



ABN: 14 090 152 828

Rehabilitation Management Plan for the Nelungaloo Limestone Mine



Prepared by:

RWCorkery&co

August 2023



ACKNOWLEDGEMENT

R.W. Corkery & Co. acknowledge and pay our respects to the Traditional Custodians of the lands in NSW and Australia on which our projects are located. We value the knowledge, advice and involvement of the Elders and extended Aboriginal community that contribute to our Projects and extend our respect to all Aboriginal and Torres Strait Islander peoples.





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Rehabilitation Management Plan

for the

Nelungaloo Limestone Mine

Prepared for:

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Ref No. 525/34

August 2023

Summary Table

Name of Mine		Nelungaloo Limestone Mine		
RMP Commencement Date		2 July 2022		
Mineral Authorities		M(MO)L1	Expiry Date	2 April 2034
		AL22		4 October 2023
Name of Leaseholder				
Version	Author	Purpose	Approved by	Date of Submission
1	I Devane	Initial RMP	A Commins	2 July 2022
2	I Devane	Final RMP	A Commins	1 August 2023

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LIST OF ACRONYMS

AEMR	Annual Environmental Management Plan
DL&WC	Department of Land and Water Conservation
EIS	Environmental Impact Statement
EL	Exploration Licence
GCNR	Geoff Cunningham Natural Resources Consultants Pty Ltd
M(MO)L	Mineral (Mineral Owner) Lease
RC	Reverse Circulation
RMP	Rehabilitation Management Plan
RWC	R.W. Corkery & Co. Pty Limited
SoEE	Statement of Environmental Effects
the Mine	Nelungaloo Limestone Mine

1. Introduction to Mining Project

1.1 Rehabilitation Management Plan

This *Rehabilitation Management Plan* (RMP) has been prepared by RW Corkery & Co Pty Ltd on behalf of Westlime Pty Limited (“Westlime”) in accordance with the following documents and guidelines.

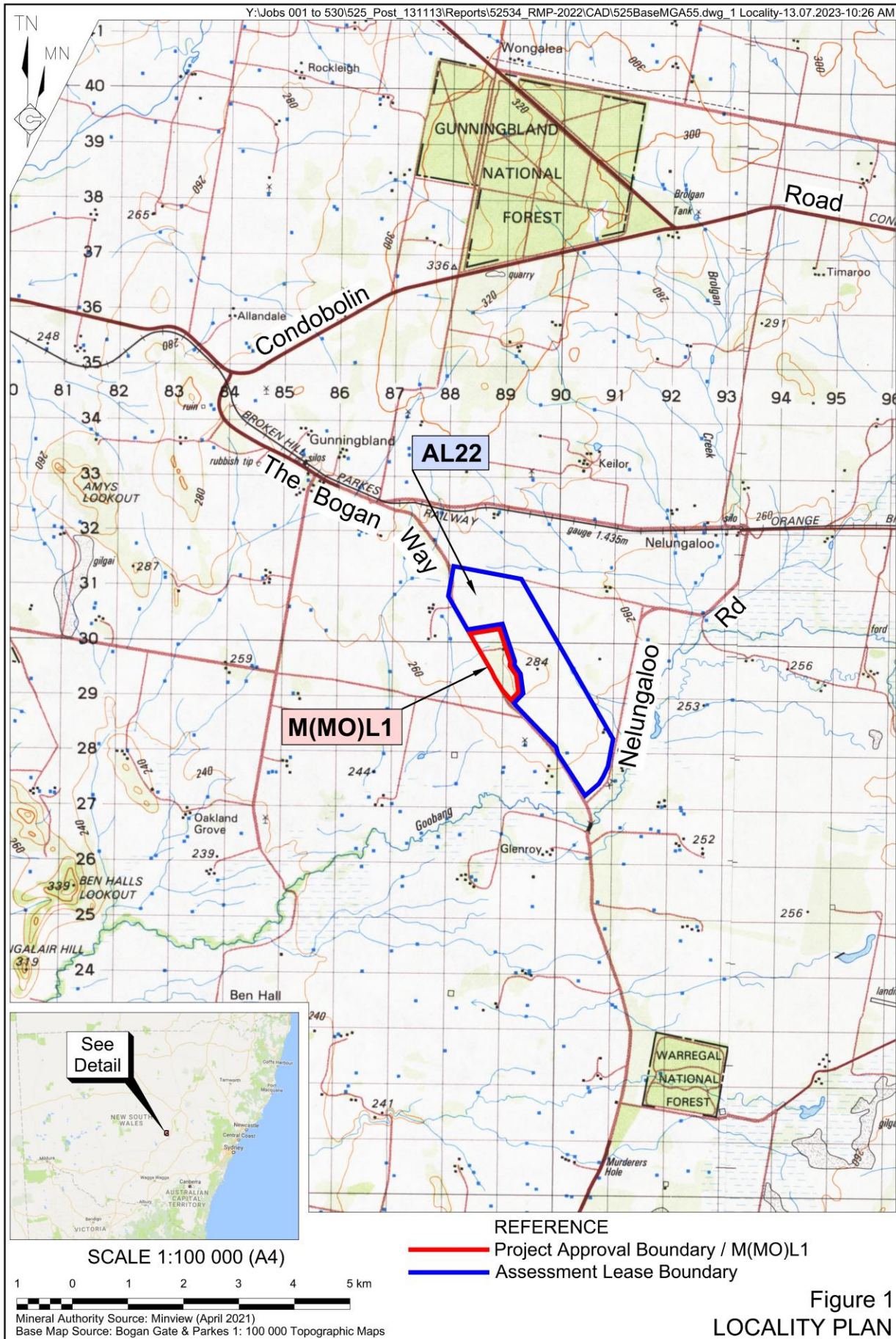
- Form and Way: Rehabilitation Management Plan for Large Mines (July 2021).
- Form and Way: Rehabilitation Objectives, Rehabilitation Completion Criteria and Final Landform and Rehabilitation Plan for Large Mines (October 2022).
- Guideline 1: Rehabilitation Risk Assessment (July 2021).
- Guideline 2: Rehabilitation Records (July 2021).
- Guideline 3: Rehabilitation Controls (July 2021).
- Guideline 5: Rehabilitation Objectives and Rehabilitation Completion Criteria (April 2023).

1.2 History of Operations

The Nelungaloo Limestone Mine (the Mine), located approximately 20km west of Parkes (**Figure 1**), is owned and operated by Westlime Pty Limited (the “Company”). The Company is a privately-owned family company established in 2000 and based in Parkes, NSW. The directors and management of the Company include Mr Aidan Commins, Mr Andrew Commins and Mr Nick Commins who have operated the Company since 2000.

The Company currently operates the Nelungaloo Limestone Mine and associated London-Victoria Processing Plant, as well as the Canowindra Limestone Mine.

In November 1997, Cabonne Contractors were granted an Exploration Licence (EL 5383) over an area containing a known limestone deposit near Nelungaloo, which included part of the “Nelungaloo” property. In April and May 1998, a drilling program was undertaken by Cabonne Contractors Pty Ltd, supervised on site by Rangott Exploration Pty Ltd, and directed by personnel from ABT Engineering Pty Ltd. The target exploration area was confined to the “Nelungaloo” property where a limestone resource capable of yielding at least 10 million tonnes had been postulated based on the area of outcrop and knowledge of the regional geology. The exploration was confined to Nelungaloo because this was recognised as the largest known limestone resource relatively close to the milling, blending and distribution Centre at Parkes and in close proximity to the main road network.



A Reverse Circulation (RC) drill rig was used to drill 22 holes on a 100m grid pattern across the target area. Assay results of selected samples collected during the drilling program indicated that the identified limestone was suitable for agricultural and industrial purposes. In November 1999 and May 2000, additional in-fill drilling was undertaken to further define the resource and the extent/variability of overburden.

The Nelungaloo Limestone Mine was granted Development Consent by Parkes Shire Council in September 2000 and commenced operations shortly after (**Figure 2**). The Mine has operated consistently since consent was granted under a Private Mining Agreement between Jeanette Barnes (the landholder) and the Company. A Mineral (Mineral Owner) Lease (M(MO)L1) was granted to Jeanette Barnes on 2 April 2013 after a change in legislation.

Operations comprise of drill and blast open cut mining operations using an excavator or bulldozer and loading of material into haul trucks for transportation and direct tipping into the primary crusher hopper. Extracted material is crushed using a fixed crushing plant and screened to produce:

- coarse and medium product to be transported to the London-Victoria Processing Plant for further processing; and
- the fine-grained products unsuitable for producing agricultural lime.

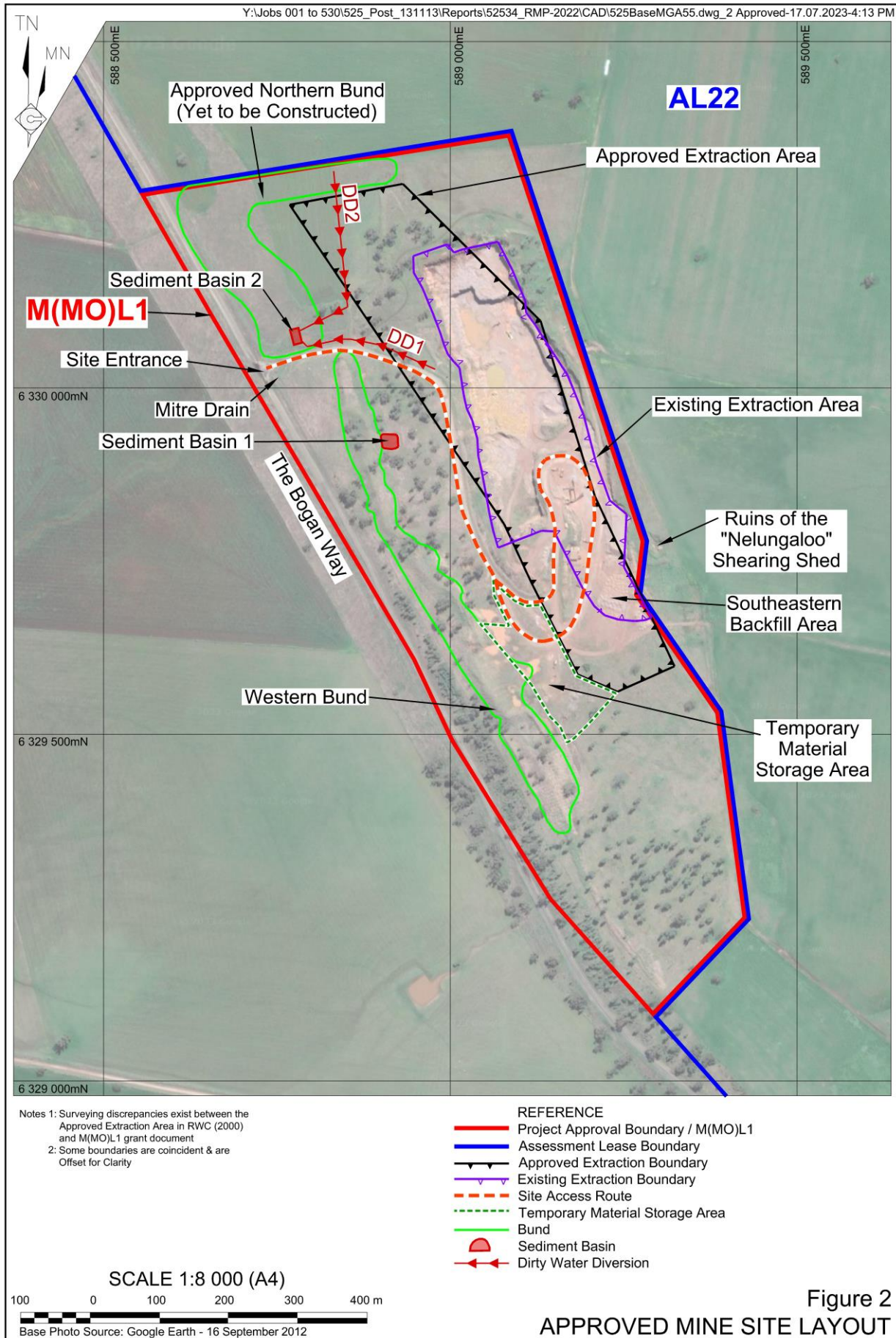


Figure 2
APPROVED MINE SITE LAYOUT

1.3 Current Development Consents, Leases and Licences

Table 1 presents the consents, leases, and licenses that are held in relation to the Mine.

Table 1
Consents, Leases, and Licenses

Instrument	Grant Date	Expiry Date	Held By
Development Consent 00121	19 September 2000	-	Westlime Pty Limited
M(MO)L1	2 April 2013	2 April 2034	Mrs J Barnes
EPL7953	16 February 2001	Annual Renewal	Westlime Pty Limited
AL22	4 October 2017	4 October 2023	Westlime Pty Limited

1.4 Land Ownership and Land Use

1.4.1 Land Ownership

Table 2 presents land ownership within and surrounding the Mine Site. All land within M(MO)L1 is owned by J. Barnes (private landholder) and operated by the Company. Surrounding land consists of:

- Crown land owned by the State of NSW;
- Freehold land owned by Warregal Pty Ltd; and
- Freehold land owned by Private Landholders

Table 2
Land Ownership

Ref	Lot	Deposited Plan	Tenure	Owner
1	1	565448	Freehold	J. Barnes
2	1	181961	Freehold	Private Owner
2	11	1086778	Freehold	Private Owner
2	46	6868	Freehold	Private Owner
3	1	384575	Freehold	Warregal Pty Ltd
3	2	1045593	Freehold	Warregal Pty Ltd
3	4	540007	Freehold	Warregal Pty Ltd
4	3	540007	Freehold	State Rail Authority
5	10	1086778	Freehold	Private Owner
6	10	1145120	Freehold	Transport for NSW

1.4.2 Land Use

The existing environment is dominated by the Mine, with cultivated and cleared agricultural land surrounding the Mine. Scattered Bimble Box, Grey Box, White Cypress Pine and Yellow Box trees occur in areas not suitable for agriculture, typically where limestone outcrops.

1.4.3 Land Ownership and Land Use Figures

The figures listed in **Table 3**, present a range of information to identify the Mine Site's local, regional and State context.

Table 3
Land Ownership and Land Use Figures

Figure	Title	Description
Figure 1	Locality Plan	The Mine Site's State and regional context with regards to administrative boundaries, population centres, transport and public infrastructure
Figure 2	Approved Mine Site Layout	The Mine Site's internal layout with regards to infrastructure and approved extraction area.
Figure 3	Land Ownership and zoning	Land ownership and zoning within and surrounding the Mine Site
Figure 4	Land use	Land use and topography within and surrounding the Mine Site
Figure 5	Vegetation and heritage	Vegetation Communities and Heritage within and surrounding the Mine Site
Figure 6	Surface water catchments	Surface water catchment areas surrounding the Mine

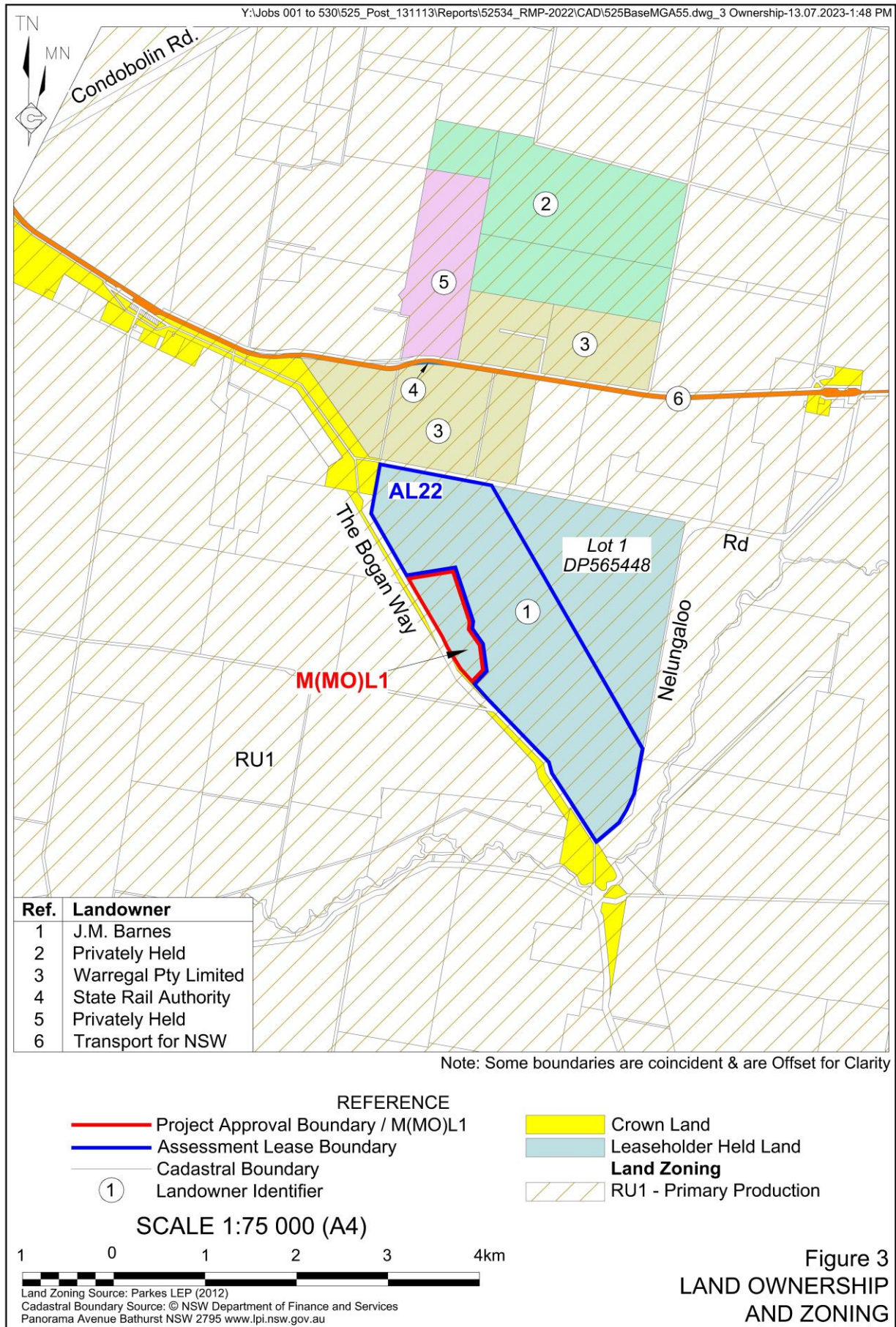


Figure 3
LAND OWNERSHIP
AND ZONING

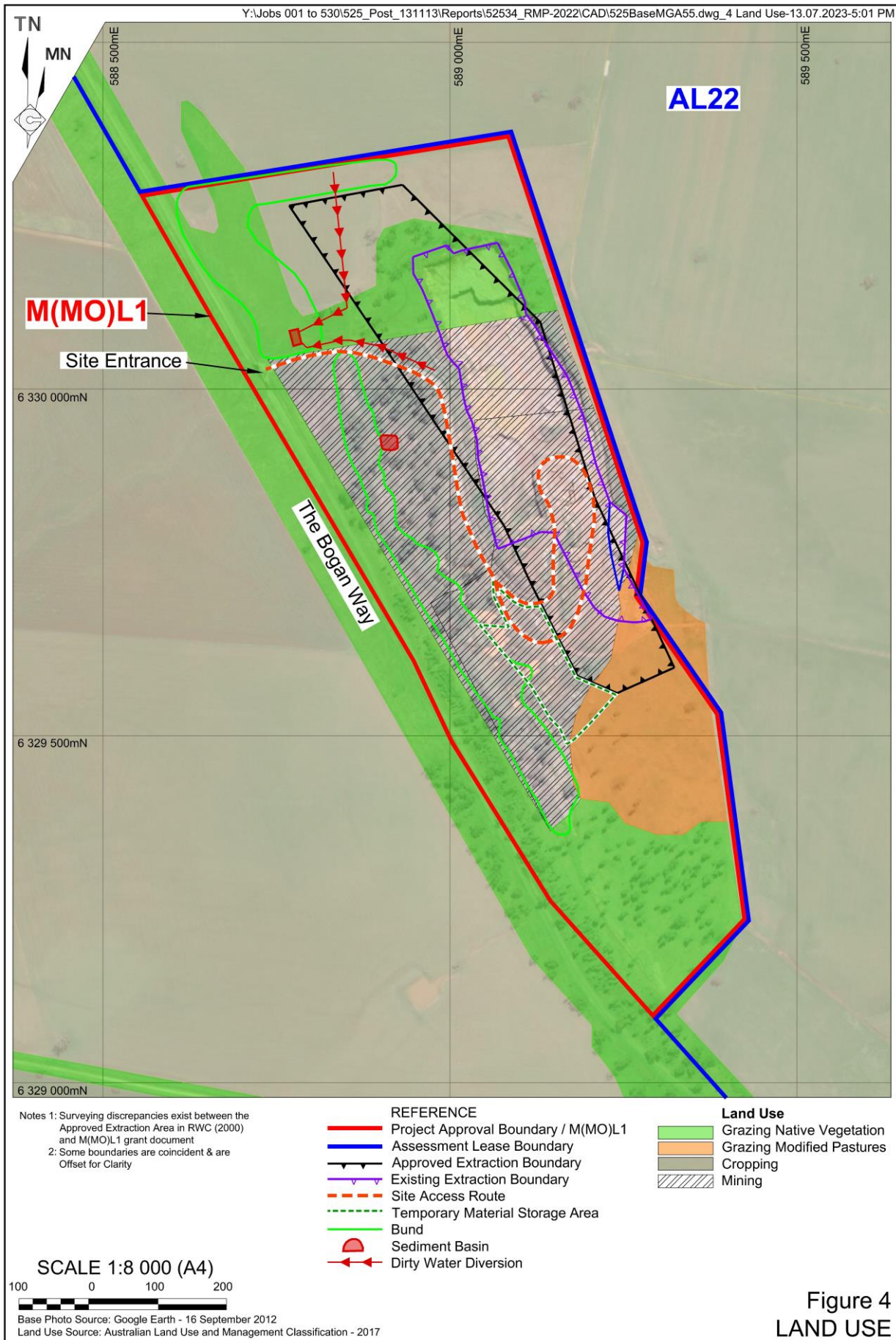
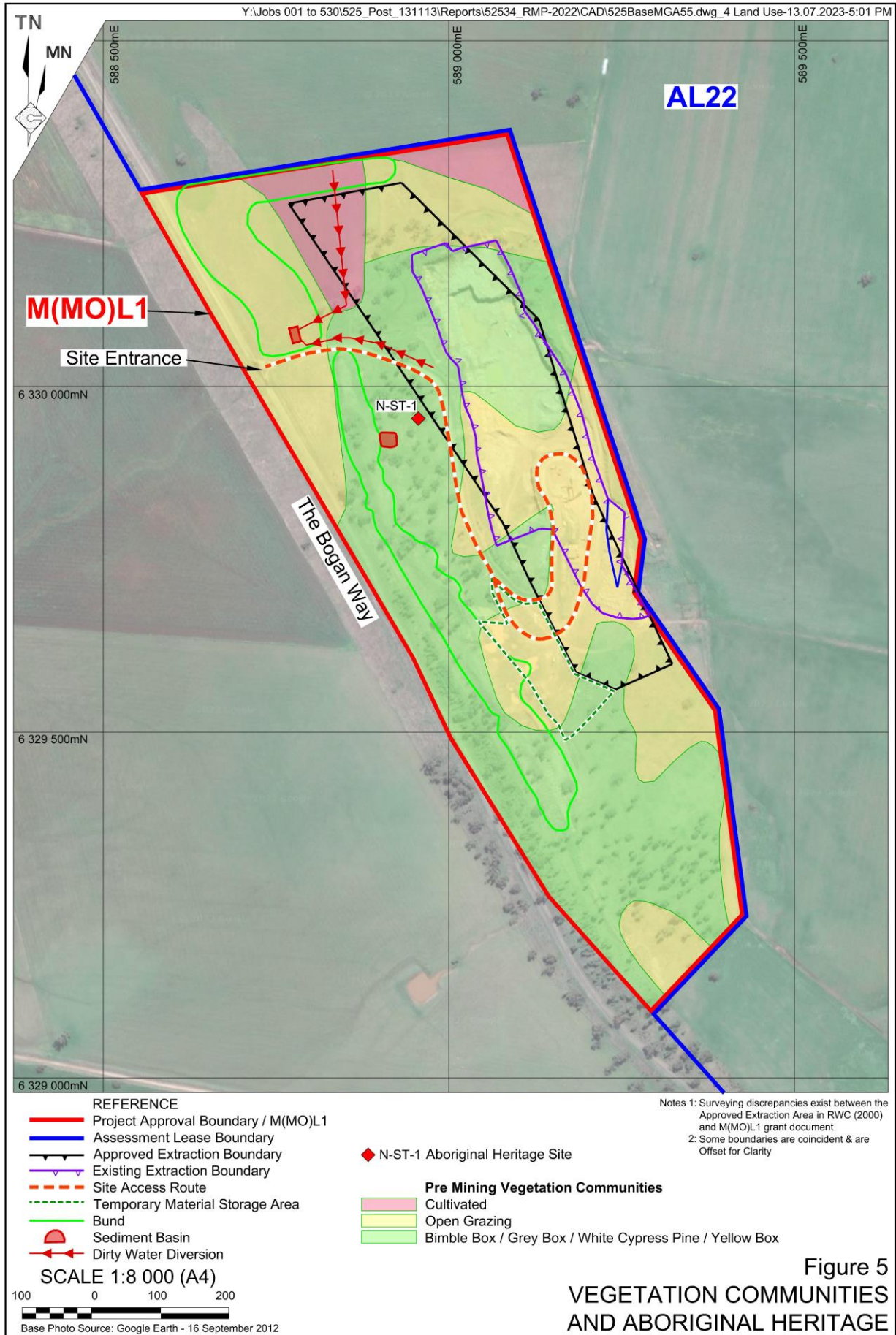
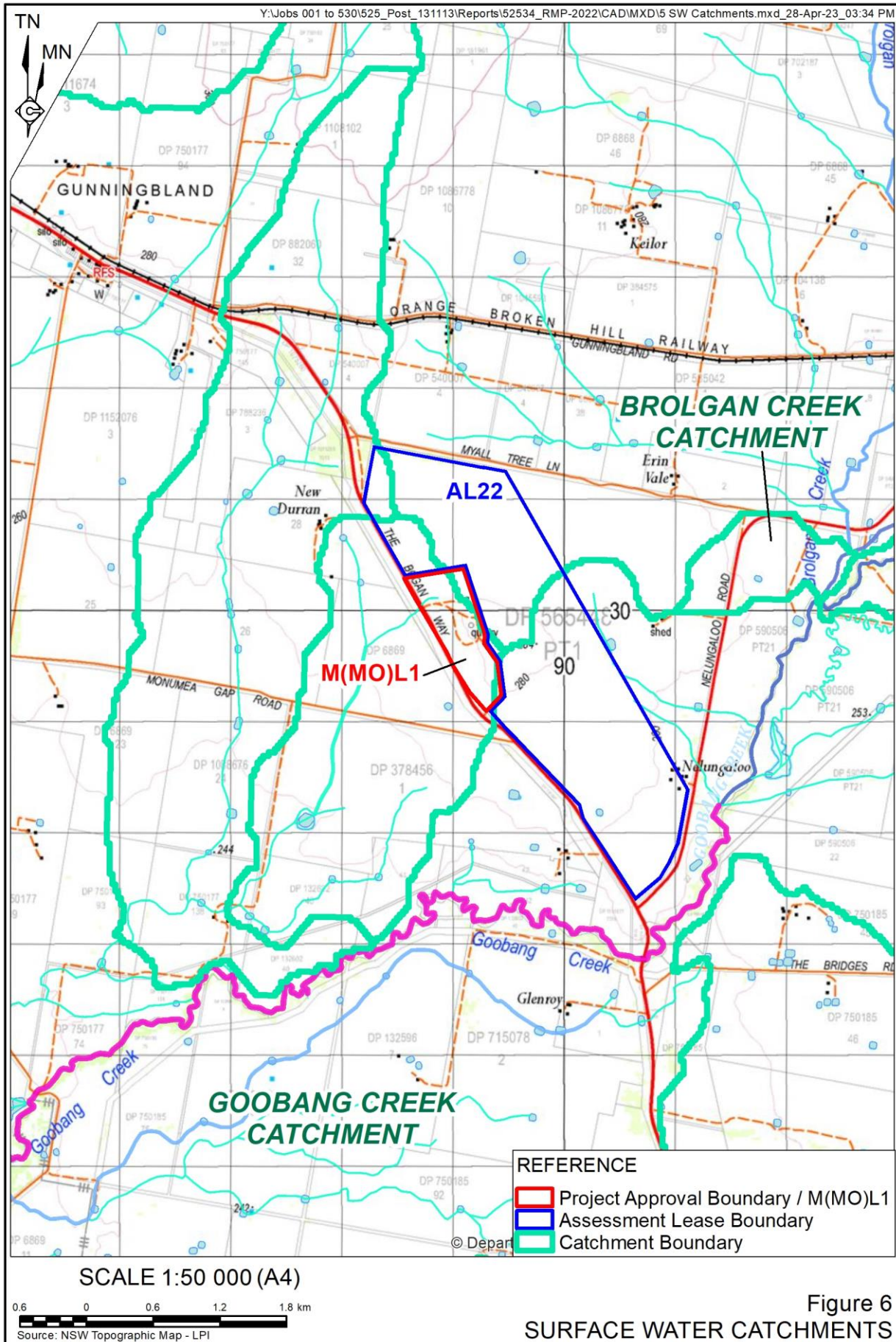


Figure 4
LAND USE





2. Final Land Use

2.1 Regulatory Requirements for Rehabilitation

Table 4 presents the regulatory requirements for rehabilitation of the Mine.

2.2 Final Land Use Options Assessment

A final land use options assessment is not required as Condition 14 of DA 00120 states that works and activities are to be undertaken in accordance with the documents supplied, which includes the Statement of Environmental Effects (SoEE) Modification for the Nelungaloo Limestone Mine (RWC, 2008). Section 2.8.1 of the SoEE (RWC, 2008) states that final rehabilitation is detailed within the Environmental Impact Statement for the Nelungaloo Limestone Mine (EIS) (RWC, 2000).

2.3 Final Land Use Statement

The EIS (RWC, 2000) details rehabilitation to achieve the final land use as follows.

- Areas of replaced topsoil and long-term soil stockpiles will be sowed with a cover crop to ensure that soils are maintained in a biologically active state and avoid erosion.
- Overburden placed within the bund walls is shaped, covered with topsoil and stabilised with vegetation.
- Internal roads to be ripped and sown with vegetation.
- Backfilled areas in the southern sections of the final void are seeded with a pasture mix.
- The Mine Site floor will be covered in overburden, but no other rehabilitation activities are proposed for the Final Void.

The planned final landform and land use are discussed further in Section 5.1.

2.4 Final Land Use and Mining Domains

The *Form and Way: Rehabilitation Management Plan for Large Mines (July 2021)* guideline defines a domain as follows.

“An area (or areas) of the land that has been disturbed by mining and has a specific operational use (mining domain) or specific final land use (final land use domain). Land within a domain typically has similar geochemical and/or geophysical characteristics and therefore requires specific rehabilitation activities to achieve the associated final land use.”

Table 4
Regulatory Requirements for Rehabilitation

Consent	Cond. No.	Requirement	Area	Timing	RMP Section
M(MO)L1	1	The lease holder must rehabilitate, to the satisfaction of the Director General, any land disturbed by prospecting or mining operations carried out under this mining lease.	Mine Site	During operation and rehabilitation	This document
	4	<p>Must prevent or minimise harm to the 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>(2) In this clause – harm to the environment has the same meaning as in the <i>Protection of the Environment Operations Act 1997</i>.</p>			
	5	<p>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 mining activities under the mining lease as soon as reasonably practicable after the disturbance occurs.</p>			Section 6.1
	6	<p>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 a 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>Note – clause 7 requires a rehabilitation risk assessment to be conducted whenever a hazard is identified under this subclause.</p> <p>(4) In this clause –</p> <p>final land use for the mining area means the final landform and final 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 <i>Environmental Planning and Assessment Act 1979</i>, or an approval under that Act, Division 5.1.</p>			Section 2, 3, 10

Table 4 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Cond. No.	Requirement	Area	Timing	RMP Section
M(MO)L1 (Cont'd)	7	<p>Rehabilitation risk assessment</p> <p>(1) The holder of a mining lease must conduct a risk assessment (<i>a rehabilitation risk assessment</i>) 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> <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>whenever given a written direction to do so by the Secretary.</p>			Section 3, 10
	9	<p>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 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>			This document

Table 4 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Cond. No.	Requirement	Area	Timing	RMP Section
M(MO)L1 (Cont'd)	10	<p>Rehabilitation management plans for large mines</p> <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> <ul style="list-style-type: none"> (a) a description of how the holder proposes to manage all aspects of the rehabilitation of the mining area, (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, (c) a summary of rehabilitation risk assessments conducted by the holder, (d) the risk control measures identified in the rehabilitation risk assessments, (e) the rehabilitation outcome documents for the mining lease, (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>(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> <ul style="list-style-type: none"> (a) must implement the matters set out in the rehabilitation management plan, and (b) if the forward program specifies timeframes for the implementation of the matters—must implement the matters within those timeframes. 			This document
	11	<p>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> <ul style="list-style-type: none"> (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. 			Section 11

Table 4 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Cond. No.	Requirement	Area	Timing	RMP Section
M(MO)L1 (Cont'd)	12	<p>Rehabilitation outcome documents</p> <p>(1) The holder of a mining lease must prepare the following documents (<i>the rehabilitation outcome documents</i>) for the mining lease and give them to the Secretary for approval—</p> <ul style="list-style-type: none"> (a) the <i>rehabilitation objectives statement</i>, which sets out the rehabilitation objectives required to achieve the final land use for the mining area, (b) the <i>rehabilitation completion criteria statement</i>, which sets out criteria, the completion of which will demonstrate the achievement of the rehabilitation objectives, (c) for a large mine, the <i>final landform and rehabilitation plan</i>, showing a spatial depiction of the final land use. <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>			Section 2.2, 4, 5
	13	<p>Forward program and annual rehabilitation report</p> <p>(1) The holder of a mining lease must prepare a program (a <i>forward program</i>) for the mining lease that includes the following—</p> <ul style="list-style-type: none"> (a) a schedule of mining activities for the mining area for the next 3 years, (b) a summary of the spatial progression of rehabilitation through its various phases for the next 3 years, (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>(2) The holder of a mining lease must prepare a report (an <i>annual rehabilitation report</i>) for the mining lease that includes—</p> <ul style="list-style-type: none"> (a) a description of the rehabilitation undertaken over the annual reporting period, (b) a report demonstrating the progress made through the phases of rehabilitation provided for in the forward program applying to the reporting period, (c) a report demonstrating progress made towards the achievement of the following— <ul style="list-style-type: none"> (i) the objectives set out in the rehabilitation objectives statement, (ii) the criteria set out in the rehabilitation completion criteria statement, (iii) for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan. 			Section 11

Table 4 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Cond. No.	Requirement	Area	Timing	RMP Section
M(MO)L1 (Cont'd)	13 (Cont'd)	<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>if the Secretary approves another date in relation to the mining lease— the other date</p>			
	14	<p>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> <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>			Section 11

Table 4 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Cond. No.	Requirement	Area	Timing	RMP Section
M(MO)L1 (Cont'd)	15	<p>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> <ul style="list-style-type: none"> (a) prepare a rehabilitation management plan, and (b) prepare rehabilitation outcome documents and give them, other than the rehabilitation completion criteria statement, to the Secretary for approval, and (c) prepare a forward program and give it to the Secretary. <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> <ul style="list-style-type: none"> (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 (b) a later date approved by the Secretary. <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> <ul style="list-style-type: none"> (a) 60 days after a development consent is modified following an application referred to in clause 20(1)(b), or (b) a later date approved by the Secretary. <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— initial period means the period commencing when the mining lease is granted and ending—</p> <ul style="list-style-type: none"> (a) 30 days, or other period approved by the Secretary, after this Division first applies to the mining lease, or (b) if this Division applies to the mining lease because of an increase in the required security deposit— <ul style="list-style-type: none"> (i) when the surface of the mining area is disturbed by activities under the mining lease, or (ii) at a later date approved by the Secretary. 			Noted

Table 4 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Cond. No.	Requirement	Area	Timing	RMP Section
M(MO)L1 (Cont'd)	16	<p>Certain documents to be publicly available</p> <p>(1) This clause applies to the following documents—</p> <ul style="list-style-type: none"> (a) a rehabilitation management plan, (b) a forward program, (c) an annual rehabilitation report. <p>(2) The holder of a mining lease must make a document to which this clause applies publicly available by—</p> <ul style="list-style-type: none"> (a) publishing it on its website in a prominent position, or (b) if the holder does not have a website— providing a copy of it to a person— <ul style="list-style-type: none"> (i) on the written request of a person, and (ii) without charge, and (iii) within 14 days after the request is received. <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> <ul style="list-style-type: none"> (a) for a rehabilitation management plan—within 14 days after it is prepared or amended, or (b) for a forward program or an annual rehabilitation report—within 14 days after it is given to the Secretary or amended, <p>(4) Personal information within the meaning of the <i>Privacy and Personal Information Protection Act 1998</i> is not required to be included in a document made available to a person under this clause.</p>			Noted
	17	<p>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>			Section 7

Table 4 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Cond. No.	Requirement	Area	Timing	RMP Section
M(MO)L1 (Cont'd)	18	<p>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> <p>(a) a condition of the mining lease, or Note— The Act, section 364A contains provisions relating to the use and disclosure of information provided under this condition.</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>			Noted
DA00120	1	Undertake development in accordance with the plans and supporting documentation submitted in support of Development Application No. DA00120 except where modified by the following conditions.	Mine Site	During operations	This document
	4	All practicable measures must be taken to prevent and minimise harm to the environment as a result of the construction, operation and, where relevant, the decommissioning of the development			
	56	Compensatory replanting should use locally indigenous native plant species grown from a local seed source where possible.		During rehabilitation	Section 6
	57	In the event that mining works uncover aboriginal sites/relics, all excavation works are to immediately cease in the area and the Council and National Parks and Wildlife Service shall be advised.		During operations and rehabilitation	Section 6.2.1.13
	64	The practises and environmental safeguards relating to Flora and Fauna (Section 4.9, pages 4-30 to 4-32 of the EIS) are to be applied.			Sections 6.2.1.2-6.2.1.3

Table 4 (Cont'd)
Regulatory Requirements for Rehabilitation

Page 9 of 9

Consent	Cond. No.	Requirement	Area	Timing	RMP Section
AL22	1	The lease holder must carry out the operations, and any other activities, described in the work program and comply with any commitments in relation to the conduct of operations specified in the work program, as for the time being in force, in respect of this lease.	Mine Site	During operations and rehabilitation	This document
	3	The lease holder must prevent, or if that is not reasonably practicable, minimise so far as is reasonably practicable, any harm to the environment arising from activities carried out under this lease.			
	5	The lease holder must carry out rehabilitation of all disturbance caused by activities carried out under this lease in accordance with the requirements in Part B of the Exploration Code of Practice – Rehabilitation (NSW Department of Planning and Environment) to the satisfaction of the Minister.			

2.4.1 Final Land Use Domains

Table 5 identifies the final land use domains for the Mine Site.

Table 5
Final Land Use Domains

Final Land Use Domain	Domain ID ¹	Domain Description
Native Ecosystem	A	This domain includes the rehabilitated Western Bund that provides an attractive visual screen of locally endemic species around the Mine Site.
Agricultural - Grazing	B	This domain includes the Temporary Materials Storage Area, the South-eastern backfill area and South-eastern battered area to be planted with cover crops and tree lots.
Water Management Area	F	This domain includes Sediment Basin 1 and 2 which will be retained in the final landform for future stock use.
Infrastructure	I	This domain includes the retained Site Access Road.
Final Void	J	This domain includes the pit which will be subject to overburden placement to enable the growth of scattered trees.

Note 1: See Plan 1

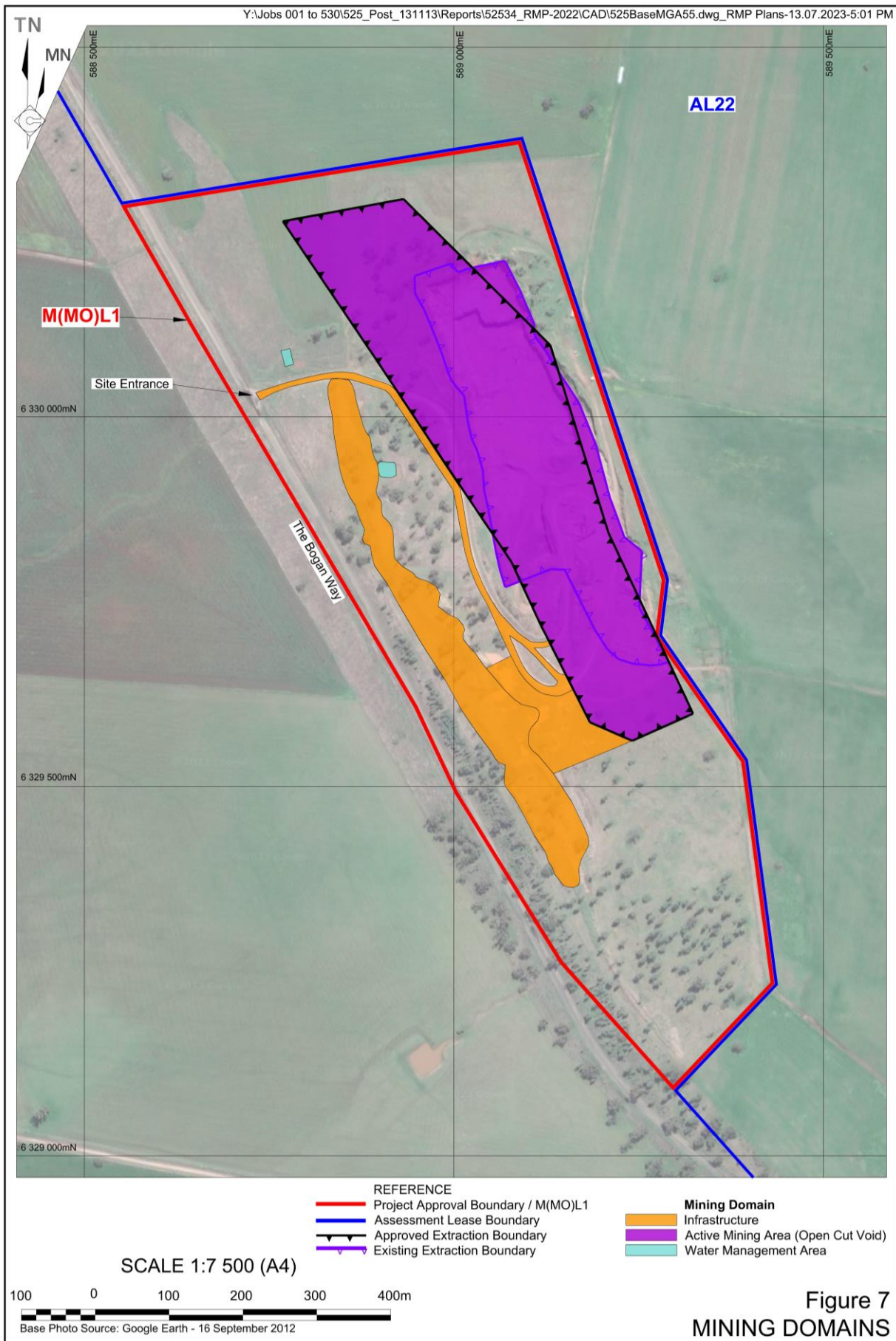
2.4.2 Mining Domains

Table 6 and Figure 7 identify the mining domains for the Mine Site.

Table 6
Mining Domains

Mining Domain	Domain ID ¹	Domain Description
Infrastructure Area	1	This domain includes: <ul style="list-style-type: none"> the Site Access Road and internal access roads; the Temporary Material Storage Area; and the Western Bund.
Water Management Area	3	This domain includes Sediment Basin 1 and 2.
Active Mining Area (Open Cut Void)	5	This domain includes all areas that will be the subject of extraction operations.

Note 1: See Figure 7



3. Rehabilitation Risk Assessment

The risk assessment was undertaken generally in accordance with *AS/NZS ISO 31000:2018 Risk Management – Principles & Guidelines*.

For each identified risk to rehabilitation, potential adverse outcomes were identified and allocated a risk rating based on the potential consequences and likelihood of occurrence. **Tables 7, 8 and 9** present the consequence, likelihood and risk rating used during this analysis. Where risks were classified as “Moderate” or above, a Trigger Action Response Plan has been developed and is presented in Section 10.

Table 10 presents a summary of the risk analysis, showing risks classified as moderate or above when assuming the implementation of standard mitigation measures and those outlined within this Plan. A copy of the full risk assessment is presented as **Appendix 1** and will be maintained on site as a record in accordance with Clause 17 of Schedule 8A of the Mining Regulation 2016. Controls and/or assessments that are proposed but not yet implemented are indicated by *italicised red text*.

Table 7
Qualitative Consequence Rating

Level	Descriptor	Description
1	Negligible	No detrimental impact on the environment is measurable or envisaged.
2	Minor	An event which could have temporary and minor effects on the environment, such as a non-reportable environment incident.
3	Moderate	An event which would create substantial temporary or minor permanent damage to the environment, such as a reportable incident not likely to result in prosecution.
4	Major	An event which could have a substantial and permanent consequence to the environment such as an environmental incident which would result in prosecution, adverse local publicity and community complaints.
5	Severe	A major event which could cause severe damage to the environment with actual or potential loss of credibility with key stakeholders, environmental liability, regulatory intervention, national publicity/complaints, or could close the operation prematurely.
Note: Rating modified after AS/NZS ISO31000:2009 Risk Management – Principles and Guidelines		

Table 8
Qualitative Likelihood Rating

Level	Descriptor	Description
A	Certain	Is an ongoing occurrence or will occur under all conditions.
B	Almost Certain	Is expected to occur in most circumstances.
C	Likely	Will probably occur in most circumstances.
D	Possible	Might occur at some time.
E	Unlikely	Could occur at some time.
F	Rare	May occur only in exceptional circumstances.
G	Very Rare	Theoretically possible but not expected to occur.

Source: Rating modified after HB 89:2012 – Figure B7

Table 9
Qualitative Risk Rating

Likelihood	Consequences				
	Negligible 1	Minor 2	Moderate 3	Major 4	Severe 5
A (Certain)	M	H	H	VH	VH
B (Almost Certain)	M	H	H	VH	VH
C (Likely)	M	M	H	H	VH
D (Possible)	L	M	M	H	H
E (Unlikely)	L	L	M	M	H
F (Rare)	L	L	L	M	M
G (Very Rare)	L	L	L	L	M

Note: Rating modified after HB 89:2012 – Figure B8

Table 10
Summarised Rehabilitation Risk Assessment

Risk	Risk Control	Final Land Use Domain				Where Addressed in RMP
		Domain A: Native Ecosystem	Domain B: Agricultural- Grazing	Domain F: Water Management Area	Domain J: Final void	
Unstable landform due to erosion and/or mass movement issues associated with inappropriate design and/or quality assurance during landform construction.	Safe and stable Open Cut walls during mining operations. <i>Geotechnical assessment prior to relinquishment.</i>	L(G2)	M(E3)	L(G2)	M(F4)	6.2.3.4
Weed infestation associated with both introduction and control (or lack thereof).	Weed and pest control program.	M(D2)	M(D2)	NA	NA	6.2.1.11, 6.2.5, 8
Adverse weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change).	Meteorological monitoring. Rehabilitation planning/scheduling.	M(D3)	M(D3)	NA	NA	6.2.5, 8.2
Hazards associated with retained infrastructure.	Presence of security fencing. Presence of bunds. Maintenance of operational infrastructure. Inspection of retained roads and buildings prior to relinquishment. <i>Geotechnical assessment prior to relinquishment.</i>	NA	L(F2)	NA	M(D3)	
Adverse weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change).	Meteorological monitoring. Rehabilitation planning / scheduling.	M(D3)	M(D3)	NA	NA	6.2.6.3
Insufficient establishment of target species and limited species diversity.	Rehabilitation monitoring program. Passive recruitment.	M(E3)	M(E3)	NA	NA	6.2.6.3, 8
Erosion and failure of landform, drainage and water management/storage structures.	Erosion and sediment control structures. Visual inspection program.	L(F3)	L(F3)	L(F3)	M(D3)	6.2.6.2

4. Rehabilitation Objectives and Rehabilitation Completion Criteria

4.1 Introduction

Performance indicators and completion criteria provide a means by which the progress of rehabilitation can be measured to quantitatively demonstrate the successful achievement of a biophysical process, i.e., the standards that are to be met by successful rehabilitation.

4.2 Rehabilitation Objectives and Rehabilitation Completion Criteria

Table 11 provides the performance indicators and proposed completion criteria developed for the Mine to achieve the nominated post mining land use goals and rehabilitation objectives.

It is noted that details of monitoring undertaken against completion criteria will be reported through the respective annual rehabilitation reporting in addition to either a final rehabilitation report or relinquishment report.

Table 11
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Ref ¹	Rehabilitation Objective	Indicator	Rehabilitation Completion Criteria	Validation Method
Native Ecosystem	Infrastructure Area	A1	Free draining, safe, stable and non-polluting landform established.	Presence of erosion / sedimentation controls and monitored water quality.	No pooling of water observed within landform. No evidence of mass movement or erosion of the final landform Water quality meets the objective of Section 120 of the <i>Protection of the Environment Operations Act 1997</i> . 'Downstream' water quality monitoring records total suspended solids <50mg/L or within 10% of 'upstream' levels (whichever is the greater).	Relinquishment inspection and report, including photographs. Water quality testing. Monitoring reported annually through annual reporting.
			Establish soil / growth medium suitable for establishment of vegetation communities present.	Minimum growth medium depth of 150mm over domain.	Test pits	Test pit results, including photographs, included in relinquishment report.
			Establishment of vegetation communities with a similar species composition to the surrounding vegetation communities.	Groundcover and native tree and shrub species established.	Rehabilitation monitoring confirms the species established are consistent with surrounding vegetation / analogue sites not disturbed by mining activities.	Inspection by a suitably qualified individual using Landscape Function Analysis, vegetation quadrats or similar.
				Weeds are not competing or impacting on rehabilitated area.	Rehabilitation monitoring confirms the foliage cover of non-target species (weeds) is equivalent to surrounding vegetation / analogue sites not disturbed by mining activities.	
				Grazing by native, domestic and feral fauna not adversely impacting on ecosystem development.	Feral and native animal control programs implemented.	

Table 11 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Ref ¹	Rehabilitation Objective	Indicator	Rehabilitation Completion Criteria	Validation Method
Agricultural – Grazing	Active Mining Area	B1	All infrastructure not suitable for lawful final land use removed.	Infrastructure not required for final land use removed.	All relevant infrastructure removed.	Relinquishment inspection and report, including photographs.
			Free draining, safe, stable and non-polluting landform established.	All stockpiled material removed and surface appropriately profiled. Landform suitable for growth medium development.	No pooling of water observed within landform. No evidence of mass movement or erosion of the final landform	Relinquishment inspection and report, including photographs.
					Water quality meets the objective of Section 120 of the <i>Protection of the Environment Operations Act 1997</i> . 'Downstream' water quality monitoring records total suspended solids <50mg/L or within 10% of 'upstream' levels (whichever is the greater).	Surface water quality monitoring results
			Establish soil / growth medium suitable for pasture establishment.	Compacted surfaces deep ripped along contour.	Photographs of ripped areas.	Photographs included in a relinquishment report.
				Minimum growth medium depth of 150mm over domain.	Test pits	Test pit results, including photographs, included in relinquishment report.
			Establishment of vegetation communities with a similar species composition to the surrounding vegetation communities.	Pasture species established.	Rehabilitation monitoring confirms the species established are consistent with target pasture species.	Inspection and report prepared by a suitably qualified individual.
				Weeds are not competing or impacting on rehabilitated area.	Rehabilitation monitoring confirms the foliage cover of non-target species (weeds) is equivalent to surrounding vegetation / analogue sites not disturbed by mining activities.	
				Grazing by native, domestic and feral fauna not adversely impacting on ecosystem development.	Domestic grazing animals are excluded from the rehabilitation area during the ecosystem development phase, except where required for ecosystem development. Feral and native animal control programs implemented.	

Table 11 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Ref ¹	Rehabilitation Objective	Indicator	Rehabilitation Completion Criteria	Validation Method	
Agricultural – Grazing (Cont'd)	Active Mining Area (Cont'd)	B1	Land capability similar to pre-mining capability (Class 6).	Land capability.	Land capability, assessed in accordance with OEH (2012), of Class 6.	Assessment report prepared by suitably qualified person.	
				Agricultural productivity.	Agricultural productivity trending towards analogue sites and consistent with Land Capability Class VI established in OEH, 2012.		
	Infrastructure Area	B5	Free draining, safe, stable and non-polluting landform established.	All stockpiled material removed and surface appropriately profiled. Landform suitable for growth medium development.	No pooling of water observed within landform. No evidence of mass movement or erosion of the final landform	Relinquishment inspection and report, including photographs.	
					Water quality meets the objective of Section 120 of the <i>Protection of the Environment Operations Act 1997</i> . 'Downstream' water quality monitoring records total suspended solids <50mg/L or within 10% of 'upstream' levels (whichever is the greater).		Surface water quality monitoring results
				Establish soil / growth medium suitable for pasture establishment.	Compacted surfaces deep ripped along contour.	Photographs of ripped areas.	Photographs included in a relinquishment report.
					Minimum growth medium depth of 150mm over domain.	Test pits	Test pit results, including photographs, included in relinquishment report.
				Establishment of vegetation communities with a similar species composition to the surrounding vegetation communities.	Pasture species established.	Rehabilitation monitoring confirms the species established are consistent with target pasture species.	Inspection and report prepared by a suitably qualified individual.
					Weeds are not competing or impacting on rehabilitated area.	Rehabilitation monitoring confirms the foliage cover of non-target species (weeds) is equivalent to surrounding vegetation / analogue sites not disturbed by mining activities.	

Table 11 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Ref ¹	Rehabilitation Objective	Indicator	Rehabilitation Completion Criteria	Validation Method
Agricultural – Grazing (Cont'd)	Infrastructure Area (Cont'd)	B5	Establishment of vegetation communities with a similar species composition to the surrounding vegetation communities. (Cont'd)	Grazing by native, domestic and feral fauna not adversely impacting on ecosystem development.	Domestic grazing animals are excluded from the rehabilitation area during the ecosystem development phase, except where required for ecosystem development. Feral and native animal control programs implemented.	Assessment report prepared by suitably qualified person.
			Land capability similar to pre-mining capability (Class 6).	Land capability.	Land capability, assessed in accordance with OEH (2012), of Class 6.	
				Agricultural productivity.	Agricultural productivity trending towards analogue sites and consistent with Land Capability Class VI established in OEH, 2012.	
Water Management Area	Water Management Area	F3	Retained water management structures are stable and permanent	Clean water diversion in stable and capable of transferring surface water flows at non-erosive velocities.	Clean water diversion does not show signs of active erosion and is assessed to be stable.	Relinquishment inspection and report, including photographs.
			Domain is stable and non-polluting.	Landform and retained water management structures are non-polluting.	Water quality meets the objective of Section 120 of the <i>Protection of the Environment Operations Act 1997</i> . 'Downstream' water quality monitoring records total suspended solids <50mg/L or within 10% of 'upstream' levels (whichever is the greater).	Water quality testing.
				Presence of erosion / sedimentation.	No "active" erosion or sedimentation visible.	Relinquishment inspection and report, including photographs
Infrastructure	Infrastructure	I1	Those sections of roads/tracks to be retained for a lawful final land use reduced in width/ size to that suitable for final land use.	Roads required for final land use are reduced in width (if required).	Road to be retained reduced in width to that suitable for final land use, nominally 4m wide.	

Table 11 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Ref ¹	Rehabilitation Objective	Indicator	Rehabilitation Completion Criteria	Validation Method
Final Void	Active Mining Area	J5	All infrastructure and services not suitable for lawful final land use will be removed.	Infrastructure not required for final land use removed.	All relevant infrastructure removed.	Relinquishment inspection and report, including photographs.
			Domain is free from hazardous materials and contaminants.	Contaminated land identified and remediated.	Contaminated land assessment indicates contamination acceptable for final land use.	Contamination report prepared by qualified person.
				No hazardous materials remain.	All hazardous materials removed.	
			Final landforms are safe and stable.	Terminal walls appropriately profiled and stable.	Geotechnical assessment based on site specific review determines that the retained walls are not likely to actively erode or 'slip' to an extent requiring further earthworks.	Geotechnical review / report plan(s) prepared by a suitably qualified person included in relinquishment report.
				Construction of safety bunds around void perimeter.	Safety bunds constructed.	Visual inspection completed by site personnel. Relinquishment inspection and report, including photographs.
				Overburden and soil placed on final floor of the extraction area.	All overburden and growth medium material removed from northern bund and spread over extraction area floor.	Visual inspection completed by site personnel.
Domain is non-polluting.	Landform and retained water management structures are non-polluting.	Water quality meets the objective of Section 120 of the <i>Protection of the Environment Operations Act 1997</i> .	Water quality testing.			
All domains			Demonstrated compliance with all performance indicators for Phases 1 to 5.			Single occurrence relinquishment inspection and report prepared following decommissioning and by a suitably qualified or experienced person(s).

4.3 Rehabilitation Objectives and Rehabilitation Completion Criteria – Stakeholder Consultation

Table 12 presents a summary of consultation undertaken with relevant stakeholders with regards to the rehabilitation objectives, rehabilitation completion criteria and proposed final land uses and landforms presented in this Plan. This table will be updated with each revision to this Plan to include details of any further consultation with relevant and interested stakeholders.

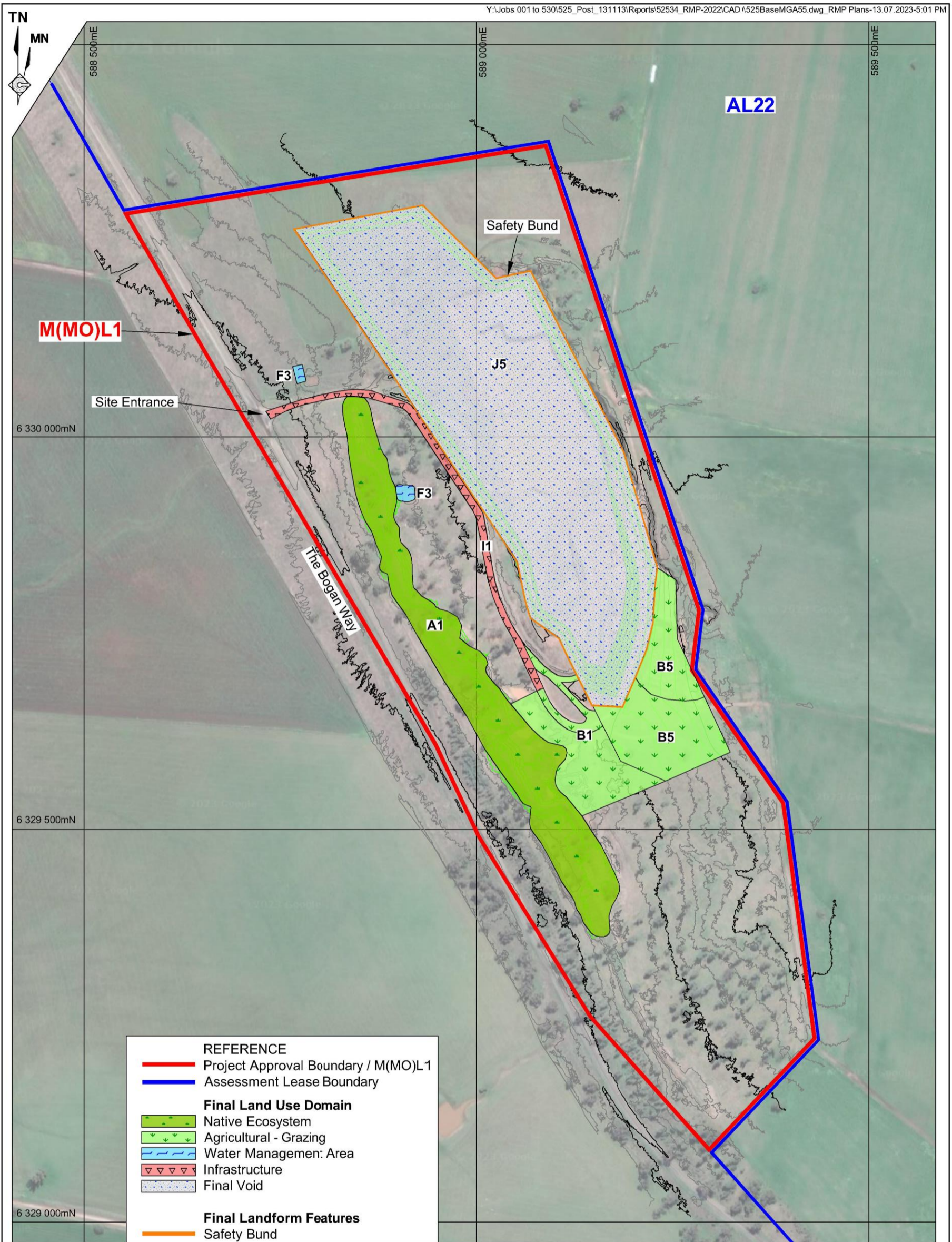
Table 12
Consultation Undertaken

Stakeholder	Consultation Activities
Peak Hill Local Aboriginal Land Council	<ul style="list-style-type: none"> Form of Consultation: Letter (email transmission). Date: 27 May 2022. Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. Outcomes: No response received by 15 June 2023.
Parkes Shire Council	<ul style="list-style-type: none"> Form of Consultation: Letter (email transmission). Date: 27 May 2022. Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. Outcomes: No response received by 15 June 2023.
Environmental Protection Authority	<ul style="list-style-type: none"> Form of Consultation: Letter (email transmission). Date: 27 May 2022. Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. Outcomes: No response received by 15 June 2023.
Resources Regulator	<ul style="list-style-type: none"> Form of Consultation: Letter (email transmission). Date: 27 May 2022. Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. Outcomes: No response received by 15 June 2023.
Landholder: Jeanette Barnes	<ul style="list-style-type: none"> Form of Consultation: Letter Date: 27 May 2022. Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. Outcomes: No response received by 15 June 2023.

5. Final Landform and Rehabilitation Plan

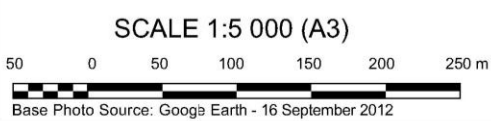
5.1 Final Landform and Rehabilitation Plan

Plan 1 presents the final landform features for the Mine Site and **Plan 2** presents the final landform contours for the Mine Site.

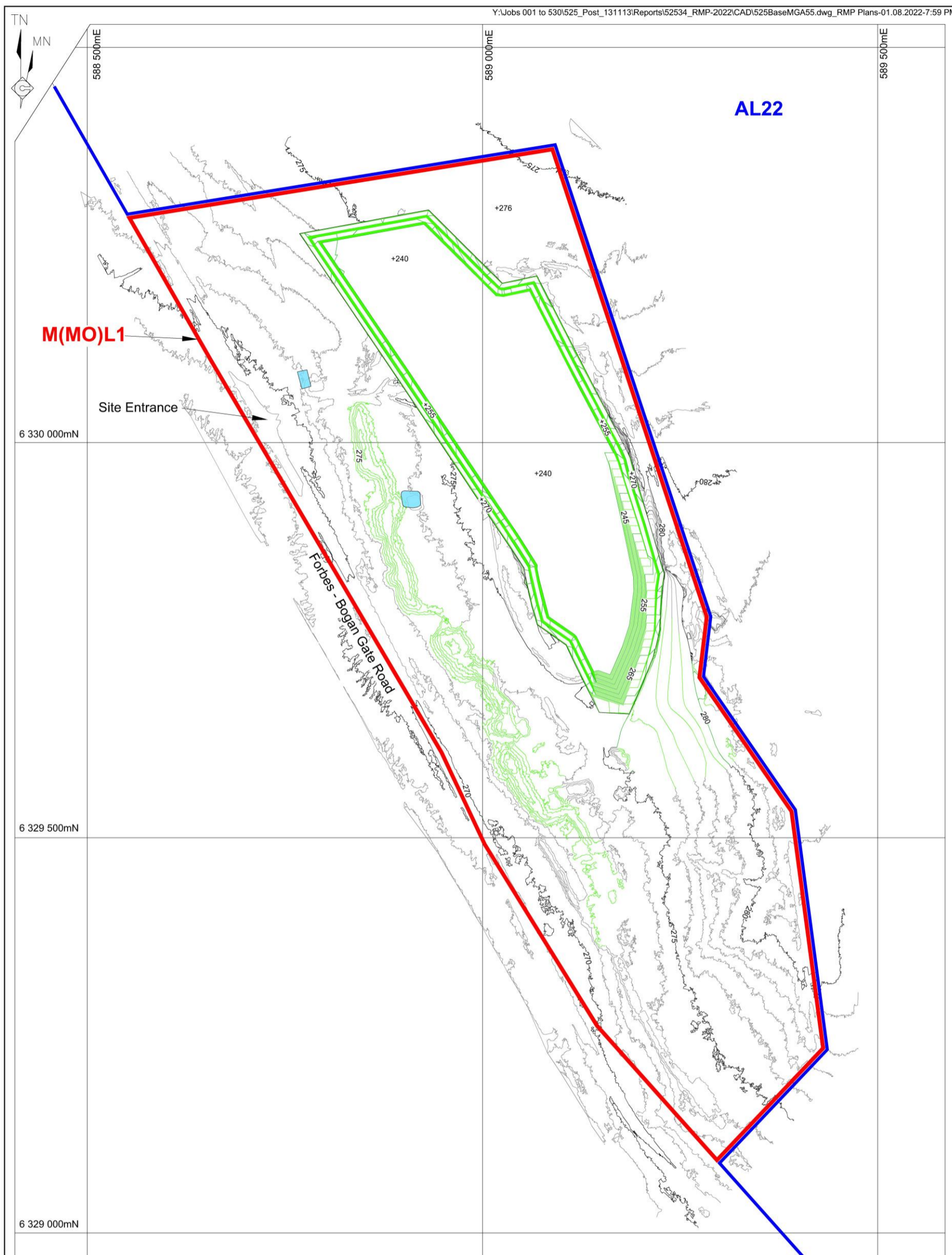


Mine Name	Nelungaloo Limestone Mine
Plan Name	Plan 1 Final Landform Features
Anticipated Year of Relinquishment	2040
Date Plan Created	13 July 2023
Data Theme	
Submission ID Numbers	

Final Land Use Domain	Mine Domain	Ref	Area (ha)
Native Ecosystem	Infrastructure Area	A1	3.8
Agricultural - Grazing	Active Mining Area (Open Cut Void)	B5	2.0
Agricultural - Grazing	Infrastructure Area	B1	1.3
Water Management Area	Water Management Area	F3	740m ²
Infrastructure	Infrastructure Area	I1	0.5
Final Void	Active Mining Area (Open Cut Void)	J5	12.0

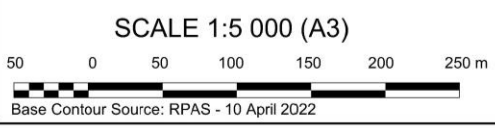


Plan 1
FINAL LANDFORM FEATURES



Mine Name	Nelungaloo Limestone Mine
Plan Name	Plan 2 Final Landform Contours
Anticipated Year of Relinquishment	2040
Date Plan Created	31 July 2022
Data Theme Submission ID Numbers	3038,3039,3040,3041,3042,3044,3045,3046

- REFERENCE
- Project Approval Boundary / M(MO)L1
 - Assessment Lease Boundary
 - 270 Existing Contour (mAHD)(Interval = 1m)
 - 250 Final Landform Contour (mAHD)(Interval = 1m)
 - +240 Spot Height (mAHD)



Plan 2
FINAL LANDFORM CONTOURS

6. Rehabilitation Implementation

6.1 Life of Mine Rehabilitation Schedule

The proposed final landform will include the following (**Plan 1**).

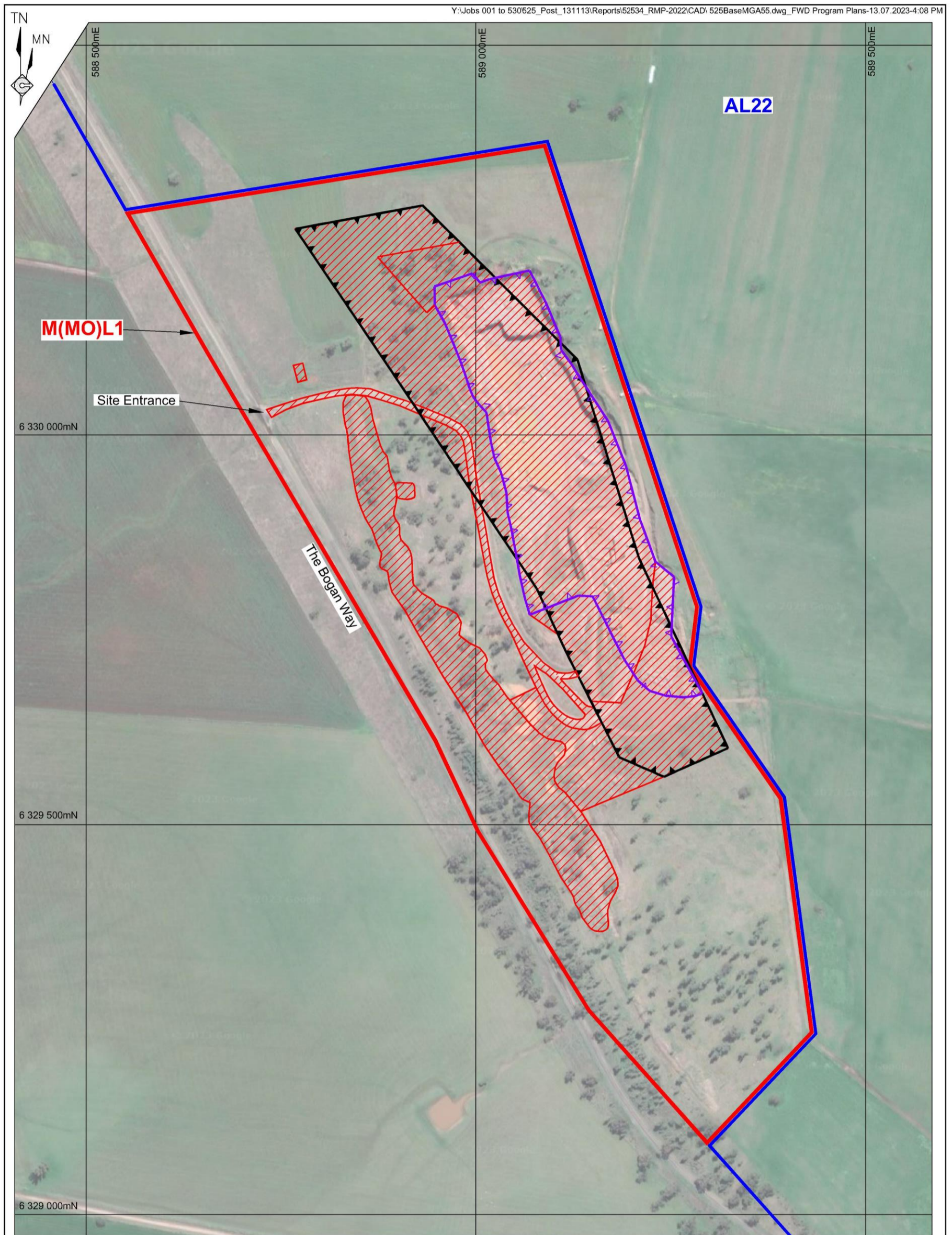
- A geotechnically stable final void with a maximum depth of 240m AHD
- A backfilled southeastern section of the final void with slopes no greater than 1:3 (V:H).
- Retained benches with approximately 0.5m of overburden.
- Retained final floor with a covering of overburden and soil.
- A safety bund will be retained on the boundary of the final void to prevent access to the highwall.
- All other areas will be returned to the pre-existing landform and all infrastructure will be removed.

The final land use for the Nelungaloo Limestone Mine would be agriculture, namely a stock shelter, provided sufficient surface water can be collected and stored on the mine floor.

Prior to the cessation of mining operations, rehabilitation will only be undertaken in areas which are no longer required for operational purposes. As the extent of disturbance at the Mine is largely confined to operational areas to support ongoing mining activities as well as storage areas for rehabilitation materials (i.e. topsoil stockpiles), opportunities for progressive rehabilitation prior to the completion of mining operations are limited.

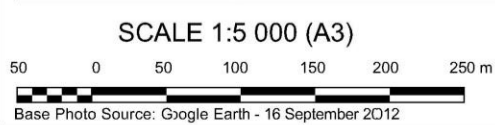
Figure 7 depicts the current extent of disturbance at the Mine Site (i.e. the Mining Domains). **Plan 3A to 3C** shows the indicative rehabilitation schedule for the Mine Site consistent with the approved mining sequencing. The timing for progression of extraction has not been defined as mining progress is dependent on demand for limestone each year, which is ultimately contingent on climatic conditions and agricultural cycles.

In summary, the rehabilitation schedule identifies that the Extraction Area will only be available for rehabilitation following the cessation of mining. Following the cessation of mining operations, all Mining Domains will be subject to the decommissioning, landform establishment, growth medium development and ecosystem and land use establishment rehabilitation phases as outlined in Section 6.2.



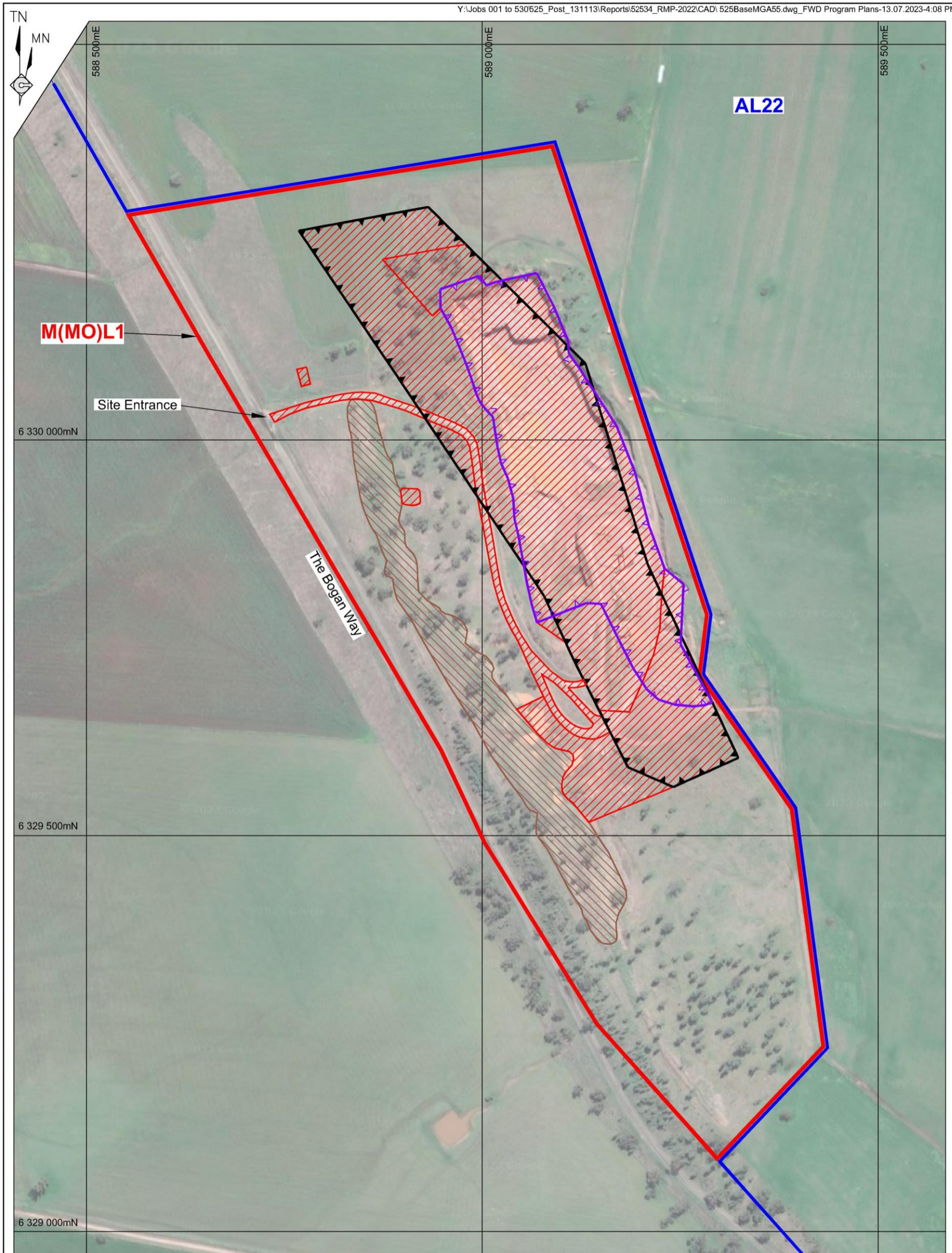
Mine Name	Nelungaloo Limestone Mine
Plan Name	Plan 3A Life of Mine Schedule - Year 5
Anticipated Year of Relinquishment	2040
Date Plan Created	13 July 2023
Data Theme Submission ID Numbers	

- REFERENCE**
- Project Approval Boundary / M(MO)L1
 - Assessment Lease Boundary
 - Approved Extraction Boundary
 - Existing Extraction Boundary
- Rehabilitation Forecast**
- ▨ Forecast Disturbance
 - ▨ Forecast Land Prepared for Rehabilitation



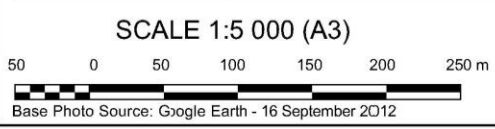
Plan 3A
LIFE OF MINE SCHEDULE - YEAR 5

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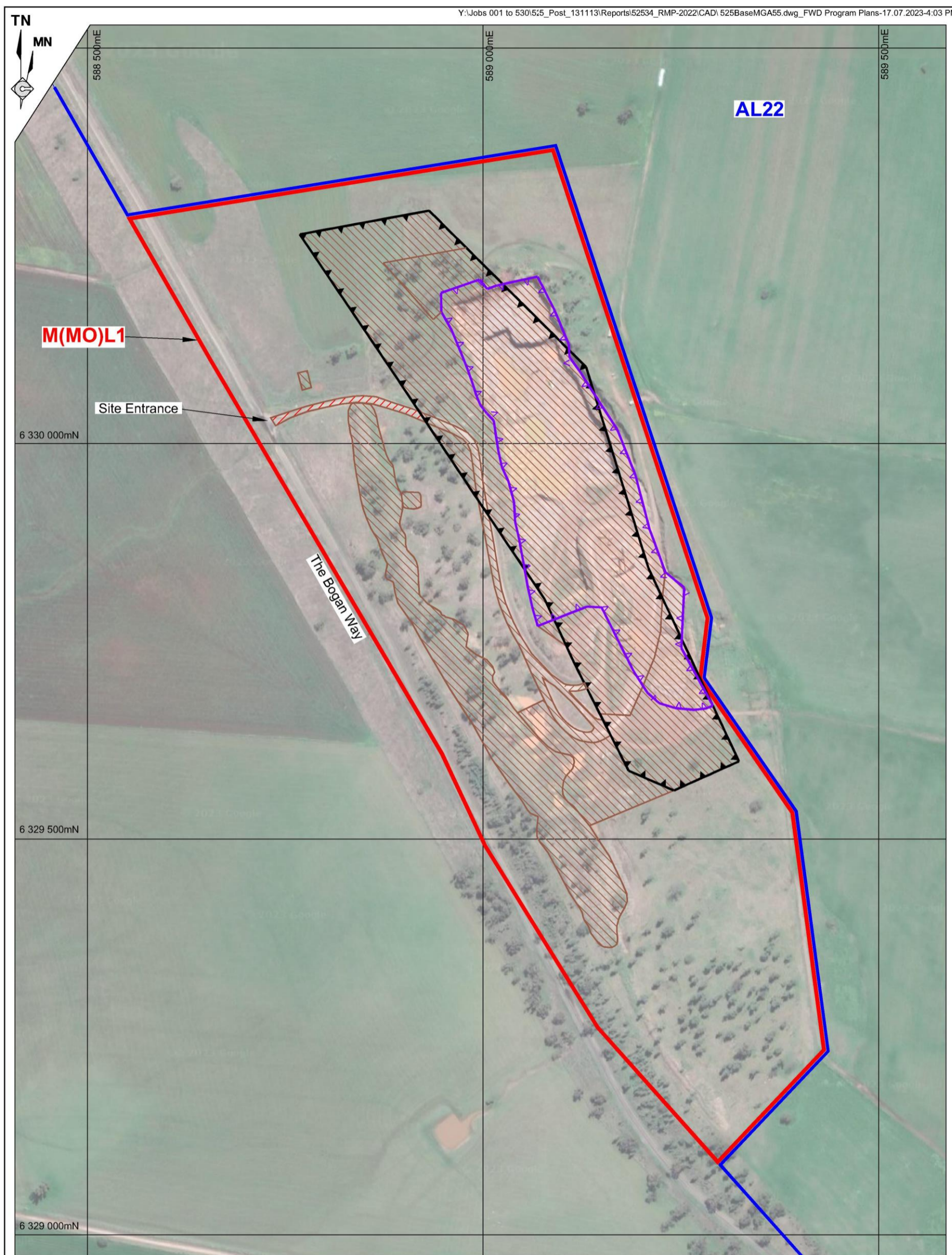


Mine Name	Nelungaloo Limestone Mine
Plan Name	Plan 3B Life of Mine Schedule - Year 10
Anticipated Year of Relinquishment	2040
Date Plan Created	13 July 2023
Data Theme	
Submission ID Numbers	

- REFERENCE**
- ▬▬ Project Approval Boundary / M(MO)L1
 - ▬▬ Assessment Lease Boundary
 - Approved Extraction Boundary
 - Existing Extraction Boundary
- Rehabilitation Forecast**
- ▨▨▨ Forecast Disturbance
 - ▨▨▨ Forecast Land Prepared for Rehabilitation

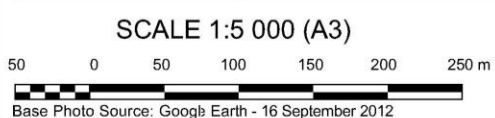


Plan 3B
LIFE OF MINE SCHEDULE - YEAR 10



Mine Name	Nelungaloo Limestone Mine
Plan Name	Plan 3C Life of Mine Schedule - Relinquishment
Anticipated Year of Relinquishment	2040
Date Plan Created	13 July 2023
Data Theme	
Submission ID Numbers	

- REFERENCE**
- Project Approval Boundary / M(MO)L1
 - Assessment Lease Boundary
 - ▲ Approved Extraction Boundary
 - ▲ Existing Extraction Boundary
- Rehabilitation Forecast**
- ▨ Forecast Disturbance
 - ▨ Forecast Land Prepared for Rehabilitation



Plan 3C
LIFE OF MINE SCHEDULE -
RELINQUISHMENT

6.2 Phases of Rehabilitation and General Methodologies

6.2.1 Active Mining Phase

6.2.1.1 Soils and Materials

An understanding of the soils across the Mine Site have been drawn from data published by the Department of Land and Water Conservation (DL&WC) (King, 1998) and a site investigation conducted on 15 April 2000 by Geoff Cunningham Natural Resources Consultants Pty Ltd (GCNR, 2000a).

King (1998) notes that soils overlying limestone bedrock, in the undulating plains and hills west of Parkes, are shallow to moderately deep (<800mm) Terra Rossa soils derived from the limestone. The field survey involved the sampling and description of two soil profiles within the Mine Site. One profile was located on an upper slope area and the other profile was from a midslope area. The soil profiles established that the soils are similar to the Terra Rossa soils recorded by King (1998) for soils overlying limestone bedrock.

The soils on the Mine Site are shallow with clay loam to clay topsoils and clay subsoils. The soil surfaces are hard-setting and the soil is generally well structured. The soil pH is neutral to alkaline at the surface and alkaline to strongly alkaline at depth.

Approximately 10 000m³ of topsoil and 40 000m³ of overburden have been cleared from disturbance areas within the Mine Site. An estimated 28 000m³ of topsoil and 175 000m³ of overburden remains to be cleared over the life of the Mine from undisturbed areas of the Mine Site.

The depth of stripping will depend on soil depth and presence of rocky outcrops near the surface. The stripped soil is directly placed onto the Western Bund onto areas which have been reprofiled following the completion of extraction activities. Whilst growth medium volumes are difficult due to variability in depth across the Mine Site, the Company anticipates that adequate growth medium will be stockpiled or sourced for rehabilitation of the Mine Site.

The top 300mm of soil, where present, is pushed off the extraction area using a bulldozer, loaded into a truck and transported to the Western Roadside Bund adjacent to the dam. The topsoil is stockpiled for a short period (a few weeks) whilst the overburden is removed and placed around the Dam (upslope from the stockpiled topsoil). As there is limited topsoil available on the site due to rock outcropping, all extracted overburden is screened to separate material <10mm in size. This small material is being stockpiled for use in rehabilitation as topsoil.

The following growth medium stripping, stockpiling and management measures will be implemented.

- Undertake soil stripping using an excavator and truck to minimise structural degradation of the soils.
- Undertake extraction of growth medium materials only during favourable conditions (i.e. not during excessively windy or wet conditions).

- Maintain an inventory of stockpiled growth medium and ensure that adequate growth medium is available throughout the life of the Mine to rehabilitate disturbed sections of the Mine Site.
- Recover additional growth media from clay filled voids within the limestone during extraction operations.
- Place stripped topsoil adjacent to the Western Roadside Bund for only a short period whilst the overburden is positioned in the location of the bund wall. The topsoil would then be placed over the surface of the shaped bund wall to stabilise the outer surface of the bund wall.
- Signpost areas where growth medium is stockpiled.
- Stockpile stripped soil from the remainder of the Overall Mine Site in the north-eastern corner of the Mine Site to a maximum depth of 1m. Side slopes of the stockpile would be approximately 1:4 (V:H).
- Sow stockpiles stripped across bund wall surfaces or stockpiles with a pasture mix soon after placement. The vegetation on the stockpiles would be managed for weeds throughout the life of the Mine to ensure weeds are not transported to rehabilitation areas using the topsoil.

6.2.1.2 Flora

Three vegetation communities were identified by GCNR (2000b) within the Mine Site as follows (Figure 5).

- Community 1 – Cultivated Country.
- Community 2 – Open Grazing Country – Treeless or with Scattered Kurrajong (*Brachychiton populneus*) Trees – Uncultivated.
- Community 3 – Bimble Box (*Eucalyptus populnea* spp. *bimbil*) – Grey Box (*Eucalyptus microcarpa*) – White Cypress Pine (*Callitris glaucophylla*) – Yellow Box (*Eucalyptus melliodora*) Community.

No threatened flora or Endangered Ecological Communities have been identified as occurring within the Mine Site. Much of the area that has been disturbed as a result of mining activities was open grazing country and cultivated country, with groundcover species dominated by introduced species.

The following vegetation management measures will be implemented at the Mine Site.

- Confine vegetation clearing to only those areas that are affected by mining-related activities on the Mine Site (including bund wall construction). Progressive clearing will be undertaken wherever possible, particularly in the area of the bund wall construction. All other vegetation will be retained.
- Retained and stockpile cleared vegetation (i.e. woody debris) on site for later use during rehabilitation.

- Ensure the vegetation species planted are representative of the existing native vegetation community.
- Undertake weed eradication across the Mine Site on an as-needed basis.
- Use cover crops and mulch to maintain biological activity within topsoil stockpiles where stockpiles are retained for extended periods (e.g. more than three months).

The health of the existing trees and pastures are to be monitored. Signs of pests are also to be monitored. The success of existing trees and pastures can be used when selecting species for pasture seeding and Mine screening.

6.2.1.3 Fauna

A fauna survey of the Mine Site was undertaken by Countrywide Ecological Service in conjunction with Cygnet Surveys & Consultancy in April 2000. No threatened fauna species were identified. Although Bimble Box (a species listed as a Koala Feed Tree species) is located on the Mine Site, no significant area of prime or potential Koala habitat is affected by operations, and no evidence of Koalas was found.

The Company will undertake the following safeguards to minimise impacts on native fauna and their habitats.

- Clearing of remnant vegetation would be confined only to those areas affected by mining-related activities on the Mine Site.
- Aligned the internal access road to minimise clearing of native vegetation.
- Clearing of trees, including dead trees, and particularly mature and large trees, will be carried out in late spring or early autumn, where practicable. If clearing of mature, large trees outside of the late spring or early autumn period is unavoidable, then the Company will inspect these trees for nesting birds and over-wintering bats in any hollows and provide for relocation of these animals.
- Locate areas of tree planting and regeneration adjacent to remnant vegetation, where practicable, to encourage the formation of wildlife corridors.
- Undertake tree planting activities as soon as practicable to maximise areas of habitat.

Given the relatively small area that is disturbed by the Mine, and that the Mine Site has been intensively grazed or cultivated for years, the operation is unlikely to have significant impacts on native fauna and their habitats.

6.2.1.4 Rock/Overburden Emplacement

Two classes of production waste are generated by the Mine, overburden and undersize (<5mm). Overburden is typically clay-contaminated limestone that occurs close to the natural surface or in voids within the limestone. This material has a high level of impurities that make it unsuitable to process.

An estimated 10 000m³ of topsoil and 40 000m³ of overburden occurred within the initial Mine Site. As there is limited topsoil available on the site due to rock outcropping, all extracted overburden is screened to separate material <10mm in size. This small material is being stockpiled for use in rehabilitation as topsoil. Additionally, the Company occasionally produces a civil construction product using overburden and undersize material. That product is sold for road construction of backfilling purposes; however, demand is variable, and the volumes are limited. All overburden is removed by excavator with particular attention taken to clean off as much of the iron-rich overburden to expose the fresh massive limestone. The overburden is placed within the footprint of the bund wall. These bund walls are shaped in a non-geometric manner and contoured with a concave/convex slope to limit visual impact when viewed externally. The outer slope of the bund wall will be in the order of 1:4 (V:H) whereas the internal batter will be at approximately 1:2 (V:H) once completed.

The bund walls are covered with topsoil and grassed using a pasture mix similar to that discussed above for the stored topsoil. The outer toe of the bund walls are planted with a range of trees in conjunction with the perimeter tree planting program.

Overburden and undersize material are either used to backfill a completed section of the open cut, referred to as the South-eastern Backfill Area, or to construct the Western Bund. The main components of the extent of backfilling within the South-eastern Mine area are:

- overburden will be placed to a depth of approximately 5m on both the 270m, AHD and 255m, AHD benches;
- up to 20m of overburden will be positioned within the floor of the mine; and
- all batter slopes formed on the placed overburden will be approximately 1:3 (V:H).

Once each of the backfilled areas is contoured to the final landform, topsoil will be retrieved from the long-term stockpile area to cover the shaped overburden. This material will be seeded with a pasture mix and once established will be planted with small clumps of native trees endemic to the area.

It is noted that the South-eastern Backfill Area was backfilled to the level of the fixed processing plant and that continued backfilling in that area will seek to re-establish the pre-existing landform in that area.

No waste rock emplacement is required. The risks from rock/overburden emplacements are considered to be negligible and no further specific risk controls are required.

6.2.1.5 Waste Management

Table 14 presents an estimate of the non-production wastes that will be generated during the life of the Mine and briefly describes how each class of waste will be stored and subsequently removed from the Mine Site.

Table 13
Non-Production Waste Management

Waste Type	Storage/Management	Removal
General waste (including food scraps)	Covered bins or skips located within office and workshop areas as required. Where located in open areas, the bins will be fitted with animal-proof lids.	Collected on a regular basis by a licensed waste contractor and transported to a licensed waste disposal/recycling facility.
General Recyclables		
Waste oils and greases	Placed within bunded tank(s) within the workshop area. Where required, smaller, temporary storage containers may be positioned close to work areas, with the contents of those containers transferred to a larger storage tank prior to collection.	Collected on a regular basis by a licensed waste contractor and transported to an appropriately licensed facility for recycling.
Contaminated soils	In the event soils are contaminated with hydrocarbons or chemicals that will be immediately collected and removed from the Mine Site to a licenced waste facility	
Batteries	Used batteries will be placed within a covered and marked used battery storage area until removed from site.	Used batteries will be collected on a regular basis by an appropriate contractor and recycled.
Tyres	Tyres will be placed within a marked used tyre storage area until removed from site or used for another purpose.	Collected on a regular basis by a licensed waste contractor and transported to a licensed waste disposal facility.
Scrap Steel/Metal	Stored in a specified areas within the workshop area or elsewhere as required.	Collected on a regular basis by a scrap metal recycler.
Waste water	Wastewater will be treated using a Council-approved waste water treatment facility, with treated water used to irrigate pasture within the Project Site.	

6.2.1.6 Geology and geochemistry

Material extracted within the Mine Site comprised the following.

- Limestone – which is crushed, screened, ground and used to produce agricultural lime.
- Clay infill material within voids in the limestone – this material is non-dispersive and will be retained as a growth medium for rehabilitation operations. Excess clay material will be blended into select products or sold as a growth medium.

There are no geological or geochemistry-related risks relevant associated with the above materials. As a result, geology- or geochemistry-related risks from rock/overburden emplacements are considered to be negligible and no specific risk controls are required.

6.2.1.7 Material Prone to Spontaneous Combustion

As no material within the Mine Site is prone to spontaneous combustion, no management measures related to spontaneous combustion are required.

6.2.1.8 Material Prone to Generating Acid Mine Drainage

As no material within the Mine Site is prone to generating acid mine drainage, no management measures related to acid mine drainage are required.

6.2.1.9 Ore Beneficiation Waste Management (Reject and Tailings Disposal)

Primary crushing and screening of limestone, with the 5mm to 100mm fraction transported to Westlime's Parkes processing centre. Undersize material is treated as overburden.

As processing of limestone within the Mine Site generates no waste materials, no management measures related to rejects or tailings are required.

6.2.1.10 Erosion and Sediment Control

Erosion and sediment controls to be implemented at the Mine Site are described in detail in the *Erosion and Sediment Control Plan* (RWC, 2019). Potential surface water-related impacts are limited to erosion and sedimentation. Given the porous nature of the soils within the Mine, its elevated location and the fact that the majority of activities are undertaken within the pit, there is no evidence of erosion or sedimentation within the Mine Site. Notwithstanding this, the following control measures are implemented.

- Constructed two sediment basins to the southwest of the pit to reduce the flow of water runoff and risk of erosion.
- Constructed internal roads are near parallel to the contour.
- Surface water flows from the site are be captured by the Western Bund and channelled into the sediment basins.
- Use cover crop initially to establish soil biomass and keep stockpiles in a biologically active state.
- Maintain silt-stop fencing on the lower slopes adjacent to soil stockpiles and bund walls until the soils in those adjacent areas are stabilised with vegetation.
- Harvest water from erosion and sediment control dams for dust suppression.
- Establish a weed management plan to maintain rehabilitation areas.

Water from the eastern side of the bund wall will be localised and captured in the sediment basin. Water from the western side of the bund will flow into the vegetation screening area between the bund and site boundary.

The condition and effectiveness of water control structures – including contour banks and sediment basins will be visually monitored and reported on annually. This will monitor the occurrence of erosion and success of controlling any water flows.

The erosion and water management controls will ensure that the soil resource across the Mine Site is effectively managed and that there are no significant adverse impacts from activities on the soil resource in either the short- or long-term.

6.2.1.11 Ongoing Management of Biological Resources for Use in Rehabilitation

Stripping of topsoil and vegetation is as described in Section 6.2.1.1. where topsoil is present. The depth of stripping depends on the soil depth and the presence of rocky outcrops near the surface. Stripped soil is directly placed on the Western Bund or on the Southeastern Battered and Backfill Areas

The following management measures will be implemented to manage biological resources within the Mine Site.

- Construct growth medium stockpiles with side slopes no more than 1:3 (V:H) and stabilised with suitable cover crops.
- Prevent vehicles from driving on growth medium stockpiles to limit compaction.
- Following placement of the soil in rehabilitation areas, the cleared vegetation is placed into those areas, prior to revegetation, to provide habitat and a source of seed.
- Manage weeds on the stockpiles to minimise the potential for build-up of a weed seed bank on the stockpile.
- Ensure that adequate rooting depth has been established across the floor of the Active Mining Area to be rehabilitated. This will be achieved through the placement of overburden to a depth of ~5m on the benches and up to 20m of overburden on the floor of the mine. The overburden would be covered with adequate growth medium to ensure establishment of the target vegetation species.
- Ensure that seed of species representative of vegetation community endemic to the surrounding area is harvested and used for rehabilitation operations, with harvesting operations to commence 3 years prior to Mine closure or source suitable vegetation to be used for rehabilitation.

6.2.1.12 Mine Subsidence

No risks to rehabilitation associated with mine subsidence are present and no management measures related subsidence are required.

6.2.1.13 Management of Potential Cultural and Heritage Issues

Aboriginal Heritage

The Aboriginal heritage study, as well as the non-indigenous heritage study, was conducted by Central West Archaeological & Heritage Services Pty Ltd in 2000.

A single site of suspected Aboriginal heritage significance, namely a potentially culturally scarred tree, has been identified within the site as N-ST-1 (**Figure 5**). The site occurs on the western margin of the approved pit and the Company will ensure that that the site is not disturbed. To prevent inadvertent disturbance, the Company arranged for the site to be fenced and signposted in 2016.

The following measures will be implemented as safeguards for Aboriginal Heritage.

- Protect the scarred tree by a 15m buffer zone maintained around the tree.
- Erected a temporary fence or plastic flagging around the tree.
- Include the location of the scarred tree and buffer zone on all appropriate Mine plans and ensure that the landowners of the Mine site, and all personnel and contractors working on the Mine Site, are aware of the location of the scarred tree and advised of their obligations under the *National Parks and Wildlife Act 1974*, with regard to protection of Aboriginal relics.

As further drilling may be undertaken throughout the development of the Mine – in the case that the western boundary of the Mine Site changes such that the avoidance of the site is not possible, the Peak Hill Local Aboriginal Land Council will be consulted and consent to destroy the site would be sought from the relevant authority prior to disturbance. The Company would consult with the Peak Hill Local Aboriginal Land Council regarding the fate of the tree if disturbance was proposed to occur

In the event that any additional archaeological site or materials are identified in the area that is being disturbed, the Company will immediately cease work in the affected area and inform the Sites Officer of the Peak Hill Local Aboriginal Land Council and Heritage NSW. Work would not recommence in the affected area until the material has been inspected and permission to proceed has been granted by the relevant authority.

The Company contends that the Mine has not resulted in adverse Aboriginal heritage-related impacts.

Non-Indigenous Heritage

Figure 5 presents the non-indigenous relics that were located within the immediate vicinity of the survey area. The heritage items consist of the dilapidated ruins of the original “Nelungaloo” woolshed, and a derelict farm cottage on the “Nelungaloo” property within the Mine Site. The woolshed has not retained its integrity over time and is of very little heritage significance.

As the ruins of the Woolshed are outside the Mine Site boundary, they will not be disturbed. The derelict farm cottage and its associated buildings have been removed as part of establishment of the Mine. Heritage NSW has been consulted regarding photography or other appropriate recordings of the cottage.

There would be impacts on non-indigenous relics within the Mine Site as detailed above. However, the safeguards outlined (i.e. photographic records) and directed by Heritage NSW ensures that any historical contribution of these sites is not lost.

6.2.1.14 Exploration Activities

Quality control drilling will be undertaken in the northern section of M(MO)L1 in accordance with Section 2.3, paragraph 3 of the EIS (2000).

In addition, resource definition drilling will be undertaken in the southern section of M(MO)L1. The relevant approvals for all exploration undertaken under the *Environmental Planning and Assessment Act 1979* within M(MO)L1 will be sought prior to commencement of any exploration activities.

Quality control and resource definition drilling will be undertaken as follows.

- Drill sites would be marked on the ground prior to the commencement of the drill program and each drill site, including the access, would be inspected.
- Where required, fallen timber would be relocated to permit drilling operations and drill sites would be relocated to avoid disturbing vegetation taller than 1.5m high.
- No drill pads and no site access tracks would be constructed.
- Drilling would be undertaken using the Company's own blast hole drill rig to depths of up to 30m.
- Following sampling, all drill cuttings would be returned to the drill hole and the hole backfilled to surface. Excess material would spread thinly around the drill hole collar.

6.2.2 Decommissioning

6.2.2.1 Site Security

The Mine Site is fenced and the gate is locked when the site is unoccupied. In addition, the Company has installed a safety bund around the pit crest as well as motion-activated security cameras.

The Extraction Area is fully bunded and a range of signs warning of "Deep Excavation" have been installed within the vicinity of this area.

The Mine is sufficiently isolated from populated areas not to require a high level of security. Notwithstanding this position, the Company will continue to implement the following safety and security measures.

- Lock the entrance gate from the Forbes-Bogan Gate Road when there are no authorised personnel on site.
- Position signs at strategic locations around the Mine Site in accordance with the requirements of the Mines Inspection Act 1901 (as amended).
- Maintain existing fencing around portions of the Mine Site.
- Conduct a site safety induction program with all employees and visitors to ensure their safety whilst on site.
- Fit all earthmoving equipment with appropriate safety equipment and instructions from management that it is always operated in a safe manner.

6.2.2.2 Infrastructure to be Removed or Demolished

During decommissioning, infrastructure to be removed includes the shed, container, and processing plant.

As all operational buildings within the Mine Site are transportable, they will be completely removed. A disused house within the approved Extraction Area was removed during the 2018 Reporting Period by a licenced demolition contractor.

All concrete footings and foundations of buildings or structures will be broken up and removed or covered. Materials used to form roads and hardstands will be removed and/or the areas ripped.

6.2.2.3 Buildings, Structures and Fixed Plant to be Retained

All operational buildings within the Mine Site are transportable and will be removed. The infrastructure area is to be rehabilitated to grazing area or native ecosystem.

Infrastructure that will remain for ongoing land management purposes, with landholder approval, will include the following.

- Sediment dams which will be used for future stock use.
- Site Access Road, reduced in width to that required for ongoing light vehicle access.
- Security fencing and safety bunds to ensure that access to final void areas remains effectively restricted.

6.2.2.4 Management of Carbonaceous/Contaminated Material

No known contaminated land is present within the Mine Site. A contamination assessment will be undertaken by a suitably qualified or experienced person and any contaminated material excavated and transferred to a licensed facility.

No carbonaceous material exists within the Mine Site.

6.2.2.5 Hazardous Material Management

No hazardous materials are stored or used within the Mine Site. Diesel and hydrocarbons for vehicle servicing are brought to site daily as required. In addition, explosives are transported to site by the supplier and the unused component is removed at the end of the day.

All hydrocarbons will be stored in bunded areas or on bunded pallets and will be removed at the end of the life of the Mine. No other hazardous materials will be stored or used within the Mine Site.

6.2.2.6 Underground Infrastructure

No underground mining will be undertaken and no specific risk controls are required.

6.2.3 Landform Establishment

6.2.3.1 Water Management Infrastructure

A shallow drainage line occurs within the northern section of the Mine Site which conveys runoff south-west to the roadside drain and beyond. Runoff from the remainder of the Mine Site is overland flow towards the Forbes-Bogan Gate Road some of which is collected in the small dam towards the south-western end of the Mine Site. This dam currently holds little water because of its small catchment and permeable base.

Figure 6 shows the principal water course within the vicinity of the Mine Site – Goobang Creek.

Two sediment basins have been constructed to the Southwest of the pit. Surface water flows from the site are captured by the Western Bund and channelled into the sediment basins. The sediment basins are constructed with emergency rock-lined spill ways which will be visually monitored to be stable (non-eroding). All drains and batters will be stabilised and all monitoring and maintenance will be implemented and adhered to until relinquishment.

The Water Management Area will include the sediment dams which will be left for stock watering after rehabilitation. Preventative erosion measures for the basins may include planting additional stabilising vegetation or wind breaks, stabilising soils with mulches or alternative soil binders, taking steps to minimise any unnecessary concentrated stormwater flow, or installing formalised drainage channels or pipes.

The sediment basins on the Mine Site form part of the overall Erosion And Sediment Control Plan. The rehabilitated areas on the bund will be revegetated with annual & perennial grasses to provide a stable and sustainable groundcover to stabilise the topsoil. This will reduce the flow of water runoff and the risk of erosion. A weed management strategy will be established to maintain the rehabilitated areas, including crash grazing and localised weed spaying campaigns in consultation with the landowner.

Water from the eastern side of the bund wall will be localised and captured in the sediment basins. Water from the western side of the bund will flow into the existing vegetation screening area between the bund and site boundary. Areas of rehabilitation within the pit do not drain externally and no water management is required.

The dirty water diversion drains that drain into Sediment Basin 2 will be stabilised by establishment of groundcover, rock check dams or rolled erosion control products. The diversion drains will be subjected to a relinquishment inspection and report to ensure that it is fit for purpose and does not show signs of active erosion or instability.

6.2.3.2 Final Landform Construction

General Requirements

The approved final landform will include the following (**Plan 2**).

- Native ecosystem established on the Western bund.
- A retained Site Access Road.
- Two retained Sediment Dams for stock use.

- Land rehabilitated for cover crop planting and grazing.
- A Final Void with benches 15m high and 5m wide where geotechnically feasible.

The rehabilitation of the Mine would involve stabilisation of the overburden within the external site bund walls and within the southern area of the worked-out mine area and final mine faces within the Mine itself.

The overburden removed from the Initial Mine Site will be placed within the bund walls positioned around the western perimeter of the Mine Site. These bund walls will be shaped in a non-geometric manner and contoured with a concave/convex slope to limit visual impact when viewed externally. The outer slope of the bund wall will be in the order of 1:4 (V:H) whereas the internal batter will be at approximately 1:2 (V:H). The bund walls will be covered with topsoil and grassed using a pasture mix similar to that discussed above for the stored topsoil. The outer toe of the bund walls will be planted with a range of trees in conjunction with the perimeter tree planting program.

The Company will place up to half a metre of overburden on the benches positioned at the limit of mining to enable the growth of scattered trees along the Mine benches. This material would be placed on the benches immediately prior to the blasting which would remove access from those benches. This would be a progressive operation that would ultimately provide some habitat value on the margins of the rehabilitated Mine.

The design criteria for the terminal faces of the final void will be determined during mining operations, with near vertical faces. The long-term stability of the final void will be assessed by a suitably qualified person who will prepare a geotechnical assessment for inclusion in a relinquishment report.

The final void is not visible from publicly accessible locations and, as a result, characteristics of surrounding landforms have not been incorporated into the approved final landform design.

Reject Emplacement Areas and Tailings Dams

No reject emplacement area or tailings dam is approved for the Mine.

Final Voids, Highwalls, and Low Walls

Three main levels will be developed within the Mine, namely 270m, AHD; 255m, AHD; and 240m, AHD. It is envisaged that beyond 40 years, the Mine would continue below the 240m, AHD level, hence, no rehabilitation of the mine floor is planned at the end of the consent period.

However, in the event that mining does cease, the overburden and soil within the northern bund wall would be recovered and placed across the floor of the mine site.

Backfilling of the southern part of the Active Mining Area would include the following components.

- Place overburden to a depth of approximately 5m on both the 270m, AHD and 255m, AHD benches;
- Overburden would be positioned on the floor of the Mine; and
- All batter slopes formed on the placed overburden would be approximately 1:3 (V:H).

It is unlikely that the final floor would contain substantial quantities of water as it is likely that the blasting could cause sufficient fracturing for any water to flow downwards from the Mine floor. However, some of the more clayey overburden could assist in sealing a localised area for the collection of surface water.

Once each of the backfilled areas is contoured to the final landform, topsoil would be retrieved from the long-term stockpile area to cover the shaped overburden. This material would be seeded with a pasture mix and once established would be planted with small clumps of native trees endemic to the local area.

6.2.3.3 Construction of Creek/River Diversion Works

No creek or river diversion works will be undertaken as part of construction of the Mine Site or rehabilitation.

6.2.4 Growth Medium Development

The growth medium development phase involves the establishment and maintenance of growth medium on the completed landform.

As identified in Section 6.2.1.1, topsoil will be selectively striped from areas with a lower abundance of outcrop, with the resulting growth medium to incorporate soil and limited quantities of limestone. Additional growth media will be recovered from clay filled voids within the limestone during extraction operations.

The following procedures will be implemented in the 3 years prior to the commencement of the growth medium development phase.

- Confirm the volume of growth medium stockpiled within the Mine Site and implement procedures to salvage infill clay from limestone voids to ensure that the minimum required volume is available.
- Engage a suitably experienced or qualified person, if required, to assess the condition of the growth medium and provide recommendations in relation to ameliorants.
- Establish one or more trial rehabilitation sites to test preferred rehabilitation methodologies and determine the preferred methodology.

The following procedures will be implemented during growth medium development.

- Undertake growth medium development in late summer to mid-autumn.
- Spread a minimum of 250mm of growth medium across the area to be rehabilitated. Within the Extraction Area, ensure that between 0.75m and 1.0m of material suitable for root development is maintained. This may comprise 250mm of growth medium and 500mm to 750mm of broken limestone or the full depth of growth medium.
- Apply required ameliorants, if required.
- Undertake weed control where necessary.

The Company has applied lessons learnt during establishment of the biodiversity offset at its Canowindra Limestone Mine. As a result, areas that have been revegetated have been ripped and will be permitted to “settle” for a period of 6 months before tube stock is planted.

Once each of the backfilled areas is contoured to the final landform, topsoil would be retrieved from the long-term stockpile area to cover the shaped overburden. This material would be seeded with a pasture mix and once established would be planted with small clumps of native trees endemic to the area.

6.2.5 Ecosystem and Land Use Establishment

The ecosystem and land use establishment phase involves the establishment and maintenance of vegetation on the completed landform.

The approved final land use will be agriculture – grazing within a native vegetation community with a land capability of Class IV to V or Low capability land. As a result, the approved final vegetation communities will comprise native tree, shrub, and grass species comparable with the surrounding Bimble Box/ Grey Box/ White Cypress Pine/ Yellow Box Woodland, as well as agricultural land.

The following procedures will be implemented in the 3 years prior to the commencement of the ecosystem and land use establishment phase.

- Collect and store seed of local provenance of species representative of the surrounding Bimble Box/ Grey Box/ White Cypress Pine/ Yellow Box Woodland (**Table 15**).
- Propagate selected species to generate an adequate supply of tube stock or source tube stock from local nursery for use in rehabilitation operations.

Table 14
Rehabilitation Tree Species

Species	
Common name	Scientific name
Kurrajong	<i>Brachychiton populneus ssp. populneus</i>
Bimble Box	<i>Eucalyptus populnea ssp. bimbil</i>
Grey Box	<i>Eucalyptus microcarpa</i>
White Cypress Pine	<i>Callitris glaucophylla</i>
Yellow Box	<i>Eucalyptus melliodora</i>

The following procedures will be implemented during ecosystem and land use establishment.

- Lightly scarify and mechanically seed the area to be rehabilitated within the Active Mining Area and Temporary Material Storage Area with grass/pasture species as directed by the landholder.
- Direct seed and plant tube stock of the species identified in **Table 15** within the Western Bund and elsewhere as directed by the landholder.

- Exclude stock and feral herbivores until the vegetation community has become sufficiently established.
- Undertake weed management programs as required.

Climate change, including drought, can severely affect the revegetation results, as long dry periods and very high prolonged temperatures can make tree and shrub establishment impossible. Planting may need to be undertaken in higher-than-average rainfall years in order for possible establishment to occur prior to dryer years. Cypress pine within the area appears to have a good drought resistance, whereas many native eucalypts have failed.

6.2.6 Ecosystem and Land Use Development

The ecosystem and land use sustainability phase occurs once monitoring illustrates the achievement of relevant performance indicators with respect to ecosystem development and the stability and function of built structures such as the final open void or water management structures. Areas of the landform may remain within this phase for extended periods whilst progress is made towards achieving completion criteria.

6.2.6.1 Weed and Pest Management and Monitoring

The following procedures will be implemented to manage and monitor weeds and pests within the rehabilitated area.

- Regular weed and pest inspections, with control programs to be implemented if required.
- Regular vegetation monitoring by a suitably qualified agronomist or ecologist to ensure that the vegetation community becoming established on the rehabilitated landform will be suitable for occasional grazing operations and will generally be consistent with surrounding vegetation communities.

6.2.6.2 Environmental Management and Monitoring Program

Surface Water

Visual inspections of erosion and drainage control structures will be undertaken following significant rainfall events.

Groundwater

Groundwater within the Mine Site is at least 45m below surface, namely below the base of the approved Open Cut. As drilling operations would be limited to 30m deep, groundwater is not expected to be intersected and a produced water management strategy is not proposed.

Ecology

Following the establishment of the identified vegetation community, the Company will undertake the following ecosystem development and monitoring activities.

- Annual weed and pest inspections, with control programs to be implemented if required.
- Annual vegetation monitoring by a suitably qualified agronomist or ecologist to ensure that the vegetation community becoming established on the rehabilitated landform will be suitable for occasional grazing operations and will generally be consistent with surrounding vegetation communities.

Land Capability

The following procedures will be implemented to manage and monitor land capability within the rehabilitated area.

- The rehabilitated area will be fenced to exclude stock and control grazing.
- Grazing trials, including maintenance of records related to agricultural productivity, will be undertaken in consultation with the landholder to determine the capability of the rehabilitated landform to withstand grazing pressures.
- The rehabilitated landform and the results of the grazing trials will be presented to a suitably experienced and qualified person to determine the Land Capability of the landform and progression towards achieving the nominated Class IV / V Land Capability.

6.2.6.3 Revegetation

Vegetation establishment activities within the Mine Site, including growth medium spreading and seeding operations, will occur only where favourable climatic conditions are expected to occur. Consequently, prolonged drought periods may result in extended delays to these rehabilitation conditions. Should extended drought periods occur at the Mine Site, rehabilitation schedules will be updated to prioritise other rehabilitation activities and opportunities to prepare additional areas for revegetation once favourable conditions return will be investigated.

Seed to be used for revegetation activities will be sourced from within the Mine Site locality or obtained from a local, reputable nursery or seed wholesaler and until required will be stored off the Mine Site in a cool, dry place (preferably the source nursery or wholesaler).

The following revegetation measures will be implemented in the event that monitoring identifies that ecosystem and land use development is not progressing towards the nominated completion criteria.

- The advice of a suitably qualified rehabilitation expert or agronomist would be sought and recommended actions would be implemented as required. This may include revegetation of sections of the rehabilitated area when the initial ecosystem establishment operations have not been successful.
- Monitoring and grazing trials would continue until compliance with the completion criteria has been achieved.

The results of rehabilitation monitoring, as well as records of rehabilitation activities will be included in the Annual Rehabilitation Report.

6.2.6.4 Land Management and Infrastructure Maintenance

Site infrastructure including roads, security and stock-proof fencing, safety bunds and signage will be inspected on an annual basis. Additionally, infrastructure vulnerable to erosion, namely unsealed roads and diversion drains, will be inspected following significant rainfall events.

The results of infrastructure inspections as well as records of annual infrastructure maintenance activities and costs will be included as part of an Annual Rehabilitation Report until relinquishment.

6.3 Rehabilitation of Areas Affected by Subsidence

There is no subsidence present at the Mine Site as material is recovered through open cut methods only. As such, no subsidence-related management and maintenance programs are required.

7. Rehabilitation Quality Assurance Process

The following section details the rehabilitation quality assurance process for the Mine in accordance with *Guideline 3: Rehabilitation Controls (July 2021)*. The rehabilitation quality assurance checklist included in this section is intended to be used as an indicative guide for rehabilitation operation managers and practitioners responsible for the rehabilitation of the Mine Site.

It is anticipated that rehabilitation operations within the Mine Site will occur on a progressive basis as areas are no longer require for operational purposes. Consequently, it is noted that rehabilitation progress through the planned rehabilitation phases will occur in accordance with the rehabilitation schedule identified on **Plan 3A to 3C**.

As part of the rehabilitation quality assurance process, relevant records and documentation will be recorded in a Rehabilitation Quality Assurance Register and reported as part of the Annual Rehabilitation Report. The Rehabilitation Quality Assurance Register will, as a minimum, include a compliance register used to assess the status of compliance with requirements under relevant development consents, leases and licences. The Rehabilitation Quality Assurance Register will be maintained, reviewed and refined to ensure that it is reflective of current rehabilitation progress, risk controls implemented at the Mine Site and the outcomes of any updated rehabilitation risk assessments.

Table 16 outlines key responsibilities for the Company and Mine personnel with regards to rehabilitation operations.

Table 15
Key Roles and Responsibilities

Role	Responsibility
Mine Manager	<ul style="list-style-type: none"> Comply with applicable laws, regulations, licences and approvals. Ensure all contractors, sub-contractors and service personnel are appropriately qualified and/or licenced to undertake the required work. Ensure that appropriate resources are available to site management and personnel to enable the implementation of this Plan. Ensure that the Rehabilitation Quality Assurance register is maintained and up to date based on site activities. Ensure that the workforce is aware of relevant development and rehabilitation risks and management and mitigation measures, including any additional corrective and/or preventative measures. Ensure that the rehabilitation quality assurance process outlined in Section 7 and the rehabilitation control checklist is implemented as required. Ensure that the documentation and recording of rehabilitation risk controls occurs within a suitable timeframe Ensure that specialist contractors adhere to the guidelines and methodologies outlined in this Plan where required, or that the guidelines and methodologies in this Plan are updated to reflect those employed at the Mine Site.
All Mine Personnel	<ul style="list-style-type: none"> Follow direction provided by the Mine Manager. Notify the Mine Manager in the event that uncontrolled rehabilitation risks are identified at the Mine.

8. Rehabilitation Monitoring Program

8.1 Analogue Site Baseline Monitoring

As the final land use of the Mine Site will be agricultural grazing, no analogue sites for vegetation monitoring are required. The Mine Site is expected to be able to achieve the final land use requirements without the need for analogue site monitoring.

8.2 Rehabilitation Establishment Monitoring

Rehabilitation establishment monitoring will commence following the commencement of rehabilitation activities, indicatively during extraction at the Mine and will involve inspections of each progressive phase, and will consist of the following.

- Photo monitoring of rehabilitated areas, including prior landform establishment, growth medium development, revegetation, immediately following revegetation and regularly (initially quarterly then annually) after revegetation.
- Visual inspections and documentation following significant rainfall events to identify any signs of erosion and detail any follow up actions required (e.g. repairs, installation of additional erosion and sediment controls).
- Recording of all monitoring and inspection events, including the results of monitoring and any follow up activities, in accordance with the Rehabilitation Quality Assurance Register.

These recommendations would be implemented as soon as reasonably practicable, and the above steps would be repeated until the nominated rehabilitation criteria have been achieved.

8.3 Measuring Performance Against Rehabilitation Objectives and Rehabilitation Completion Criteria

Measuring performance against rehabilitation objectives and rehabilitation completion criteria will commence following the commencement of rehabilitation activities. **Table 12** presents the rehabilitation objectives and rehabilitation completion criteria for the mine and identifies the validation method for each.

Detailed validation methods to be employed to measure performance against the rehabilitation completion criteria will be developed at least 3 years prior to the commencement of rehabilitation operations. In summary, however, the Annual Rehabilitation Reports will form the foundation of long-term rehabilitation monitoring at the Mine Site. In addition, the Rehabilitation Quality

Assurance Register will be used to record details of any additional management measures or risk controls implemented during the ecosystem development phase in response to the analysis of rehabilitation monitoring results.

9. Rehabilitation Research and Trials

9.1 Current Rehabilitation Research and Trials

Given the fact that rehabilitation operations are not expected to commence until the end of life for the Mine (i.e. 40 years), no rehabilitation research or rehabilitation trials are currently being undertaken within the Mine Site.

A range of strategic locations were prepared during the 2020 Reporting Period in the Annual Environmental Management Plan (AEMR), ahead of planting of eucalypts proposed to be completed in the next Reporting Period. In summary, selected areas were deep ripped and left to settle for 3 to 6 months prior to tube stock being planted. Following the death of trees and shrubs planted on the western face of the Western Bund during the recent drought, the Company undertook a program of planting of Cypress Pine tube stock during the Reporting Period. Unfortunately, the tree guards selected did not provide adequate protection from grazing by kangaroos and all planted tube stock was grazed to the ground.

9.2 Future Rehabilitation Research and Trials

Rehabilitation research and trials will commence at least 3 years prior to the commencement of rehabilitation operations. Indicatively, this will include trials to confirm the optimal:

- substrate and growth medium depth and treatment;
- revegetation species and methodologies; and
- the viability and effectiveness of grazing prevention methods

The results of the rehabilitation research and trials will be presented in the Annual Rehabilitation Report for the Mine.

10. Intervention and Adaptive Management

Table 17 presents the Trigger Action Response Plan for each of the rehabilitation threats and potential adverse outcomes identified in **Table 11** as having a risk rating of moderate or above.

The results of rehabilitation monitoring assessments, including the development of procedures to be implemented during rehabilitation operations as outlined in Section 9, will be continually reviewed and reported in the Annual Rehabilitation Report for the Mine. Where rehabilitation monitoring assessment outcomes suggest that rehabilitation methods outlined in this Plan may not support the realisation of rehabilitation completion criteria, this Plan will be updated to detail additional or alternative rehabilitation methods as required. Additionally, where the development of procedures or plans described in Section 9 is completed, this Plan will be updated to reflect specific management implications for individual areas of the Mine Site and/or target values associated with rehabilitation completion criteria

Table 16
Trigger Action Response Plan

Rehabilitation Threat	Potential Adverse Outcome	Trigger	Action/ Response
Substrate inadequate to support revegetation or agricultural land capability (e.g. lack of organic matter, nutrient deficiency, lack of soil biota, adverse soil chemical properties, exposed hostile geochemical materials, and any other factors impeding the effective rooting depth).	Growth medium is not appropriate to achieve the required vegetation establishment for the final land use.	Vegetation does not become established fails to achieve the relevant completion criteria on final landform due to poor growth medium development.	<ul style="list-style-type: none"> Engage a suitably qualified ecologist or revegetation expert to assess reasons for failure of revegetation and recommend actions to ensure that the final vegetation community is appropriate for the final land use. Implement the recommended actions.
Adverse weather and climatic influences	Vegetation does not become established on final landform or fails to achieve the relevant completion criteria.	Vegetation does not become established fails to achieve the relevant completion criteria on final landform due to adverse weather and climatic influences.	<ul style="list-style-type: none"> Engage a suitably qualified ecologist or revegetation expert to assess reasons for failure of revegetation and recommend actions to ensure that the final vegetation community is appropriate for the final land use. Implement the recommended actions.
Hazards associated with retained infrastructure	Final landform unsuitable for final land use.	Visual inspections identify the absence of or poor condition of required infrastructure (e.g. security fences, safety bunds, roads).	<ul style="list-style-type: none"> Construct required infrastructure or undertake repairs to infrastructure where condition is unsuitable for the final land use.
Erosion and failure of landform, drainage and water management / storage structures	Final landform is a source of pollution.	Surface water monitoring results consistently exceed upstream (i.e. undisturbed catchment) water quality monitoring results by more than 10%.	<ul style="list-style-type: none"> Undertake remediation of visibly eroding areas through additional earthworks, soil works, revegetation or other stabilisation works.

11. Review And Implementation

Table 18 presents the triggers for reviewing the Plan. Following each review, this Plan will be revised if significant structural amendments are necessary and provided to the Resources Regulator. Additionally, further consultation with relevant stakeholders will be undertaken where revisions to this Plan result in significant changes to proposed final land uses final landforms, rehabilitation objectives, rehabilitation completion criteria and/or the rehabilitation schedule. Milestones as documented in this Plan will be updated in the Annual Rehabilitation Report and will trigger an update to this Plan in the event that a significant change in rehabilitation risks and/or proposed rehabilitation methodologies is identified.

Table 17
Rehabilitation Management Plan Review Triggers

Trigger	Review
Request from the Resources Regulator or other relevant government agency to review the Plan.	As required by any notice
Modification of an existing development consent.	Within 3 months
Submission of each Annual Rehabilitation Report and Forward Schedule.	Within 1 month
Completion of a rehabilitation trial.	Within 1 month
Receipt of a specialist consultant report prepared in response to a trigger outlined in Section 10.	Within 3 months
Preparation of a revised Rehabilitation Risk Assessment.	Within 1 months
Preparation of revised Rehabilitation Completion Criteria.	Within 1 months

In addition to reviews of this Plan, a Rehabilitation Quality Assurance Register will be developed and regularly maintained to ensure that mining and rehabilitation activities at the Mine Site are being conducted in accordance with this Plan and requirements under relevant development consents, leases and licences. Additionally, the Rehabilitation Quality Assurance Register will include:

- records of any contaminated water or hazardous materials collected at the Mine Site and disposed of off site;
- the latest map of any contamination at the Mine Site; and
- details of any additional rehabilitation measures and/or risk controls implemented within individual subdomains during rehabilitation operations.

12. References

- Central West Archaeological & Heritage Services Pty Ltd (2000).** *Aboriginal Heritage Study.*
- Geoff Cunningham Natural Resources Consultants Pty Ltd (GCNR) (2000a).** *Soils of the Proposed Nelungaloo Limestone Mine Site via Parkes,* prepared for Western Red Quarries Pty Ltd.
- Geoff Cunningham Natural Resources Consultants Pty Ltd (GCNR) (2000b).** *Flora Study of the Proposed Nelungaloo Limestone Mine Site via Parkes,* prepared for Western Red Quarries Pty Ltd.
- King, D. P. (1998).** *Soil landscapes of the Forbes 1: 250 000 Report.* Department of Land and Water Conservation, Sydney.
- R.W. Corkery & Co. Pty Limited (RWC) (2000).** *Environmental Impact Statement,* prepared for Western Red Quarries Pty Ltd.
- R.W. Corkery & Co. Pty Limited (RWC) (2008).** *Statement of Environmental Effects Modification.*
- R.W. Corkery & Co. Pty Limited (RWC) (2019).** *Erosion and Sediment Control Plan.*

Appendix 1

Risk Assessment

(Total No. of pages including blank pages = 12)



ABN: 14 090 152 828

Rehabilitation Risk Assessment

for the

M(MO)L1 Nelungaloo Limestone Mine



Prepared by:



RWCorkery&co

August 2023



ACKNOWLEDGEMENT

R.W. Corkery & Co. acknowledge and pay our respects to the Traditional Custodians of the lands in NSW and Australia on which our projects are located. We value the knowledge, advice and involvement of the Elders and extended Aboriginal community that contribute to our Projects and extend our respect to all Aboriginal and Torres Strait Islander peoples.



ABN: 14 090 152 828



Rehabilitation Risk Assessment

for the

M(MO)L1 Nelungaloo Limestone Mine

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Ref No. 525/34

August 2023

Document Control

Document Title	Rehabilitation Risk Assessment		
Document No.	525/34		
Version	Date	Reason for Risk Assessment	Version Authority
Version 1	09/05/2022	Preparation of Initial RMP	Andrew Commins
Version 2	01/08/2023	Finalisation of RMP	Andrew Commins
Version 3			

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1. Scope

The following rehabilitation risk assessment was undertaken generally in accordance with:

- Australian Standards HB 203:2006, AS/NZS 4360:2004 and AS/NZS ISO 31000:2018 Risk Management – Principles & Guidelines; and
- NSW Resources Regulator’s *Rehabilitation Risk Assessment Guideline* dated 2 July 2021.

This risk assessment has been designed in consideration of Schedule 8A of the *Mining Regulation 2016*, which requires the holder of a mining lease to conduct a rehabilitation risk assessment that:

- identifies, assesses and evaluates the risks that need to be addressed to achieve the following in relation to the mining lease:
 - the rehabilitation objectives;
 - the rehabilitation completion criteria;
 - for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan; and
- identifies the measures that need to be implemented to eliminate, minimise or mitigate the risks.

In addition to the above, the holder of a mining lease must conduct a rehabilitation risk assessment:

- for a large mine—before preparing a rehabilitation management plan;
- for a small mine—before preparing the rehabilitation outcome documents for the mine;
- whenever a hazard is identified under Clause 6(3) (of Schedule 8A)—as soon as reasonably practicable after it is identified, and
- whenever given a written direction to do so by the Secretary.

2. Methodology

This risk assessment has been prepared in consideration of the *Rehabilitation Management Plan* for Nelungaloo Limestone Mine. Risks to achieving the rehabilitation objectives and rehabilitation completion criteria outlined in Section 4 of the *Rehabilitation Management Plan*, as well as the final landform outlined in Section 5 of the *Rehabilitation Management Plan*, were identified and assessed jointly by the Westlime Pty Limited and R.W. Corkery & Co. Pty Limited during the preparation of this plan. **Table 1** presents a list of participants involved with the preparation of this risk assessment.

Site-specific threats to rehabilitation were assessed based on both the results of previous rehabilitation trials (see Section 9 of the *Rehabilitation Management Plan*) as well as observations of site-specific conditions and threats to rehabilitation observed during site inspections. This risk assessment was completed with consideration of existing controls as well as those risk controls outlined in the *Rehabilitation Management Plan*.

For each identified risk to rehabilitation, potential adverse outcomes were identified and allocated a risk rating based on the potential consequences and likelihood of occurrence. **Tables 2, 3 and 4** present the consequence, likelihood and risk rating used during this analysis. Where risks were determined to be unacceptable, namely those risks classified as “Moderate” or above, a Trigger Action Response Plan has been developed and is presented in Section 10 of the *Rehabilitation Management Plan*.

Tables 5 and 6 presents the results of the risk analysis assuming the implementation of standard mitigation measures and those outlined within this RMP.

Table 1
Risk Assessment Participants

Date	Name	Company	Position	Role in Risk Assessment	Risk Assessment Version
6/5/2022	Mitchell Bland	RWC	Managing Director	Facilitator	1
	Sarah Maher	RWC	Graduate Environmental Consultant	Participant	1
	Andrew Commins	Westlime	Managing Director	Participant/ reviewer	1
01/05/2023	Jack Flanagan	RWC	Senior Environmental Consultant	Facilitator / Participant	2
	Indigo Devane	RWC	Graduate Environmental Consultant	Participant	2
	Andrew Commins	Westlime	Managing Director	Participant/ reviewer	2

Table 2
Qualitative Consequence Rating

Level	Descriptor	Description
1	Negligible	No detrimental impact on the final land use is measurable or envisaged.
2	Minor	An event which could have temporary and minor effects on the suitability of the final land use.
3	Moderate	An event which would create substantial temporary or minor permanent damage to the suitability of the final land use.
4	Major	An event which could have a substantial and permanent consequence to the suitability of the final land use.
5	Severe	A major event which could cause severe damage to the suitability of the final land use with actual or potential loss of credibility with key stakeholders, environmental liability, regulatory intervention, national publicity/complaints, or could close the operation prematurely.

Note: Rating modified after AS ISO 31000:2018 Risk Management – Guidelines

Table 3
Qualitative Likelihood Rating

Level	Descriptor	Description
A	Certain	Is an ongoing occurrence or will occur under all conditions
B	Almost Certain	Is expected to occur in most circumstances
C	Likely	Will probably occur in most circumstances
D	Possible	Will probably occur under favourable circumstances
E	Unlikely	May occur, but only under favourable circumstances
F	Rare	Not expected to occur, unless subject to exceptional circumstances
G	Very Rare	Theoretically possible but not expected to occur

Source: Rating modified after HB 89:2012 – Figure B7

Table 4
Qualitative Risk Rating

Likelihood	Consequences				
	1 Negligible	2 Minor	3 Moderate	4 Major	5 Severe
A Certain	M	H	H	VH	VH
B Almost Certain	M	M	H	VH	VH
C Likely	M	M	H	H	VH
D Possible	L	M	M	H	H
E Unlikely	L	L	M	M	H
F Rare	L	L	L	M	M
G Very Rare	L	L	L	L	M

Risk Rating: L = Low, M = Moderate, H = High and VH = Very High

Source: Modified after HB 89:2012 – Figure B8

3. Rehabilitation Risk Assessment

Table 5
Rehabilitation Risk Assessment – Rehabilitation Phases

Page 1 of 3

Risk	Risk Control	Final Land Use Domain				Where Addressed in RMP
		Domain A: Native Ecosystem	Domain B: Agricultural - Grazing	Domain F: Water Management Areas	Domain J: Final Void	
General						
Insufficient skills and experience of rehabilitation personnel.	Engagement of specialist consultants to address issues Extensive experience of management team	L (F3)	L (F3)	L (F3)	L (F3)	7, 10
Lack of clearly defined responsibilities.	Responsibilities as defined in the <i>Rehabilitation Management Plan</i> Position descriptions	L (G3)	L (G3)	L (G3)	L (G3)	7
Insufficient funding for or prioritisation of rehabilitation activities.	Ongoing operation and cash flow for rehabilitation Final landform to be income generating, therefore priority to complete to appropriate standard Rehabilitation cost estimate and security bond.	L (F3)	L (F3)	L (F3)	L (F3)	7, 10
Active Mining Phase of Rehabilitation						
Inappropriate biological resource (e.g. subsoil, topsoil, vegetative material, seedbank, rocks, habitat resources) through clearing, salvage, and handling practices.	Growth medium salvage procedures and stockpile construction. Growth medium stockpile signposting.	L(F3)	L(F3)	NA	NA	6.2.1.1, 6.2.1.11, 9.2
Limited pre-existing biological resources for use (e.g. topsoil, woody debris).	Growth medium salvage procedures. Growth medium register and testing	L(F3)	L(F3)	NA	NA	6.2.1.1, 9.2
Adverse meteorological conditions during salvage of biological resources.	Growth medium salvage procedures.	L(G3)	L(G3)	NA	NA	6.2.5, 8.2
Adverse geochemical/chemical composition of materials such as overburden, processing wastes, topsoils and subsoils.	Growth medium register and testing.	L(E2)	L(E2)	NA	L(E2)	6.2.1.6, 6.2.1.8, 9.2
Handling and containment of geochemical and geotechnically unsuitable process residue and reject materials.	All crushed and screened material will be sold as product or taken off site for further processing. Therefore, no washing or processing resulting in reject material will occur.	NA	NA	NA	NA	-
Adverse surface and/or groundwater quality and quantity.	Erosion and sediment control structures. Storage of all hydrocarbons and chemicals in accordance with AS1940:2017 – The storage and handling of flammable and combustible liquids	L(F3)	L(F3)	L(F3)	L(F3)	6.2.1.5, 6.2.6.2, 10
Decommissioning Phase of Rehabilitation						
Impacts on heritage items.	Continued avoidance of fenced and signposted Site N-ST-1 (outside area of disturbance)	L(G4)	L(G4)	L(G4)	L(G4)	6.2.1.13, 9.2
Hazards associated with retained infrastructure.	Inspection of retained roads, buildings and safety bunds prior to relinquishment	NA	L(F3)	NA	L(F3)	6.2.2.3, 9.2
Contamination resulting from associated activities (e.g. storage and use of hydrocarbons/chemicals, drilling fluid, spillage of dirty water, brine, sewage).	Storage of all hydrocarbons and chemicals in accordance with AS1940:2017 – The storage and handling of flammable and combustible liquids Contaminated Site Assessment prior to relinquishment.	NA	L(G4)	NA	NA	-
Generation of material and waste products from the demolition process.	Waste material stored within existing hardstand or active disturbance areas and removed from site as soon as practicable.	NA	NA	NA	L(F2)	6.2.2.2, 6.2.2.5, 9.2
Groundwater accumulation in former underground workings (e.g. potential for fill and spill or impacts on regional ground water users).	No underground mining undertaken	NA	NA	NA	NA	-
Exposure or access to underground workings.	No underground mining undertaken	NA	NA	NA	NA	-
Habitation of structures and/or underground workings by native fauna (e.g. bats).	No underground mining undertaken	NA	NA	NA	NA	-
Adverse surface water quality and quantity.	Erosion and sediment control structures. Storage of all hydrocarbons and chemicals in accordance with AS1940:2017 – The storage and handling of flammable and combustible liquids Contaminated Site Assessment prior to relinquishment.	L(F3)	L(F3)	L(F3)	NA	6.2.3.2, 6.2.2.2

Table 5 (Cont'd)
Rehabilitation Risk Assessment – Rehabilitation Phases

Risk	Risk Control	Final Land Use Domain				Where Addressed in RMP
		Domain A: Native Ecosystem	Domain B: Agricultural - Grazing	Domain F: Water Management Areas	Domain J: Final Void	
Landform Establishment Phase of Rehabilitation						
Unstable landform due to erosion and/or mass movement issues associated with inappropriate design and/or quality assurance during landform construction.	Safe and stable Open Cut walls during mining operations Geotechnical assessment prior to relinquishment.	L(G2)	M(E3)	L(G2)	L(E3)	6.2.3.4
Exposure or release of geochemical and/or geotechnically adverse material associated with containment design and construction, including capping/cover system.	No geochemically or geotechnically adverse material present requiring capping or containment systems.	NA	NA	NA	NA	-
Lack of availability of suitable materials for encapsulation or capping of adverse materials.	No capping or containment systems present or required.	NA	NA	NA	NA	-
Borehole or gas well seals failure.	No service boreholes or gas well seals present	NA	NA	NA	NA	-
Final landform unsuitable for final land use (e.g. large rocks present affecting cultivation, unsuitable surface cover and landform settlement).	Inspection of retained roads and buildings prior to relinquishment Shaping of final landform to establish suitable substrate Geotechnical assessment prior to relinquishment.	L(F3)	L(F3)	L(F3)	NA	6.2.3.2, 6.2.4, 8, 9.2
Landform aspect not suitable for intended plant species.	Mining operations undertaken in accordance with the approved development consent Inspection of retained roads and buildings prior to relinquishment Shaping of final landform to establish suitable substrate Geotechnical assessment prior to relinquishment.	L(F3)	L(F3)	NA	NA	6.2.2.1, 6.2.3.4, 6.2.5, 9.2
Growth Medium Development Phase of Rehabilitation						
Inappropriate physical and structural properties of substrate.	Mining operations undertaken in accordance with the approved development consent Inspection of retained roads and buildings prior to relinquishment Shaping of final landform to establish suitable substrate Geotechnical assessment prior to relinquishment. Growth medium register and testing	L(F3)	L(F3)	NA	NA	6.2.4, 8, 9.2
Subsoil and topsoil deficit for rehabilitation activities.	Growth medium salvage procedures and stockpile construction. Growth medium stockpile signposting. Growth medium register and testing	L(F3)	L(F3)	NA	NA	6.2.4, 8, 9.2
Substrate inadequate to support revegetation or agricultural land capability (e.g. lack of organic matter, nutrient deficiency, lack of soil biota, adverse soil chemical properties, exposed hostile geochemical materials, and any other factors impeding the effective rooting depth).	Growth medium salvage procedures and stockpile construction. Growth medium stockpile signposting. Growth medium register and testing	L(F3)	M(E3)	NA	NA	6.2.1.1, 6.2.4, 8, 9.2
Ecosystem and Land Use Establishment Phase of Rehabilitation						
Lack of availability and quality of target seed resources, including genetic integrity.	Purchase of appropriate agricultural seed mix	L(G3)	L(G3)	NA	NA	6.2.1.11, 6.2.5, 8
Poor seed viability or seed dormancy.	Purchase of appropriate agricultural seed mix	L(F3)	L(F3)	NA	NA	6.2.5, 8
Seed predation.	Appropriate sowing and seeding techniques Weed and pest control program	L(F3)	L(F3)	NA	NA	6.2.5, 6.2.6.1, 8.2
Damage to seed through revegetation process.	Appropriate sowing and seeding techniques	L(G3)	L(G3)	NA	NA	6.2.5, 8, 9
Poor quality tubestock.	Purchase of suitable tube stock grown from locally collected seed	L(G3)	L(G3)	NA	NA	6.2.5, 8, 9
Weed infestation associated with both introduction and control (or lack thereof).	Weed and pest control program	L(E2)	L(E2)	NA	NA	6.2.5, 6.2.6.1, 8
Adopting inappropriate or inadequate rehabilitation techniques, including equipment fleet.	Extensive experience of management team Engagement of experienced contractors Rehabilitation research and trials. Rehabilitation personnel induction and training.	L(F3)	L(F3)	NA	NA	7, 9, 10

Table 5 (Cont'd)
Rehabilitation Risk Assessment – Rehabilitation Phases

Risk	Risk Control	Final Land Use Domain				Where Addressed in RMP
		Domain A: Native Ecosystem	Domain B: Agricultural - Grazing	Domain F: Water Management Areas	Domain J: Final Void	
Ecosystem and Land Use Establishment Phase of Rehabilitation (Cont'd)						
Inappropriate revegetation species mix for targeted final land use.	Purchase of appropriate agricultural seed mix	L(G3)	L(G3)	NA	NA	6.2.5, 8, 9
Adverse weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change).	Meteorological monitoring. Rehabilitation planning/scheduling	L(E2)	M(D3)	NA	NA	6.2.5, 8
Areas not available for revegetation during optimal seasonal conditions.		L(F3)	L(F3)	NA	NA	6.2.5, 8
Lack of habitat structures for colonisation or use.		NA	NA	NA	NA	-
Ecosystem and Land Use Development Phase of Rehabilitation						
Hazards associated with retained infrastructure.	Presence of security fencing. Presence of bunds. Maintenance of operational infrastructure. Inspection of retained roads and buildings prior to relinquishment Geotechnical assessment prior to relinquishment.	NA	L(F2)	NA	M(D3)	6.2.6.4
Adverse weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change).	Meteorological monitoring. Rehabilitation planning / scheduling.	L(E2)	L(E2)	NA	NA	6.2.6.2, 6.2.6.3
Substrate inadequate to support revegetation or agricultural land capacity.	Growth medium salvage procedures and stockpile construction. Growth medium stockpile signposting. Growth medium register and testing	L(F3)	L(F3)	NA	NA	6.2.6.3, 9.2
Post-closure water quality and quantity issues.	Erosion and sediment control structures	L(F3)	L(F3)	L(F3)	NA	6.2.3.1, 6.2.6.2, 9.2
Damage to rehabilitation (e.g. fauna, domestic stock, vandalism, vehicular interactions, bushfire).	Existing security and stock-proof fencing. Ongoing agricultural land management. Rehabilitation monitoring program.	L(F3)	L(F3)	NA	NA	6.2.2.1, 9.2
Re-disturbance of established rehabilitation areas.	Rehabilitation planning / scheduling.	L(F3)	L(F3)	NA	NA	6.2.2.1, 6.2.6.4, 8
Insufficient establishment of target species and limited species diversity.	Rehabilitation monitoring program. Passive recruitment.	L(F3)	L(F3)	NA	NA	6.2.6.1, 6.2.6.3, 8
Erosion and failure of landform, drainage and water management/storage structures.	Erosion and sediment control structures. Visual inspection program.	L(F3)	L(F3)	L(F3)	M(D3)	6.2.6.2, 6.2.6.4
Lack of infrastructure to support intended final land use (e.g. bunding, fences).	Rehabilitation relinquishment inspection.	L(G3)	L(G3)	L(G3)	L(G3)	6.2.6.4
Lack of resources for rehabilitation maintenance.	Rehabilitation planning / scheduling Final landform to be income generating, therefore resources available	L(G3)	L(G3)	L(G3)	L(G3)	10