MDL will record the details of rehabilitation works in the AMER so that they are available for later interpretation of rehabilitation monitoring results with the aim of continually improving rehabilitation standards on site.

8.1.4 ANNUAL RECORD

An annual monitoring summary will be prepared by MDL with data provided in the AEMR. Outcomes of the annual rehabilitation inspection are recorded and any corrective actions that are identified as part of the inspection are to be implemented and recorded in the AEMR. The results of this monitoring will also be utilised to provide feedback as to the success of rehabilitation methodologies as well as to support justification for sign off with completion criteria.

8.1.5 COMPLIANCE REGISTER

The extent to which the RMP been complied with will be reviewed annually. The compliance register will be used as a tool to assist in this process.

9 PART 9 RESEARCH AND REHABILITATION RESEARCH, MODELLING AND TRAILS

In 2019, MDL undertook a trail with jute mesh in rehabilitation area 2 which was successful in stabilising the topsoil and for growth establishment.

Following inspection and audit in 2024, investigation was undertaken as to the suitability or necessity of additional trials. Given the growth establishment that has been achieved on the site in Area 2, it was determined that further trials were unnecessary and unlikely to positively contribute to rehabilitation outcomes.

MDL have not undertaken formal rehabilitation trials. No additional progressive rehabilitation is proposed in the period. Existing rehabilitation areas are progressing well.

10 PART 10 – INTERVENTION AND ADAPTIVE MANAGEMENT

10.1 THREATS TO REHABILITATION

The risks associated with rehabilitation are outlined in **Part 3** and are referenced in the Trigger Action Response Plan (TARP) below.

10.2 TRIGGER ACTION RESPONSE PLAN

The following Trigger Action Response Plan (TARP) for rehabilitation has been developed to identify the required management actions in the event of impacts to rehabilitation, or where rehabilitation outcomes are not achieved in an acceptable timeframe.

Where necessary, rehabilitation procedures will be amended accordingly with the aim of continually improving rehabilitation standards. The TARP has been developed based on the rehabilitation risks identified in this Plan.

Table 17: Trigger Action Response Plan (TARP)

ASPECT/ CATEGORY	KEY ELEMENT	TRIGGER/ RESPONSE	NORMAL STATE	1 ST LEVEL TRIGGER	2 ND LEVEL TRIGGER
Water Management	Water quality	Trigger	Surface water treated prior to discharge through basin system.	Water management system monitoring shows evidence of suspended solids and possible sediment escape.	Surface water quality discharged showing evidence of sediment escape and potential harm to the environment.
		Response	<i>No response required. Continue monitoring program.</i>	<i>Review and investigate water quality monitoring and management. Carry out water analysis if necessary and carry out sediment basin maintenance. Refer to EPL and PIRMP.</i>	<i>Report to appropriate authority. Undertake immediate review to determine source of issues and implement remediation measures as soon as practicable. Refer to EPL and PIRMP.</i>
Erosion Control	Integrity of surface drains, bunds, catch dams and sediment ponds.	Trigger	All sediment and erosion controls at the site are effective.	Sediment and erosion controls at the site show signs of failure or ineffectiveness.	Significant gully or tunnel erosion present and/or significant rills forming.
		Response	<i>No response required. Continue monitoring program.</i>	<i>Repair or replace sediment and erosion controls showing signs of failure or ineffectiveness.</i>	<i>Take measures to appropriately remediate the erosion. Remediate as soon as practicable. Review, and update where required, the Soil and Water Management system.</i>
Stability of void	Slope and benches within void are stable.	Trigger	Rehabilitation areas achieves completion criteria.	Final slope and benches within void in secondary domain I, are showing signs of minor wall movement in one site.	Final slope and benches within void in secondary domain I, are showing signs of wall movement in several locations.
		Response	<i>No response required. Continue monitoring program.</i>	<i>Undertake regrading and shaping of relevant area.</i>	<i>Undertake internal review of the landform design. Undertake regrading and bunding of the relevant area.</i>



ASPECT/ CATEGORY	KEY ELEMENT	TRIGGER/ RESPONSE	NORMAL STATE	1 ST LEVEL TRIGGER	2 ND LEVEL TRIGGER
Progressive rehabilitation	Time lapse between active mining phase completion &/or completion of overburden emplacement and the rehabilitation phases.	Trigger	Rehabilitation areas progressing as per phases in MOP.	Rehabilitation has not commenced in appropriate timeframe.	Rehabilitation has not commenced in appropriate timeframe and not progressing as per phases in MOP.
		Response	<i>No response required. Continue monitoring program.</i>	<i>Review Rehabilitation Plan requirements and implement accordingly. An inspection of the site will be undertaken by internal environmental staff/support with MDL Mine Manager to schedule works.</i>	<i>Review Rehabilitation Plan requirements and implement measures as appropriate immediately. Record of circumstances to be made for AEMR.</i>
Salvage and stockpile of possible topsoil/ growing material	Volume of materials not available for required rehabilitation work	Trigger	Materials & stockpile monitoring, indicates rehabilitation materials are available for purpose as planned.	Materials & stockpile monitoring indicates rehabilitation materials are marginal and the final landform may not be achieved as planned.	Materials & stockpile monitoring, indicates the rehabilitation materials are not suitable for long term rehabilitation and final landform may not be achieved as planned.
		Response	<i>No response required.</i>	<i>Internal review of rehabilitation resources to be undertaken. Investigate use of appropriate management measures to remediate, and review procedures where required to increase future resources prior to need. MDL Production Manager to continue monitoring.</i>	<i>Internal review of rehabilitation resources to be undertaken. Investigate use of appropriate management measures to remediate, and review procedures where required to increase future resources prior to need. Revise progressive rehabilitation program as required. MDL Production Manager to continue monitoring.</i>
	Stockpile stabilisation and viability	Trigger	Topsoil is directly applied to rehabilitation areas or stockpiled for use in rehab areas in less than 3-month period.	Stockpiling in the designated area required for topsoil stockpiles kept longer than 3 months.	Stockpiles older than 5 months not planned to be used in rehabilitation areas within next quarter.



ASPECT/ CATEGORY	KEY ELEMENT	TRIGGER/ RESPONSE	NORMAL STATE	1 ST LEVEL TRIGGER	2 ND LEVEL TRIGGER
		Response	<i>No response required.</i>	<i>Monitoring and weed management to be commenced.</i>	<i>Undertake seeding with suitable cover crop or revise planned works to utilise in rehabilitation immediately.</i>
Sub-soil and Growth medium resource	Growth medium suitable for topsoil placement.	Trigger	Visual inspection prior to ripping indicates, growth medium suitable for landform & appropriate to meet completion criteria.	Visual inspection prior to ripping indicates, growth medium not appropriate to meet completion criteria (e.g.: contamination, weeds, slope, stability, drainage).	Visual inspection prior to ripping indicates, growth medium not appropriate to meet completion criteria (e.g.: contamination, weeds, slope, stability, drainage).
		Response	<i>No response required. Continue monitoring program.</i>	<i>Investigate use of appropriate management measures to remediate, and review procedures where required to improve growth medium. Next phase of rehabilitation not to progress and top soil not to be applied until normal state reached.</i>	<i>Investigate use of appropriate management measures to remediate, and review procedures where required to improve growth medium. Immediate works to be instigated where immediate risk applies. Next phase of rehabilitation not to progress and top soil not to be applied until normal state reached.</i>
Weed management	Weeds occurring	Trigger	No noxious weeds originating at the site are recorded in monitoring sites (once at ecosystem establishment phase).	Greater than 30% cover of weeds and no noxious weeds originating at the site are recorded in monitoring site (once at ecosystem establishment phase).	Greater than 30% cover of weeds and noxious weeds are a dominating component of weeds occurring.
		Response	<i>No response required. Continue monitoring program.</i>	<i>MDL to enact weed management measures to respond to the issue if undesirable weed species are occurring.</i>	<i>Engage weed management contractor to remove noxious weed species as soon as practicable. Investigate management measures prevent noxious weed encroachment.</i>



ASPECT/ CATEGORY	KEY ELEMENT	TRIGGER/ RESPONSE	NORMAL STATE	1 ST LEVEL TRIGGER	2 ND LEVEL TRIGGER
Top soil resource	Soil depth	Trigger	Topsoil/organic matter/soil ameliorants) greater than 100mm in rehabilitation areas.	Topsoil/organic matter/soil ameliorants) between 50mm to 100mm in rehabilitation areas.	Topsoil has been eroded; no significant layer of topsoil present in rehabilitation areas.
		Response	<i>No response required. Continue monitoring program.</i>	<i>MDL to install erosion and sediment devices to reduce any soil loss. Remediate to appropriate depth.</i>	<i>Investigate opportunities to install erosion and sediment controls. Remediate and utilise any stockpiled material as soon as practicable.</i>
Pasture species and native regeneration of flora occurring from the surrounding species	Species composition	Trigger	Regenerating species includes both cover crop and naturally occurring species.	Following commencement of ecosystem establishment phase regenerating species do not include both seeded and naturally occurring pasture (or woodland species as relevant).	Following commencement of ecosystem establishment phase regenerating species do not include both seeded and naturally occurring pasture species (or woodland species as relevant). Planted trees are also failing.
		Response	<i>No response required. Continue monitoring program.</i>	<i>Review management measures to assist plant establishment (include re-seed areas if necessary).</i>	<i>Review management measures to assist plant establishment (include re-seed areas if necessary). Engage suitably qualified person to review management measures to assist native plant establishment.</i>
	Ground stability – Ground cover	Trigger	5 years following commencement of ecosystem establishment phase - Minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present). No bare surfaces >20m ² in area or >10m in length down slope.	5 years following commencement of ecosystem establishment phase – on average between 40-70% vegetative cover is present.	5 years following commencement of ecosystem establishment phase – on average <40% vegetative cover is present.
		Response	<i>No response required. Continue monitoring program.</i>	<i>Investigate use of appropriate management measures to remediate, and review procedures where required to increase groundcover.</i>	<i>Site inspection to be undertaken by a suitably qualified person to investigate use of appropriate management options to improve. Implement measures as advised</i>



ASPECT/ CATEGORY	KEY ELEMENT	TRIGGER/ RESPONSE	NORMAL STATE	1 ST LEVEL TRIGGER	2 ND LEVEL TRIGGER
					<i>such as seeding and direct planting, and as soon as practicable.</i>

11 PART 11 – REVIEW, REVISION AND IMPLEMENTATION

11.1 REVIEW OF THE RMP

Review of the RMP will be undertaken periodically to determine whether it is effective in achieving rehabilitation objectives. Where major amendments to the plan are required, consultation will be undertaken with the appropriate regulatory authorities.

The RMP will reviewed as required under conditions of the Mining Act as follows:

11 Amendment of rehabilitation management plans

The holder of a mining lease must amend the rehabilitation management plan for the mining lease as follows—

(a) to substitute the proposed version of a rehabilitation outcome document with the version approved by the Secretary—within 30 days after the document is approved,

(b) as a consequence of an amendment made under clause 14 to a rehabilitation outcome document—within 30 days after the amendment is made,

(c) to reflect any changes to the risk control measures in the prepared plan that are identified in a rehabilitation risk assessment—as soon as practicable after the rehabilitation risk assessment is conducted,

(d) whenever given a written direction to do so by the Secretary—in accordance with the direction.

11.2 IMPLEMENTATION OF THE RMP

The following Table defines personnel who are responsible for the monitoring, review and implementation of this RMP.

Table 18: Responsibilities for Implementation of rehabilitation

TITLE	RESPONSIBILITY
Managing Director	Ensure all requirements for the Rehabilitation are met. Provide adequate resources to implement the plan. Ensure all personnel undertaking works in relation to this plan are trained and competent. Consult with regulatory authorities as required. Direct and undertake stakeholder communication in consultation with the Manager. Prepare for closure or renewal of lease. Engage title consultant as required.

	Report the progress of any rehabilitation and monitoring in the AEMR.
Production Manager	<p>Ensure all mining activities undertaken are consistent with the RMP, Development Consent and ML919.</p> <p>Ensure that appropriate specialists are involved in relevant processes.</p> <p>Direct and undertake necessary monitoring and if necessary direct, in consultation with qualified persons, remedial actions.</p> <p>Develop mine plans to allow for progressive forming of final landform.</p> <p>Ensure that the site has sufficient response equipment to manage spills.</p> <p>Carry out ongoing assessment to ensure the stability and safety for final landforms and slopes.</p> <p>Undertake maintenance and implement TARP as required.</p>
Environmental Support staff	<p>Carry out quarterly inspections and RMP review with Managing Director.</p> <p>Assist in reporting requirements.</p>
All employees and sub-contractors	<p>Report any occurrence of erosion, instability, instance of weed or feral animal infestation to the Production Manager.</p> <p>Complete forms as relevant for any Rehabilitation Works carried out.</p> <p>Implement the procedures referenced in this RMP as directed.</p>

ATTACHMENT 1:
COPY OF DEVELOPMENT APPROVAL

MUDGEE SHIRE COUNCIL

DEVELOPMENT APPLICATION & DECISION OF COUNCIL

At the Council Meeting on 6/ 8/1980 the application described below was considered with the result that the application

has received UNCONDITIONAL CONSENT received CONDITIONAL CONSENT been REFUSED

* see note re Appeal * see note re Appeal

under the provisions of - Interim Development Order No. 1 - Shire of Cudgegong. - Mudgee Planning Scheme.

Conditions of consent are Provisions of Mining Lease Application No. 25 Dubbo ('73 Act) as proposed to be granted by the Department of Mineral Resources and Development (Ref. T78/2534 - 17/ 5/1979).

Reasons for Conditions/Refusal are Council Policy.

This consent shall be void if the development is not substantially commenced within twelve months, provided that Council may grant annual extension up to a further period of three years, if good cause is shown.

NOTE : Right of appeal against Council's decision to impose conditions or to refuse consent exists to the Local Government Appeals Tribunal under the Local Government Act, 1919, vide Section 342(V)(5(b)) for the Interim Development Order or Section 342(N)(2) for the Planning Scheme.

DETAILS OF APPLICATION

Site of Development Portions 102, 103, 110 and 120, Parish of Bumberra - Zone 1(a).

Details of Development Mining of limestone & kaolin.

Applicant Mr. R.W. Washington, (for P. & I Matera) P.O. Box 274, MUDGEE, 2850

SHIRE CLERK Date of Approval 11/ 8/80

Note : Before erection of any building is commenced Building Approval (Ordinance 70) must be obtained from Council's Health and Building Department.

Application No. : 2.8/80 Application fee \$10.00 Council Minute No. : 923/80 Receipt No. 42313 & 41778 Register Entered : 11/8/80 Parish Map Charted (\$5) (\$5)

