

## 2. Final Land Use

### 2.1 Regulatory Requirements for Rehabilitation

**Table 3** lists the regulatory requirements relating to the rehabilitation of the Mine Site and post-mining land uses. It is noted that the conditional requirements for MLs within the Mine Site have been adopted from Schedule 8A of the *Mining Amendment (Standard Conditions of Mining Leases – Rehabilitation) Regulation 2021*, gazetted by the NSW Government on 2 July 2021. It has been assumed that site specific conditions within Mining Authorities relating to rehabilitation have been retained, and the standard conditions have been replaced by those identified in Schedule 8A of the *Mining Amendment (Standard Conditions of Mining Leases – Rehabilitation) Regulation 2021*. In the event that there are any discrepancies between the conditions identified in this Plan and those included in the Mining Authorities for the Mine Site following updates to the conditions of these Mining Authorities, this Plan will be updated to correct these discrepancies.

### 2.2 Final Land Use Options Assessment

#### North East Copper Mine

A final land use options assessment is not required for the North East Copper Mine as DA 6/95 states that development is to be undertaken in accordance with the *Environmental Impact Assessment (EIS)* (RWC, 1995) for the North East Copper Mine and *Statement of Environmental Effects for ML 1383 – Tritton Expansion Project – Stage 1* (Tritton, 2007) for the wider Tritton Copper Operations. Section 2.11 of the EIS (RWC, 1995) provides a general description of the final land use, including retained final voids, and revegetated landforms capable of supporting grazing activities and native vegetation commensurate with surrounding areas.

Further, the previously approved *Mining Operations Plan (MOP)* for the North East Copper Mine (RWC, 2017) defines the final land use to be light agricultural grazing activities reflecting the pre-mining land uses within the area, or native vegetation conservation. Section 4.2 of the MOP defines that the final land use goals are as follows.

- To provide a low maintenance, stable and safe landform commensurate with grazing land use capability.
- To revegetate with native tree and shrub species comparable with pre-existing vegetation communities.
- To provide a stable ground cover for erosion control.

It should be noted that native vegetation communities are utilised for light grazing within and in the vicinity of the Mine Site. Due to the local and regional climate of the Mine Site native species are generally more well-adapted and as such require lower inputs than exotic species. Based on the above, native vegetation communities within and in the vicinity of the Mine Site have been used to identify a mixed suite of species that will be used in rehabilitation. In addition, exotic species may be used where required and as relevant, such as for rapid stabilisation of disturbed areas, or where the use of exotic species may be suitable for areas identified for agricultural grazing.

**Table 3**  
**Regulatory Requirements for Rehabilitation**

Consent	Condition No. or Section	Requirement	Area	Timing	RMP Section
DA 6/95	1	The Development shall take place generally in accordance with the "Statement of Environmental Effects", prepared by Stairs Tritton Mines, dated 9 March 2011.	ML1383	During operations and rehabilitation works	Noted.
	10	Following completion of the ROM Pad, all material used for construction of the pad shall be removed and appropriately disposed of considering the potential for contaminated material. Prior to rehabilitation of the ROM Pad site, the land shall be assessed for potentially contaminated land in accordance with the relevant contamination guidelines/legislation. If required, the site shall be remediated and validated to demonstrate the site is suitable for the future land use of the site.	ROM Pad		
	11	Following any required remediation, the Site shall be revegetated immediately in accordance with the "Tritton Mine Operation Plan", dated March 2010.	ML1383	During operations and rehabilitation works	Noted.
Environmental Impact Statement (RWC, 1995)	2.11.1	To provide a low maintenance, stable and safe landform commensurate with a grazing land use capability.	ML1383	During rehabilitation	5
		To revegetate with native tress and scrub species comparable with pre-existing vegetation communities.			6.2.6.2
		To provide a stable ground cover for erosion control.			2
	4.9	As far as practicable minimise impacts on scenic amenity.			2
	2.11.2	Construct the final landform in accordance with Section 2.11.2 of the EIS (RWC, 1995) to maintain long term safety of the landform.			6.2.6
	2.11.3	Construct the waste rock emplacement such that any waste rock identified as potentially acid forming is encapsulated.			6.2.6
		Construct the landform so that the surface is free draining and suitable for revegetation with native groundcover, shrub and tree species.			
2.11 (general)	Remove all infrastructure not required for the final land use.				
	Revegetate all hardstand and infrastructure areas using a combination of pasture, shrubs and trees.	6.2.2.2			

**Table 3 (Cont'd)**  
**Regulatory Requirements for Rehabilitation**

Consent	Condition No. or Section	Requirement	Area	Timing	RMP Section
Statement of Environmental Effects (Tritton, 2007)	5.8	Provide a landform for controlled grazing of livestock with a post-closure aim to provide a decommissioned site which consists of stable non-polluting structures that are vegetated with self-sustaining vegetation.			6.2.5
<b>Mining Leases</b>					
ML1383	4	<p><b>Must prevent or minimise harm to the environment</b></p> <p>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>In this clause –</p> <p><b>harm</b> to the environment has the same meaning as in the <i>Protection of the Environment Operations Act 1997</i>.</p>	ML1383	During operation and rehabilitation	Noted.
	5	<p><b>Rehabilitation to occur as soon as reasonably practicable after disturbance</b></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>			Noted.
	6	<p><b>Rehabilitation must achieve final land use</b></p> <p>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>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>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><b>Note</b> – clause 7 requires a rehabilitation risk assessment to be conducted whenever a hazard is identified under this subclause.</p> <p>In this clause –</p> <p><b>final land use</b> for the mining area means the final landform and final land uses to be achieved for the mining area –</p> <p>as set out in the rehabilitation objectives statement and rehabilitation completion criteria statement, and for a large mine – as spatially depicted in the final landform and rehabilitation plan, and</p> <p>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><b>planning approval</b> means –</p> <p>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>		During rehabilitation	2.3

**Table 3 (Cont'd)**  
**Regulatory Requirements for Rehabilitation**

Consent	Condition No. or Section	Requirement	Area	Timing	RMP Section
<b>Mining Leases (Cont'd)</b>					
ML1383 (Cont'd)	7	<p><b>Rehabilitation risk assessment</b></p> <p>The holder of a mining lease must conduct a risk assessment (a <b>rehabilitation risk assessment</b>) that – identifies, assesses and evaluates the risks that need to be addressed to achieve the following in relation to the mining lease –</p> <ul style="list-style-type: none"> <li>the rehabilitation objectives,</li> <li>the rehabilitation completion criteria,</li> </ul> <p>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.</p> <p>The holder of the mining lease must implement the measures identified.</p> <p>The holder of a mining lease must conduct a rehabilitation risk assessment –</p> <ul style="list-style-type: none"> <li>for a large mine – before preparing a rehabilitation management plan, and</li> <li>for a small mine – before preparing the rehabilitation outcome documents for the mine, and</li> </ul> <p>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>		During construction, operation and rehabilitation	3
	8	<p><b>Application of Division</b></p> <p>This Division does not apply to a mining lease unless—</p> <ul style="list-style-type: none"> <li>the security deposit required under the mining lease is greater than the minimum deposit prescribed under the Act, section 261BF in relation to that type of mining lease, or</li> <li>the Secretary gives a written direction to the holder of the mining lease that this Division, or a provision of this Division, applies to the mining lease.</li> </ul>		During construction, operation and rehabilitation	Noted.
	9	<p><b>General requirements for documents</b></p> <p>A document required to be prepared under this Division must—</p> <ul style="list-style-type: none"> <li>be in a form approved by the Secretary, and <b>Note</b>— The approved forms are available on the Department's website.</li> <li>include any matter required to be included by the form, and</li> <li>if required to be given to the Secretary—be given in a way approved by the Secretary.</li> </ul>		During construction, operation and rehabilitation	This Plan.

**Table 3 (Cont'd)**  
**Regulatory Requirements for Rehabilitation**

Consent	Condition No. or Section	Requirement	Area	Timing	RMP Section
<b>Mining Leases (Cont'd)</b>					
ML1383 (Cont'd)	10	<p><b>Rehabilitation management plans for large mines</b></p> <p>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"> <li>a description of how the holder proposes to manage all aspects of the rehabilitation of the mining area,</li> <li>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,</li> <li>a summary of rehabilitation risk assessments conducted by the holder,</li> <li>the risk control measures identified in the rehabilitation risk assessments,</li> <li>the rehabilitation outcome documents for the mining lease,</li> <li>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.</li> </ul> <p>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>A rehabilitation management plan is not required to be given to the Secretary for approval.</p> <p>The holder of the mining lease—</p> <ul style="list-style-type: none"> <li>must implement the matters set out in the rehabilitation management plan, and</li> <li>if the forward program specifies timeframes for the implementation of the matters—must implement the matters within those timeframes.</li> </ul>		During construction, operation and rehabilitation	This Plan.
	11	<p><b>Amendment of rehabilitation management plans</b></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"> <li>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,</li> <li>as a consequence of an amendment made under clause 14 to a rehabilitation outcome document—within 30 days after the amendment is made,</li> <li>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,</li> <li>whenever given a written direction to do so by the Secretary—in accordance with the direction.</li> </ul>		During construction, operation and rehabilitation	Noted.

**Table 3 (Cont'd)**  
**Regulatory Requirements for Rehabilitation**

Consent	Condition No. or Section	Requirement	Area	Timing	RMP Section
<b>Mining Leases (Cont'd)</b>					
ML1383 (Cont'd)	12	<p><b>Rehabilitation outcome documents</b></p> <p>The holder of a mining lease must prepare the following documents (<i><b>the rehabilitation outcome documents</b></i>) for the mining lease and give them to the Secretary for approval—</p> <p>the <i><b>rehabilitation objectives statement</b></i>, which sets out the rehabilitation objectives required to achieve the final land use for the mining area,</p> <p>the <i><b>rehabilitation completion criteria statement</b></i>, which sets out criteria, the completion of which will demonstrate the achievement of the rehabilitation objectives,</p> <p>for a large mine, the <i><b>final landform and rehabilitation plan</b></i>, showing a spatial depiction of the final land use.</p> <p>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>		During construction, operation and rehabilitation	4.2, 5.1
	13	<p><b>Forward program and annual rehabilitation report</b></p> <p>The holder of a mining lease must prepare a program (a <i><b>forward program</b></i>) for the mining lease that includes the following—</p> <p>a schedule of mining activities for the mining area for the next 3 years,</p> <p>a summary of the spatial progression of rehabilitation through its various phases for the next 3 years,</p> <p>a requirement that the rehabilitation of land and water disturbed by mining activities under the mining lease must occur as soon as reasonably practicable after the disturbance occurs.</p> <p>The holder of a mining lease must prepare a report (an <i><b>annual rehabilitation report</b></i>) for the mining lease that includes—</p> <p>a description of the rehabilitation undertaken over the annual reporting period,</p> <p>a report demonstrating the progress made through the phases of rehabilitation provided for in the forward program applying to the reporting period,</p> <p>a report demonstrating progress made towards the achievement of the following—</p> <p>the objectives set out in the rehabilitation objectives statement,</p> <p>the criteria set out in the rehabilitation completion criteria statement,</p> <p>for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan.</p>		During construction, operation and rehabilitation	11

**Table 3 (Cont'd)**  
**Regulatory Requirements for Rehabilitation**

Consent	Condition No. or Section	Requirement	Area	Timing	RMP Section
<b>Mining Leases (Cont'd)</b>					
ML1383 (Cont'd)	13 (Cont'd)	<p>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>The holder of the mining lease must give the forward program and annual rehabilitation report to the Secretary.</p> <p>In this clause— <b>annual reporting period</b> means each period of 12 months commencing on— the date on which the mining lease is granted, or if the Secretary approves another date in relation to the mining lease— the other date</p>			
	14	<p><b>Amendment of rehabilitation outcome documents and forward program</b></p> <p>This clause applies to— a rehabilitation outcome document if it has been approved by the Secretary, and a forward program if it has been given to the Secretary.</p> <p>The holder of a mining lease must not amend a document to which this clause applies that relates to the mining lease unless— the Secretary gives the holder a written direction to do so, or the Secretary, on written application by the holder, gives a written approval of the amendment.</p> <p>The holder of the mining lease must amend the document in accordance with the Secretary's direction or approval.</p> <p>Nothing in this clause prevents the holder of a mining lease preparing a draft amendment for submission to the Secretary for approval.</p>		During construction, operation and rehabilitation	Noted.

**Table 3 (Cont'd)**  
**Regulatory Requirements for Rehabilitation**

Consent	Condition No. or Section	Requirement	Area	Timing	RMP Section
<b>Mining Leases (Cont'd)</b>					
ML1383 (Cont'd)	15	<p><b>Times at which documents must be prepared and given</b></p> <p>The holder of a mining lease must do the following before the end of the initial period— prepare a rehabilitation management plan, and prepare rehabilitation outcome documents and give them, other than the rehabilitation completion criteria statement, to the Secretary for approval, and prepare a forward program and give it to the Secretary.</p> <p>The holder of the mining lease must prepare a forward program and annual rehabilitation report and give them to the Secretary before— 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 a later date approved by the Secretary.</p> <p>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>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— 60 days after a development consent is modified following an application referred to in clause 20(1)(b), or a later date approved by the Secretary.</p> <p>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>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>The holder of the mining lease must comply with the direction.</p> <p>In this clause— initial period means the period commencing when the mining lease is granted and ending— 30 days, or other period approved by the Secretary, after this Division first applies to the mining lease, or if this Division applies to the mining lease because of an increase in the required security deposit— when the surface of the mining area is disturbed by activities under the mining lease, or at a later date approved by the Secretary.</p>		During construction, operation and rehabilitation	This Plan.



**Table 3 (Cont'd)**  
**Regulatory Requirements for Rehabilitation**

Consent	Condition No. or Section	Requirement	Area	Timing	RMP Section
<b>Mining Leases (Cont'd)</b>					
ML1383 (Cont'd)	16	<p><b>Certain documents to be publicly available</b></p> <p>This clause applies to the following documents— a rehabilitation management plan, a forward program, an annual rehabilitation report.</p> <p>The holder of a mining lease must make a document to which this clause applies publicly available by— publishing it on its website in a prominent position, or if the holder does not have a website— providing a copy of it to a person— on the written request of a person, and without charge, and within 14 days after the request is received.</p> <p>If a document is published on the website of the holder of the mining lease, the holder must ensure that it is published— for a rehabilitation management plan—within 14 days after it is prepared or amended, or for a forward program or an annual rehabilitation report—within 14 days after it is given to the Secretary or amended,</p> <p>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>		During construction, operation and rehabilitation	Noted.
	17	<p><b>Records demonstrating compliance</b></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><b>Note—</b> 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>		During construction, operation and rehabilitation	Noted.

**Table 3 (Cont'd)**  
**Regulatory Requirements for Rehabilitation**

Consent	Condition No. or Section	Requirement	Area	Timing	RMP Section
<b>Mining Leases (Cont'd)</b>					
ML1383 (Cont'd)	18	<p><b>Report on non-compliance</b></p> <p>The holder of a mining lease must provide the Minister with a written report detailing any non-compliance with—</p> <p>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>a requirement of the Act or this Regulation relating to activities under the mining lease.</p> <p>The holder of the mining lease must provide the report within 7 days after becoming aware of the non-compliance.</p> <p>The holder of the mining lease must ensure the report—</p> <p>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>describes the non-compliance and specifies the date or dates on which, or the period during which, the non-compliance occurred, and</p> <p>describes the causes or likely causes of the non-compliance, and</p> <p>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>		During construction, operation and rehabilitation	Noted.

The most-recently approved final landform for the North East Mine Site is displayed on Plan 4 of the MOP, reproduced as **Figure 8**.

### Avoca Tank Project

A final land use options assessment is not required for the Avoca Tank Project as DA 10/2015/004/002 states that development is to be undertaken in accordance with the *Environmental Impact Assessment* (EIS) (RWC, 2014) and *Statement of Environmental Effects* (SoEE) (AARC, 2021). Section 2.13 of the EIS (RWC, 2014) provides a general description of the final land use as intermittent agriculture.

The *Environmental Impact Statement* for the Avoca Tank Project (RWC, 2015) identified a final land use of 'intermittent agriculture', however the SoEE does not address rehabilitation.

Considering the relatively minor amount of surface disturbance associated with the Avoca Tank Project and the surrounding land use, intermittent agriculture remains the most suitable final land use.

## 2.3 Final Land Use Statement

Final land uses within the Mine Site will include the following.

- Native Ecosystem – includes the Waste Rock Emplacements.
- Agricultural (Grazing) – includes areas that will be rehabilitated using mixed native and exotic species occurring in the vicinity of the Mine Site to allow for light grazing.
- Water Storage Areas – includes the North Dam, Twin Tanks and other sediment basins.
- Final Void Area – includes the North East Open Pit, Hartmans Open Pit and Larsens Open Pit.

Final land use and rehabilitation plans for the Mine Site are presented in Section 5.

## 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."*



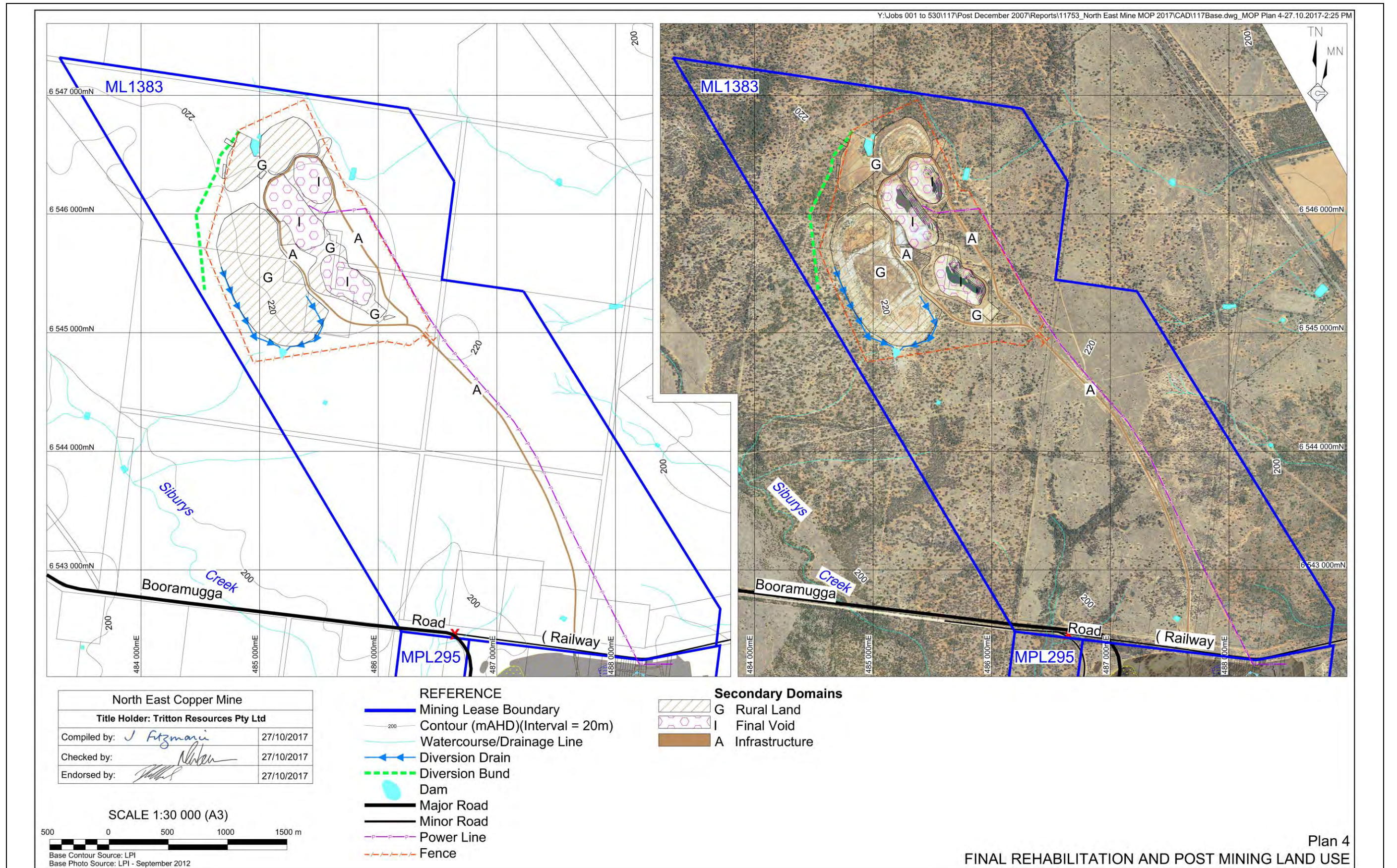


Figure 8  
PREVIOUSLY APPROVED FINAL LAND USE

Source: Plan 4 of Mining Operations Plan for the North East Copper Mine (ML1383) dated December 2017 (RWC, 2017)



## 2.4.1 Final Land Use Domains

**Table 4** defines the final land use domains for the Mine Site and **Plan 1** displays the final land use domains for the Mine Site.

**Table 4**  
**Final Land Use Domains**

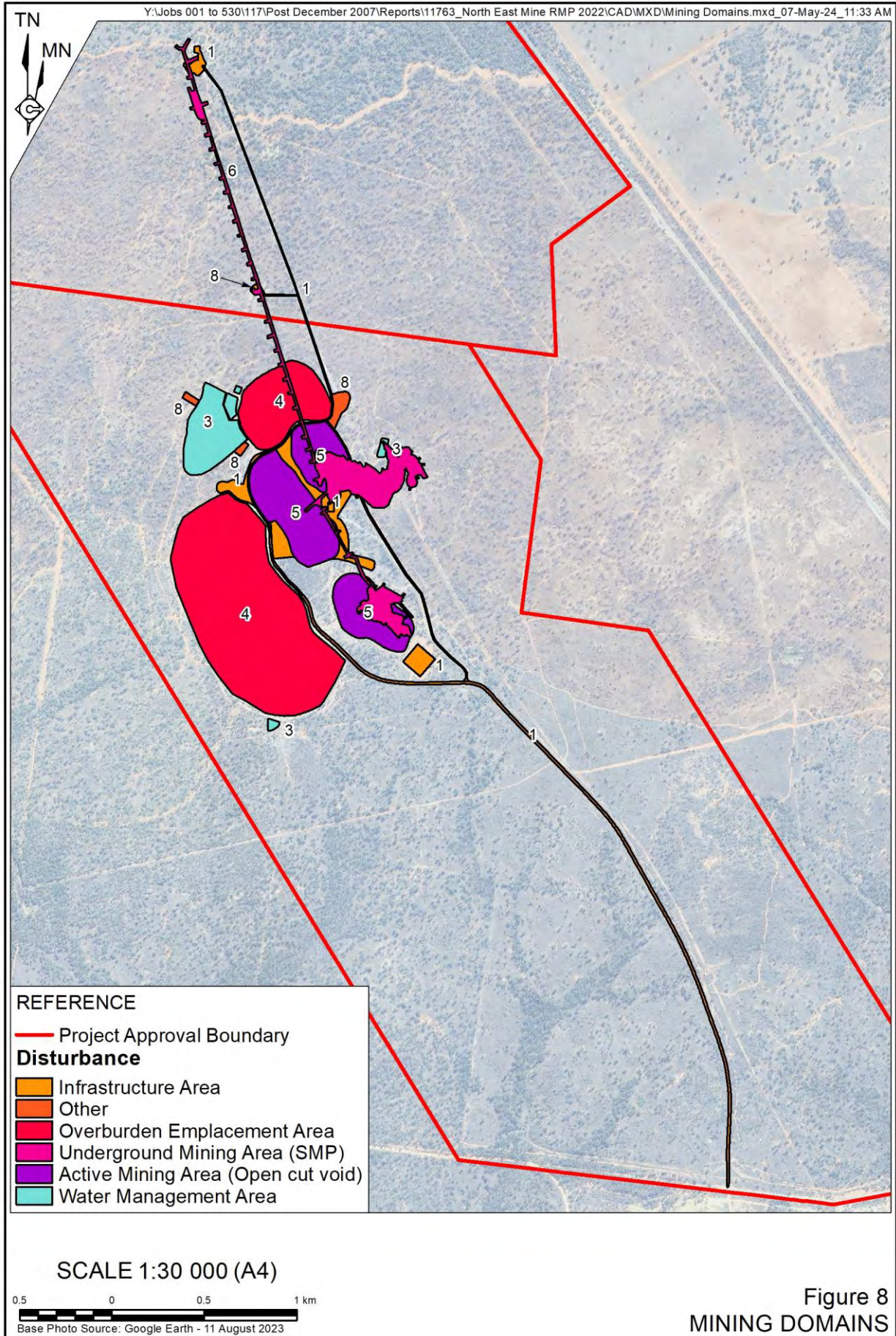
Final Land Use Domain	Domain ID <sup>1</sup>	Domain Description
Native Ecosystem	A	Includes the Waste Rock Emplacements within the Mine Site.
Agricultural Area - Grazing	B	Includes areas that will be rehabilitated to be suitable for light grazing agricultural purposes (i.e. areas of mine-related disturbance, stockpiles, ROM Pad and infrastructure and access tracks not being retained).
Water Storage Area	G	Includes all water management infrastructure to be retained for the final land use (i.e. the North Dam, Double Tanks and other sediment basins).
Final Void Area	J	Includes the North East Open Pit, Hartmans Open Pit, and Larsens Open Pit.
Note 1: See <b>Figure 7</b>		

## 2.4.2 Mining Domains

**Table 5** defines the mining domains for the Mine Site and **Figure 9** displays the mining domains for the Mine Site.

**Table 5**  
**Mining Domains**

Mining Domain	Domain ID <sup>1</sup>	Domain Description
Infrastructure Area	1	Includes the North East Copper Mine's existing magazine and ROM Pad, transformer/switch room, magazine, and miscellaneous structures including roads and parking area. This also includes all areas of the Avoca Tank Project. Also includes areas of the Mine Site that have since been rehabilitated, including the Contractors Area, stockpiling areas, and other minor infrastructure such as access roads.
Water Management Area	3	Includes water management structures that contain clean water within the Mine Site or that are used as temporary storage locations for water sourced under licence from the Bogan River and water storage associated with runoff from the southern section of the Hartmans/Larsens Waste Rock Emplacement.
Overburden Emplacement Area	4	Includes the two former Waste Rock Emplacement Areas that are now under rehabilitation.
Active Mining Area (Open Cut Void)	5	Includes the North East Open Pit, Hartmans Open Pit, Larsens Open Pit and the decline portal and adjacent safety bunds.
Other (Topsoils Stockpiles)	8	Includes topsoil and subsoil stockpiles.
Note 1: See <b>Figure 9</b>		





### 3. Rehabilitation Risk Assessment

The initial Rehabilitation Risk Assessment for the Mine was undertaken generally in accordance with *Australian Standard AS/NZS ISO 31000:2009 Risk Management*. The Rehabilitation Risk Assessment has been prepared to consider potential rehabilitation risks associated with any mine within the Tritton Copper Operations, and as such, also applies to those mines.

Risks to achieving the rehabilitation objectives and rehabilitation completion criteria outlined in Section 4, as well as the final landform outlined in Section 5, were identified and assessed jointly prior to the preparation of this plan by representatives from the following.

- Company staff, including specialists and/or managers for:
  - environmental;
  - geotechnical;
  - geological; and
  - operational activities.
- External consultants from:
  - R.W. Corkery & Co. Pty Limited (environmental management and approvals);
  - O’Kane Consulting Pty Ltd (geoscience); and
  - DnA Environmental (ecology).

Site-specific threats to rehabilitation were assessed based on both the results of previous rehabilitation and rehabilitation trials (see Section 9) 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 this 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 6, 7, 8 and 9** present the consequence, likelihood, risk rating and residual 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.

In accordance with Schedule 8A of the *Mining Regulation 2016*, the Rehabilitation Risk Assessment is maintained as a ‘live’ document and is regularly reviewed in response to changes to operations where potential risks to rehabilitation may occur.

**Table 10** presents the results of the risk analysis assuming the implementation of standard mitigation measures and those outlined within this RMP.

**Table 6**  
**Tritton Consequence Table**

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Level				
5	4	3	2	1
Descriptor				
Insignificant	Minor	Moderate	Major	Critical
Health and Safety				
First aid treatment or injury only	Medical Treatment Injury (MTI)	Single Lost Time Injury (LTI)	Multiple Lost Time Injuries	Permanent disability >30%
Low level soreness or small amount of pain	Restricted Work Injury (RWI)	Short term hospitalisation (<7 days)	Extended hospital treatment (>7 days)	One or more fatalities
	Presented to hospital (no overnight stay)	Reversible impairment to human health	Permanent disability <30%	
			Serious long-term health issue	
Environment				
No or very low environmental impact	Low environmental Impact	Moderate environmental impact	Major environmental impact	Severe environmental impact
Impact confined to a small area	Rapid clean-up by internal staff or contractors	Clean-up by internal staff or contractors	Considerable clean-up effort required by internal staff and external contractors	Likely species destruction and long recovery period
	Impact contained to area already impacted by operations	Impact confined within lease boundary	Impact may extend across lease boundary	Extensive clean-up using external resources
				Impact on a regional scale
Community/External Relations				
Isolated complaint received	Multiple or sporadic complaints received	Repeated or serious rate of complaints	Ongoing complaints from local groups, NGO's or regulators	High level concern from community, regulators, stakeholders and/or stakeholders
No media coverage	No media coverage	Local media interest and coverage	Regional/national media interests	Adverse national or international media coverage
No damage to reputation or relationships with stakeholders	Short-term damage with relationship with one or more stakeholders but no damage to reputation	Reversible damage with stakeholders and to reputation	Protests by external stakeholders	International damage to reputation
			Local or regional damage to reputation	
Legal				
Questionable or minor non-conformance with operating condition	Non-compliance with operating conditions	Breach of local or national law with potential prosecution by regulator	Major breach of local or national law	Significant breach of national or international law with potential jail sentence
No fine or prosecution	Could attach low level administrative response from regulator	Continuing occurrence of minor breach	Prosecution or penalties by regulator likely	Operations suspended or cease (short term or long term)



**Table 6 (Cont'd)**  
**Tritton Consequence Table**

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Level				
5	4	3	2	1
Descriptor				
Insignificant	Minor	Moderate	Major	Critical
Legal				
Unlikely to attract regularity interest	No court appearance required		Short term treat to operations continuing	Licenses withdrawn or revoked
Easy to resolve			Civil action initiated	Class action initiated
Operational/Cost				
Minor impact, easily corrected with insignificant cost to the operation:	Minor damage/failure to equipment or infrastructure with minimal associated cost:	Damage/failure to equipment or infrastructure marginal cost to the operation:	Damage/failure to equipment or infrastructure resulting in significant cost to the operation:	Damage/failure to equipment or infrastructure resulting in a detrimental cost to the operation:
<\$5,000	\$5,000 - \$50,000	\$50,000 - \$100,000	\$100,000 - \$500,000	> \$500,000
Business Interruption				
Minimal disruption to concentrate production (<4hrs)	Minor loss of concentrate production (< 1 day)	Significant loss of concentrate production (1 - 3 days)	Major disruption to concentrate production (3-7 days)	Critical loss of revenue from extended disruption to concentrate production (>1 week)
<100,000	\$100, 000 to \$500, 000	\$500,000 - 1,500,000	\$1,500,000 - \$4,500,000	> \$4,500,000

Source: Tritton Resources

**Table 7**  
**Qualitative Likelihood Rating**

Level	Descriptor	Description in terms of full operating life of the Site	Description in terms of frequency
A	Almost Certain	Consequences expected to occur in most circumstances	Daily or continuous
B	Likely	Consequences will probably occur in most circumstances	Weekly or monthly
C	Possible	Consequences could occur at some time	Annually
D	Unlikely	Consequence will probably NOT occur in most circumstances	Within the life of the operation
E	Rare	Consequence may occur in exceptional circumstances	>100 years

Source: Tritton Resources

**Table 8**  
**Qualitative Risk Rating**

Likelihood		Consequence				
		5 Insignificant	4 Minor	3 Moderate	2 Major	1 Critical
A	Almost Certain	15(H)	10(H)	6(E)	3(E)	1(E)
B	Likely	19(M)	14(H)	9(H)	5(E)	2(E)
C	Possible	22(L)	18(M)	13(H)	8(E)	4(E)
D	Unlikely	24(L)	21(L)	17(M)	12(H)	7(E)
E	Rare	25(L)	23(L)	20(M)	16(H)	11(H)

Source: Tritton Resources

**Table 9**  
**Residual Risk Level Action**

Residual Risk Level	Priority	Actions to Minimise Risk	Actions to Maximise Opportunity
Critical	1	Detailed research and planning required; determine whether activity or task should be stopped pending further investigation	Detailed research and planned required; high payoff potential; pursue opportunity aggressively
High	2	Senior management attention; immediate corrective and preventative action required	Near term opportunity with above average rate of return; pursue diligently
Moderate	3	Conditionally acceptable risk – management responsibility assigned; corrective and preventative action plan developed	Opportunity to realise average rate of return with certainty pursue with existing plans
Low	4	Manage by routine procedures; accept risk	Manage by routine procedures

**Table 10**  
**Rehabilitation Risk Assessment**

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Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>General</b>			
Insufficient skills and experience of rehabilitation personnel.	<ul style="list-style-type: none"> <li>Site based environmental staff are to be supported by external consultants.</li> <li>Procedural documents and records are to be located in central server for document control and storage.</li> <li>Company to implement succession planning and staff training as much as is feasible.</li> <li>Company to maintain a Rehabilitation Management Plan as a staff manual and ensure it is available for ease of guidance to new or inexperienced staff.</li> <li>Company to assess and assign sufficient resources to manage environmental and closure risk.</li> </ul>	17 (M)	Section 7
Lack of clearly defined responsibilities.	<ul style="list-style-type: none"> <li>Clearly mapped and available organisation chart and management plans to be maintained.</li> <li>Position descriptions for relevant staff include rehabilitation and mine closure responsibilities.</li> <li>Quality Assurance program to be established through Rehabilitation Management Plan.</li> <li>Clear communication between departments and relevant stakeholders relating to rehabilitation planning, scheduling and execution.</li> </ul>	18 (M)	Section 7
Insufficient funding for or prioritisation of rehabilitation activities.	<ul style="list-style-type: none"> <li>Budget and reforecast process applied.</li> <li>Rehabilitation commitments acknowledged and understood at senior leadership level.</li> <li>Long-term rehabilitation schedule to be included in Rehabilitation Management Plan with currently estimated costing for each action to be maintained confidentially for staff action and update.</li> <li>All capital investment decision making to include recognition of rehabilitation and closure aspects.</li> </ul>	21 (L)	Section 7
Not compliant with permit/licence approvals.	<ul style="list-style-type: none"> <li>Obligation Register to be regularly reviewed and updated. Development of a system to assign responsibilities from Obligation Register to 'Obligation Owners'.</li> <li>Annual reporting, monitoring and Independent Environmental Audits as required under conditions of consent.</li> <li>Trigger Action Response Plans (TARPs) and summary of legal and permit requirements included in RMPs.</li> <li>Regular risk assessments used to identify and assess compliance with permit and licence conditions.</li> <li>Devise and implement corrective actions (following audits, incidents, non-compliances, specialist reports) as needed.</li> </ul>	24 (L)	

**Table 10 (Cont'd)**  
**Rehabilitation Risk Assessment**

Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>Active Mining Phase of Rehabilitation</b>			
Poor / inadequate / lost opportunity to salvage topsoil & other biological resources through clearing, salvage and handling practices (including timing).	<ul style="list-style-type: none"> <li>• Progressive stripping and storage of topsoil.</li> <li>• Practices that minimise the re-handling of topsoil.</li> <li>• Topsoil tested and analysed through rehabilitation monitoring.</li> <li>• Habitat structures (timber / trees etc) retained for placement at rehabilitation.</li> <li>• Material inventory (including topsoil, NAF waste rock) and a projection of future closure requirements.</li> <li>• Geotechnical and geochemical characterisation of growth medium and capping material to be undertaken opportunistically as stripped.</li> <li>• Seed collection including a seed quantity inventory to be established where necessary to support ongoing purchase of seed and tubestock.</li> </ul>	21 (L)	6.2.1.1, 6.2.1.11
Limited pre-existing and stockpiled biological resources for salvage.	<ul style="list-style-type: none"> <li>• Progressive stripping and storage of topsoil.</li> <li>• Practices that minimise the re-handling of topsoil.</li> <li>• Topsoil tested and analysed through rehabilitation monitoring.</li> <li>• Habitat structures (timber / trees etc) retained for placement at rehabilitation.</li> <li>• Material inventory (including topsoil, NAF waste rock) and a projection of future closure requirements.</li> <li>• Develop contingency plan for where material inventory projection forecasts a deficit (TARP).</li> <li>• Investigate use of Company owned farming land for seed and biological resource salvage.</li> </ul>	21 (L)	6.2.1.11, 10.2
Adverse geochemical/chemical composition of materials such as overburden, tailings, heap leach, subsoils and topsoils etc	<ul style="list-style-type: none"> <li>• Design and Rehabilitation Planning                             <ul style="list-style-type: none"> <li>– Cover design/model for Heap Leach Pads.</li> <li>– Ongoing kinetic geochemical characterisation of waste rock and update of Waste Rock Characterisation and Management Plan.</li> <li>– Ongoing rehabilitation trials or assessments and accurate records.</li> </ul> </li> <li>• Rehabilitation brine trial on Murrawombie Heap Leach Pads (and broader implementation if successful).</li> <li>• Survey and testing of historical mining areas to identify contaminated areas / materials that need to be removed / treated prior to rehabilitation.</li> <li>• Rehabilitation-focused assessments of high-risk landforms including groundwater modelling, water balance modelling.</li> </ul>	17 (M)	6.2.1.4, 6.2.1.6, 6.2.1.9, 6.2.1.11, 9.1.1

**Table 10 (Cont'd)**  
**Rehabilitation Risk Assessment**

Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>Active Mining Phase of Rehabilitation (Cont'd)</b>			
Handling and containment of waste materials including Tailings, waste rock, heap leach, waste / contaminated water.	<ul style="list-style-type: none"> <li>• Proactive waste classification and segregation (NAF / PAF) including update of Waste Rock Characterisation and Management Plan.</li> <li>• Design and Rehabilitation Planning               <ul style="list-style-type: none"> <li>– Cover design/model for Heap Leach Pads.</li> <li>– Ongoing kinetic geochemical characterisation of waste rock and update of Waste Rock Characterisation and Management Plan.</li> <li>– Ongoing rehabilitation trials or assessments and accurate records.</li> </ul> </li> <li>• Rehabilitation brine trial on Murrawombie Heap Leach Pads (and broader implementation if successful).</li> <li>• Survey and testing of historical mining areas to identify contaminated areas / materials that need to be removed / treated prior to rehabilitation.</li> <li>• Rehabilitation-focused assessments of high-risk landforms including for example groundwater modelling or water balance modelling.</li> </ul>	17 (M)	6.2.1.4, 6.2.1.5, 6.2.1.9
Adverse surface and groundwater quality and quantity.	<ul style="list-style-type: none"> <li>• Sediment and erosion control structures/dams. Current studies indicate pits and underground workings act as groundwater sinks.</li> <li>• Closure plans include design for contaminated waters to passively drain towards pits.</li> <li>• Rehabilitation-focused assessments of high-risk landforms including groundwater modelling, water balance modelling.</li> <li>• Implement mitigation/containment controls as required.</li> </ul>	21 (L)	6.2.1.10
<b>Decommissioning Phase of Rehabilitation</b>			
Failure to disconnect services / remove infrastructure.	<ul style="list-style-type: none"> <li>• Survey records, as built records of services and evidence of prior decommissioning.</li> <li>• Decommissioning activities to commence in close association with the mine production schedule.</li> <li>• Infrastructure that can be used at the other nearby Tritton operations will be re-located to these facilities.</li> </ul>	21 (L)	6.2.2.2
Hazards associated with retained infrastructure.	<ul style="list-style-type: none"> <li>• Identification of equipment and material to be retained.</li> <li>• Prior to mine closure - undertake risk assessment on infrastructure that is proposed to be retained. Risk assessment to focus on future / long term liability for the environment, community and the beneficial use of land and water. Implement controls as identified.</li> </ul>	21 (L)	6.2.2.3

**Table 10 (Cont'd)**  
**Rehabilitation Risk Assessment**

Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>Decommissioning Phase of Rehabilitation (Cont'd)</b>			
Any identified hazards on items of heritage or biodiversity assets (e.g. known heritage items / fauna species at the operational site) e.g. migratory birds (utilising water sources), bats (utilising underground portals, etc.)	<ul style="list-style-type: none"> <li>• Cultural and heritage registers.</li> <li>• Flora and fauna registers.</li> <li>• Annually monitoring.</li> <li>• Undertake survey (fauna) and risk assessments prior to mine closure to ensure mine closure activities do not impact on heritage or fauna within active mining areas.</li> </ul>	21 (L)	
Generation of material and waste products from the demolition process (including hazardous waste materials).	<ul style="list-style-type: none"> <li>• Survey and identification of generated wastes prior to commencing demolition.</li> <li>• Hazardous materials, demolition products and transport assessments prior to demolition.</li> <li>• Demolition according to relevant Australian Standards.</li> <li>• Consultation with BSC regarding landfill impact.</li> <li>• Maximise re-use and recycle principles, where feasible.</li> </ul>	21 (L)	6.2.1.5, 6.2.2.4, 6.2.2.5
Accumulation of groundwater in underground / open pit workings - impact on beneficial use of groundwater resources.	<ul style="list-style-type: none"> <li>• Current studies indicate pits and underground workings act as groundwater sinks.</li> <li>• Current groundwater monitoring network.</li> <li>• Develop modelling assessment of long term/future groundwater impact risks. Mine closure plans adjusted following model results.</li> </ul>	21 (L)	
Failure to remove hazardous materials resulting in land / water contamination	<ul style="list-style-type: none"> <li>• All spills reported and cleaned up.</li> <li>• Designated hydrocarbon and chemical storage areas, with hydrocarbons stored in bunded areas (compliant with AS1940).</li> <li>• Contaminated site register.</li> <li>• Contamination assessment undertaken for all 'at risk' areas with remediation undertaken as required.</li> <li>• Validation sampling undertaken to verify any residual contamination is below industry/government (NEPM) guidelines.</li> </ul>	24 (L)	6.2.2.5

**Table 10 (Cont'd)**  
**Rehabilitation Risk Assessment**

Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>Decommissioning Phase of Rehabilitation (Cont'd)</b>			
Failure to address contamination, resulting in residual contamination that impacts meeting mine closure criteria / impacts future beneficial land / surface water / ground water use.	<ul style="list-style-type: none"> <li>All spills reported and cleaned up.</li> <li>Designated hydrocarbon and chemical storage areas, with hydrocarbons stored in bunded areas (compliant with AS1940).</li> <li>Contaminated site register.</li> <li>Contamination assessment undertaken for all 'at risk' areas with remediation undertaken as required.</li> <li>Validation sampling undertaken to verify any residual contamination is below industry/government (NEPM) guidelines.</li> <li>Heap Leach Pads have HDPE liner and containment structures.</li> <li>Heap Leach Pads conceptual cover design advanced to detailed design.</li> <li>Groundwater and surface water monitoring during operations and post-closure.</li> <li>Consideration of passive water treatment options.</li> </ul>	21 (L)	6.2.2.4, 6.2.2.5
Unauthorised access to open pit / voids, underground workings, infrastructure areas and general mining landforms.	<ul style="list-style-type: none"> <li>Establish safety and security bunds during operational life of mine where possible.</li> <li>Underground workings and vent rises fitted with a concrete plug.</li> <li>Safety bunds, fencing and signs established to limit public access.</li> <li>Final landform assessment to ensure landforms are built to the approved final landform design and stable.</li> </ul>	16 (H)	6.2.2.1
<b>Landform Establishment Phase of Rehabilitation</b>			
Final landform does not conform to the approved final landform.	<ul style="list-style-type: none"> <li>All landforms planned and constructed as per approved project description, commitments, approvals and permits.</li> <li>Detailed final landform design plans - design landform for free drainage.</li> <li>Post closure 'as built' survey to confirm free draining landform i.e. built to design.</li> <li>Re-profile slopes or install drainage to provide a stable free-draining landform i.e. meets construction design.</li> <li>Where existing rehabilitation landforms show poor rehabilitation outcomes, develop and implement alternate designs.</li> </ul>	21 (L)	6.2.3.2, 6.2.3.3, 6.2.3.4
Lack of suitable materials for capping / encapsulation of adverse materials.			

**Table 10 (Cont'd)**  
**Rehabilitation Risk Assessment**

Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>Landform Establishment Phase of Rehabilitation (Cont'd)</b>			
Geotechnical instability of Final Open Pit voids.	<ul style="list-style-type: none"> <li>Final void designed to be geotechnically stable during the operational life of the pit and post closure.</li> <li>Any identified unstable pit walls addressed during operational life of mine.</li> <li>Geotechnical monitoring and/or inspection. If required, suitably qualified geotechnical engineer engaged to assess the instability and provide a range of recommendations to mediate the instability.</li> <li>Recommendations to be implemented in consultation with NSW Resource Regulator.</li> </ul>	20 (M)	6.2.3.4
Heap Leach Pad landform design is unstable.	<ul style="list-style-type: none"> <li>Heap Leach Pads conceptual cover design advanced to detailed design including detailed drainage design.</li> <li>Landform evolution modelling.</li> <li>Geotechnical assessment of materials and slope.</li> <li>Monitoring of cover performance (to cover all seasonal variations).</li> </ul>	21 (L)	6.2.3.3
Heap Leach lining or capping is unsuccessful / inadequate.	<ul style="list-style-type: none"> <li>Groundwater monitoring, and purge where necessary. Groundwater purge to be diverted to pit.</li> <li>Liner selection and installation QAQC.</li> <li>Schedule visual inspections and required repairs.</li> <li>Remedial Action Plan.</li> <li>Modelling (such as SeepW modelling of groundwater flow) to better understand risks at closure and plan for remediation.</li> <li>Heap Leach Pads conceptual cover design advanced to detailed design including detailed drainage design.</li> </ul>	21 (L)	
Leachate from Heap Leach Pads uncontained/released into environment.	<ul style="list-style-type: none"> <li>Current drainage controls maintained until closure.</li> <li>Detailed drainage design to direct runoff into the pit.</li> </ul>	21 (L)	
Overall Heap Leach Design unsuitable to sustain final land use.	<ul style="list-style-type: none"> <li>Heap Leach Pads conceptual cover design advanced to detailed design including detailed drainage design.</li> <li>Landform fenced to exclude grazing.</li> <li>Landform evolution modelling.</li> <li>Geotechnical assessment of materials and slope.</li> <li>Monitoring of cover performance.</li> </ul>	21 (L)	



**Table 10 (Cont'd)**  
**Rehabilitation Risk Assessment**

Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>Landform Establishment Phase of Rehabilitation (Cont'd)</b>			
Generation and release of acid and metalliferous drainage.	<ul style="list-style-type: none"> <li>• Geochemical assessment of waste rock during mining.</li> <li>• Identification and selective handling and storing of NAF/PAF material.</li> <li>• Refinement of Waste Rock Characterisation and Management Plan.</li> <li>• Established containment to prevent release of AMD leachate - maintained throughout operational and post closure phases.</li> <li>• Geochemical characterisation of existing Waste Rock Emplacements (kinetic and static) - targeting failed or underperforming rehabilitation areas.</li> <li>• Remediation of identified failures in rehabilitation of emplacements.</li> </ul>	21 (L)	6.2.1.8, 6.2.3.3
Geotechnical instability of Waste Rock Emplacement leading to slope and landform failure.	<ul style="list-style-type: none"> <li>• Original design as proposed in SEE's and approved.</li> <li>• Stability of rehabilitated Waste Rock Emplacements monitored and assessed during operational mining phases.</li> <li>• Original design as proposed in SEE's and approved</li> <li>• Any failed slopes repaired following assessment and re-design by qualified Geotechnical engineer in consultation with restoration ecologist.</li> <li>• Understand long term stability and risks to the rehabilitated landform through landform evolution modelling.</li> </ul>	21 (L)	6.2.3.3
Waste Rock Emplacement leachate uncontained / released to environment.	<ul style="list-style-type: none"> <li>• Sediment dams located to capture runoff from waste rock emplacement.</li> <li>• Understand groundwater and surface water contamination risks for Waste Rock Emplacement by undertaking (for example) groundwater modelling. Implement mitigation / containment measures as required.</li> </ul>	21 (L)	6.2.3.3

**Table 10 (Cont'd)**  
**Rehabilitation Risk Assessment**

Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>Landform Establishment Phase of Rehabilitation (Cont'd)</b>			
Overall Waste Rock Emplacement landform design is unsuitable to sustain final land use.	<ul style="list-style-type: none"> <li>Stability of rehabilitated Waste Rock Emplacements monitored and assessed during operational mining phases.</li> <li>Undertake further characterisation and selective use of closure materials in Waste Rock Emplacement design and construction.</li> <li>Assess and develop corrective actions for existing rehabilitated Waste Rock Emplacement landforms to improve vegetation establishment and persistence (where required).</li> <li>Any failed slopes repaired following assessment and re-design by qualified geotechnical engineer in consultation with restoration ecologist.</li> <li>Landform evolution modelling to inform final landform establishment works that may be required.</li> <li>Waste Rock Emplacement design updated following completion of above study / assessments and rehabilitation outcomes.</li> </ul>	21 (L)	6.2.3.3
Soil erosion/pollution/sedimentation of waterways.	<ul style="list-style-type: none"> <li>Remediate eroding area through additional earthworks, soil works, revegetation or other stabilisation works.</li> <li>Cross-ripping (parallel to the contour).</li> <li>If current controls are unsuccessful, engage a suitably qualified professional in sediment and erosion control to prepare an assessment report and recommendations.</li> </ul>	21 (L)	6.2.3.1
<b>Growth Medium Development Phase of Rehabilitation</b>			
Physical and structural properties of substrate.	<ul style="list-style-type: none"> <li>Materials inventory and characterisation (including topsoil and NAF waste rock) with a projection of future closure requirements.</li> </ul>	21 (L)	6.2.4
Subsoil and topsoil deficit for rehabilitation activities.	<ul style="list-style-type: none"> <li>Undertake further characterisation and selective use of closure materials in Waste Rock Emplacement design and construction.</li> <li>Incorporate specific materials into detailed rehabilitation designs.</li> </ul>	21 (L)	6.2.4
Topsoil not applied as per plan.	<ul style="list-style-type: none"> <li>Topsoil applied as per mine closure planning requirements (nominally 100mm thick).</li> <li>Engage a restoration ecologist to re-evaluate vegetation type for each domain (therefore topsoil requirements) and incorporate findings into mine closure plans.</li> <li>Document amount of topsoil applied at the time of undertaking rehabilitation in 'as built' surveys and reports.</li> <li>Develop and implement quality assurance program.</li> </ul>	24 (L)	6.2.4

**Table 10 (Cont'd)**  
**Rehabilitation Risk Assessment**

Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>Growth Medium Development Phase of Rehabilitation (Cont'd)</b>			
Topsoil unsuitable for vegetation establishment.	<ul style="list-style-type: none"> <li>Minimise handling of all soils so they retain their structural integrity.</li> <li>Where possible direct placement of stripped topsoil to landform under rehabilitation.</li> <li>For sub-optimal soils, investigate stockpile amelioration to improve rehabilitation outcomes.</li> </ul>	24 (L)	6.2.4
<b>Ecosystem and Land Use Establishment Phase of Rehabilitation</b>			
Ant, insect, fauna predation of seed.	<ul style="list-style-type: none"> <li>Soil tests prior to revegetation works.</li> <li>Develop protocols for seed collection for other relevant species in consultation with a suitably qualified person.</li> <li>Purchase additional seed as required.</li> <li>Develop internal protocol for seed collection and storage.</li> </ul>	21 (L)	6.2.5
Poor quality tube stock.			
Weed infestation during plant establishment.			
Inappropriate or inadequate rehabilitation techniques including fleet / machinery selection.			
Inappropriate revegetation species mix for target final land use.			
Poor timing of revegetation works (sub-optimal climatic conditions for rehabilitation.			
<b>Ecosystem and Land Use Development Phase of Rehabilitation</b>			
Weather and climatic influences causing poor vegetation establishment resulting in failure to meet rehabilitation objectives / mine closure criteria.	<ul style="list-style-type: none"> <li>Selection of local native species adapted to local climate based on final land use vegetation type.</li> <li>Undertake rehabilitation trials on native species establishment and persistence.</li> <li>Develop and implement a Rehabilitation Strategy to guide revegetation works and improve the likelihood of success and reduce the likelihood of weed infestation or pest impacts.</li> <li>Under prevailing drought conditions - defer rehabilitation activities.</li> <li>Re-prepare (ripping, fertility/ameliorants etc.) and seeding of failed areas due to dry/drought conditions.</li> </ul>	21 (L)	6.2.6.3

**Table 10 (Cont'd)**  
**Rehabilitation Risk Assessment**

Risk	Risk Controls	Residual Risk Rating*	Where Addressed in this RMP
<b>Ecosystem and Land Use Development Phase of Rehabilitation (Cont'd)</b>			
Long term water quality issues (leachate, surface waters, etc).	<ul style="list-style-type: none"> <li>• Rehabilitation Monitoring</li> <li>• Ongoing rehabilitation trials and accurate records.</li> <li>• Survey and testing of historical mining areas to identify contaminated areas or materials that need to be removed or treated prior to rehabilitation.</li> <li>• Designated hydrocarbon and chemical storage areas with hydrocarbons stored in bunded areas (compliant with AS1940).</li> <li>• All spills reported and cleaned up.</li> <li>• Groundwater and surface water monitoring conducted during mine life to monitor impact with any contamination issues managed during active mine life.</li> <li>• Stormwater containment structures ensure that stormwater, leachate etc is contained.</li> </ul>	21 (L)	6.2.6.2
Damage to revegetation from pests, livestock, unauthorised machinery access, bushfire, vandalism, etc.	<ul style="list-style-type: none"> <li>• Pest control and population monitoring.</li> <li>• Exclusion fencing.</li> <li>• Rehabilitation inspections.</li> <li>• Staff inductions and training.</li> <li>• TARPs for identifying and implementing pest species management programs.</li> </ul>	18 (M)	6.2.6.1
Species established during revegetation operations do not meet mine closure objectives (diversity, structure, density, habitat).	<ul style="list-style-type: none"> <li>• Suitable pasture species to be used for rehabilitation of lands with a final land use of 'intermittent agriculture' to be identified from monitoring of analogue sites.</li> <li>• Ongoing monitoring of revegetation success with corrective actions applied during operational phases.</li> <li>• Topsoil management and analysis.</li> <li>• Annual compliance monitoring.</li> <li>• If required, suitably qualified ecologist or revegetation expert engaged to assess reasons for failure of revegetation and recommend actions to ensure that the final vegetation community corresponds as closely as possible to analogue sites.</li> </ul>	21 (L)	6.2.6.4
Erosion and failure of landform, drainage and water management storage structures	<ul style="list-style-type: none"> <li>• Detailed post closure drainage and containment structures designed to withstand climate change scenarios.</li> <li>• All containment structures to include safe overflow facilities.</li> </ul>	21 (L)	6.2.6.2
*Risk rating assumes successful implementation of risk controls.			

## 4. Rehabilitation Objectives and Rehabilitation Completion Criteria

### 4.1 Rehabilitation Objectives and Rehabilitation Completion Criteria

**Table 12** presents the rehabilitation objectives and rehabilitation completion criteria for individual final land use domains at the Mine Site. Final land use domains and their respective mining domains are shown on **Plan 1**.

### 4.2 Rehabilitation Objectives and Rehabilitation Completion Criteria – Stakeholder Consultation

**Table 11** 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 further consultation with relevant and interested stakeholders.

**Table 11**  
**Community Consultation Activities**

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Stakeholder	Consultation Activities
Bogan Shire Council	<ul style="list-style-type: none"> <li>Form of Consultation: Letter (email transmission).</li> <li>Date: 30 November 2022</li> <li>Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans.</li> <li>Outcomes: No response received.</li> </ul>
Heritage NSW	<ul style="list-style-type: none"> <li>Form of Consultation: Letter (email transmission).<sup>1</sup></li> <li>Date: 30 November 2022.</li> <li>Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans.</li> <li>Outcomes: Response received 5 December 2022. No comments provided. Request to ensure consultation regarding heritage is maintained where relevant.</li> </ul>
NSW Biodiversity, Conservation and Science Directorate	<ul style="list-style-type: none"> <li>Form of Consultation: Letter (email transmission).<sup>1</sup></li> <li>Date: 30 November 2022.</li> <li>Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans.</li> <li>Outcomes: Response received 5 December 2022. No comments or actions required.</li> </ul>

**Table 11 (Cont'd)**  
**Community Consultation Activities**

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Stakeholder	Consultation Activities
NSW DPE Water	<ul style="list-style-type: none"> <li>• Form of Consultation: Letter (email transmission).<sup>1</sup></li> <li>• Date: 30 November 2022.</li> <li>• Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans.</li> <li>• Outcomes: Response received 13 December 2022. It is noted that DPE Water did not provide any specific comments relating to the proposed ROBJ, ROCC or FLRP. However, advice was provided with regard to the overall rehabilitation outcomes for the Mines.</li> </ul>
Nyngan Local Aboriginal Land Council	<ul style="list-style-type: none"> <li>• Form of Consultation: Letter (email transmission).<sup>1</sup></li> <li>• Date: 30 November 2022.</li> <li>• Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans.</li> <li>• Outcomes: Response received 21 December 2022. No actions required. General comment to ensure consideration of <i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales</i> (NSW DECCW 2010)</li> </ul>
Crown Lands	<ul style="list-style-type: none"> <li>• Form of Consultation: Letter (email transmission).<sup>1</sup></li> <li>• Date: 30 November 2022.</li> <li>• Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans.</li> <li>• Outcomes: Response received 10 January 2023. No comments or actions required.</li> </ul>
<p>Note 1: An example of this consultation letter is provided as <b>Appendix 1</b></p>	

**Table 12**  
**Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria**

Rehabilitation Objective Category	Spatial Reference	Rehabilitation Objectives (describe the desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Example Justification/Validation Methods* (evidence that the benchmark has been achieved)
Removal of Infrastructure	A2, B1, B3, B4, B8, G3, J5	All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials.	Removal of all services (power, water, communications) that have been connected on the site as part of the operation.	All utility infrastructure removed.	Statement provided, utility service disconnection record / notification.
			Heritage obligations (e.g. development consent under the <i>Environmental Planning and Assessment Act 1979</i> , approvals under the <i>Heritage Act 1977</i> , etc.) have been met (e.g. archival recording, building retention or building demolition with footings preserved).	Permits and approval documents issued. All archival reports required are complete and submitted.	Copy of any relevant approval documentation and archival reports/records.
			Removal of all plant, equipment and associated infrastructure including processing facilities, stockpile areas, underground hydrocarbon storage tanks, office complex, portable offices, exploration core samples storage racks, samples.	Infrastructure removed.	As-constructed final landform plan, photos, decommissioning reports etc.
			Removal of all footings or removal to a certain depth (e.g. 1 meter).	Footings removed and or removed to specified depths to avoid exposure pathways to subsequent final land use.	Surveyed and marked on the as-constructed final landform plan.
			Removal of all water management infrastructure (including pumps, pipes and power) unless required lawful final land use.	Infrastructure removed.	Statement provided and before/after photos.
			All drill cores have been removed and taken either to an authorised storage or a disposal location.	Cores removed and relocated.	Statement provided, receipt records from storage or disposal location.
			Surveying and sealing of all drill holes and boreholes in accordance with departmental guidelines and relevant standards.	Sealing completed and verified.	Engineering report/statement, plug and abandonment log, photos, as-constructed drawings, records of fill materials and concrete plugs, filling methods etc.
			Surveying and sealing of all underground mine entries in accordance with departmental guidelines and relevant standards.	Sealing completed and verified by suitably qualified engineer.	Engineering report/statement, plug and abandonment log, photos, as-constructed drawings, records of fill materials and concrete plugs, filling methods etc.
Retention of Infrastructure	A2, B1, B3, B4, B8, G3, J5	All infrastructure that is to remain as part of the final land use is safe, does not pose any hazard to the community	Potential hazards (e.g. electrical, mechanical) have been effectively isolated and secured.	Hazards isolated and secured.	Statement provided by suitably qualified engineer.
			Damage to access tracks has been repaired and stabilised.	Repairs complete.	As-constructed final landform plan, photos etc.
	A2, B1, B3, B4, B8, G3, J5	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	Where applicable, necessary approvals are in place (e.g. development consent under the <i>Environmental Planning and Assessment Act 1979</i> ) where buildings and infrastructure are to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.
			Heritage obligations as required under the <i>Environmental Planning and Assessment Act 1979</i> , <i>Heritage Act 1977</i> , etc. have been met (e.g. archival recording, building retention and restoration).	Permits and approval documents issued; archival reports (where required) complete and submitted.	Copy of any relevant approvals.
			The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.
			Infrastructure is in a condition (e.g. structural, electrical, other hazards) that is suitable for the intended final land use.	Formal acceptance from the subsequent landowner that infrastructure is in a condition that is suitable for the intended final land use in accordance with formal agreement.	Formal acceptance from landowner.



**Table 12 (Cont'd)**  
**Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria**

Rehabilitation Objective Category	Spatial Reference	Rehabilitation Objectives (describe the desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Example Justification/Validation Methods* (evidence that the benchmark has been achieved)
Retention of Infrastructure (Cont'd)	A2, B1, B3, B4, B8, G3, J5 (Cont'd)	(Cont'd)	If any underground pipelines or other infrastructure are to remain in situ, they do not pose a hazard for the intended final land use.  Note: If any underground pipelines or other infrastructure are to remain in situ in areas to be returned for Agriculture – cropping they are at a nominated depth (e.g. >1m).	The location of the infrastructure has been marked on a plan and registered with the relevant local authority (e.g. local Council) and Dial Before You Dig.  Formal acceptance from the subsequent landowner that underground infrastructure has been left in a condition that is suitable for the intended final land use in accordance with formal agreement.	Surveyed and marked on the as-constructed final landform plan.  Copy of notification to local Council and Dial Before You Dig  Formal acceptance from landowner.  Identified on an appropriate legal instrument associated with the land title.
			Heritage obligations as required under the <i>Environmental Planning and Assessment Act 1979</i> , <i>Heritage Act 1977</i> , etc. have been met (e.g. archival recording, building retention and restoration).	Permits and approval documents issued; archival reports (where required) complete and submitted.	Copy of any relevant approvals and associated reports.
			The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment report validating modes of failure have been addressed to minimise risks to public safety and the environment etc.
Land Contamination	A2, B1, B3, B4, B8, G3, J5	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm.	Waste material and/or visible contamination areas on site surface.	There are no visible signs of contamination following the removal of plant, equipment and materials.  All rubbish/ waste materials removed from site.  Excess sludge/material has been removed from surface water dams.	Statement provided and before/after photos.
			Soil testing for contaminants of concern as listed by Health Investigation Level of the National Environment Protection (Assessment of Site Contamination) Measure (1999) applicable to land use type.	Contamination will be appropriately remediated so that appropriate guidelines for land use are met, e.g. Health Investigation Level of the National Environment Protection (Assessment of Site Contamination) Measure (1999).	Contamination Remediation Report prepared by Land Contamination Consultant  Site Contamination Audit Report and Site Audit Statement prepared by EPA Accredited Auditor (where required).
Management of waste and process materials	A2, B1, B4	Residual waste materials stored on site (e.g. tailings, PAF and other wastes) will be appropriately contained / encapsulated so it does not pose any hazards or constraints for intended final land use.	Visual – capping material placement, type across emplacement	Visual – verification that capping, type and placement consistent with design	Photos, rehabilitation monitoring reports, as-constructed surveys, quality assurance records for construction, erosion surveys, independent geotechnical reports (where required), groundwater/surface water monitoring reports.  The structural integrity of the infrastructure and capping has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use and water material adequately contained.
			Visual – indication of capping performance on final landform – vegetation health	Visual – no signs of compromised capping performance indicated by vegetation health – such as tree death (deeper root systems)	
			Visual – emplacement seepage and other indicators of groundwater issues – wet spots etc.	Visual – no areas of unexpected seepage	
			Measured - survey of emplacement capping to verify construction and to monitor settlement.	Survey verifies that capping placement consistent with design and settlement and/or material loss is within predicted limits and will not compromise final landform drainage via differential settlement.	
			Quality assurance records for the construction of the emplacement material including (where relevant) capping material, liner system, seepage control etc	Quality assurance records verify capping constructed and in accordance with design specifications relevant to site risks and target final land use. For example: - Capping depth - Capping material type - Capillary breaks - Seepage control.	
			Measured- surface and groundwater levels to verify water balance modeling and capping function	Groundwater and surface monitoring verify capping function e.g. 'store and release' and design performance permeability/seepage.	
Measured – contamination levels in surface and groundwater surrounding emplacement for contaminants of concern associated with waste material emplaced.	Groundwater and surface water monitoring verify adequate containment of waste materials and seepage/leachate is not contributing to land/groundwater contamination.				



**Table 12 (Cont'd)**  
**Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria**

Rehabilitation Objective Category	Spatial Reference	Rehabilitation Objectives (describe the desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Example Justification/Validation Methods* (evidence that the benchmark has been achieved)
Landform Stability	A2, B1, B3, B4, B8, G3, J5	The final landform is stable for the long-term and does not present a risk of environmental harm downstream / downslope of the site or a safety risk to the public/stock/native fauna.	Visual - indicators of erosion and land instability.	Visual - minimal erosion that would not require moderate to significant ongoing management and maintenance works.	Before and after photos, rehabilitation monitoring reports, as- constructed surveys, erosion surveys, independent geotechnical reports (where required) and or erosion modelling reports (where required) that indicate long-term stability of rehabilitated landform. Depending on the nature, scale and risks associated with a specific site, stability will need to be evaluated over a number of years (e.g. 5 years).
			Visual - indicators that surface water management structure are functioning as designed.	Visual – no signs of land instability such as mass movement.	
		Landform that is commensurate with surrounding natural landform and where appropriate, incorporates geomorphic design principles.	Measured – erosion rates from field trials and or surveys on both target analogue sites (representative of final land use) and rehabilitated profiles (tonnes / ha).	Visual - no areas of active gully erosion.	
			Measured - Survey of rehabilitated landform to verify final landform construction in accordance with Final Landform and Rehabilitation Plan <sup>6</sup> .	Visual - no evidence of tunnel erosion.	
			Measured - survey of rehabilitated landform to specifically monitor settlement and/or material loss via erosion.	Visual – no evidence of active scour likely to compromise surface water management structure.	
			Modelled – long term erosional stability modelling undertaken as required (e.g. Landform Evolution Modelling) to verify the long-term stability of rehabilitated landform.	Survey verifies final landform complies with final landform construction in accordance with Final Landform and Rehabilitation Plan. <sup>6</sup>	
			Modelled – long term geotechnical stability modelling undertaken as required (e.g. stability analysis) to verify the long-term stability of rehabilitated landform.	Survey verifies that settlement and/or material loss is within predicted limits and will not compromise final landform drainage via differential settlement.	
Erosion rate monitoring verifies that erosion levels are within the range of target analogue sites representative of final land use.					
Significant surface water management structures (e.g. spillways, drop structures, major drains and creek diversions) have been constructed in accordance with hydrological design.	An engineering assessment undertaken by a suitably qualified person concludes that significant surface water management structures (e.g. spillways, drop structures, major drains and creek diversions) have been constructed in accordance with hydrological design.				
	High risk landforms (such as steep slopes, high walls) have been constructed in accordance with geotechnical design.	An engineering assessment undertaken by a suitably qualified person concludes that high risk landforms (such as steep slopes, high walls) have been constructed in accordance with geotechnical design.			
Bushfire	A2, B1, B3, B4, B8	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.
Surface Water	A2, B1, B3, B4, B8, G3	Runoff water quality from mine site meets the requirements of the relevant development consent(s) / Environment Protection Licence and does not present a risk of environmental harm.	Water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 and or Environment Protection Licence (further guidance available on NSW Environment Protection Authority website).	Water quality discharged from rehabilitated mining operation meet specifications in Environment Protection Licence and or ANZECC guidelines for specific environment.	Water quality monitoring reports.
		Or (where there are limited or no requirements in a development consent)			Environment Protection Licence relinquished by Environment Protection Authority.
		Runoff water quality from mine site is similar to, or better than the pre-disturbance runoff water quality.			Independent hydrological assessment report. Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).

**Table 12 (Cont'd)**  
**Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria**

Rehabilitation Objective Category	Spatial Reference	Rehabilitation Objectives (describe the desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Example Justification/Validation Methods* (evidence that the benchmark has been achieved)
Water Approvals	G3, J5	Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the <i>Water Management Act 2000</i> ) and where required ensure sufficient licence shares are held in the water source(s) to account for water take.	Final landform considers advice from relevant Government Agency whether sufficient licence shares are available in the water source to account for water stored in voids and dams in the proposed final landform.	Water approvals / licences are granted by relevant NSW Government Agency.	Confirmation from relevant Government Agency that relevant water approvals / licences are able to be granted.
			Indicators as specified by Australian River Assessment System (AUSRIVAS).	Assessment of biological health in accordance with Australian River Assessment System (AUSRIVAS).	Independent biological health assessment report. Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).
Groundwater Quality	A2, B1, B3, B4, B8, G3, J5	Groundwater quality is similar to, or better than the pre- disturbance water quality.	Water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 and or Environment Protection Licence (further guidance available on the NSW Environment Protection Authority website).	Water quality discharged from rehabilitated mining operation meet specifications in Environment Protection Licence and or ANZECC guidelines for specific environment.	Independent hydrological assessment report. Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).
Groundwater Regime	A2, B1, B3, B4, B8, G3, J5	Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports.
		Or (where there are limited or no requirements in a development consent)			Environment Protection Licence relinquished by Environment Protection Authority.
		Impacts to groundwater are similar to the pre-mining environment.			Independent hydrological assessment report. Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).
Ecological rehabilitation	A2	The vegetation composition includes native species commensurate with one or more of the surrounding PCT types (PCT103, PCT105, PCT250) and that are deemed suitable to establish over the Tailings Storage Facility without impacting upon the integrity of the cover / cap.	Native plant species recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community (e.g. target PCT)	Native plant species are characteristic of the target vegetation community(s) when compared to analogue sites.	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.  Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).
		The vegetation structure of the final landform is commensurate with one or more of the surrounding PCT types (PCT103, PCT105, PCT250) and that are deemed suitable to establish over the Tailings Storage Facility without impacting upon the integrity of the cover / cap.	Cover and abundance of plant growth forms recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community (e.g. PCT), or an ongoing trend toward becoming characteristic is evident from the monitoring data	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the target vegetation community type(s).	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.  Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).
		Levels of ecosystem function have been established that demonstrate that the vegetation is self-sustainable	Indicators of nutrient cycling are suitable for sustaining the target vegetation community (e.g. PCT(s))	Litter cover is within 10 <sup>th</sup> -90 <sup>th</sup> percentile variation range of reference sites/data	Rehabilitation monitoring reports, independent soil reports (where required) that demonstrate long-term function of rehabilitated landform. Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).
		Evidence of plant regeneration from 0.04 hectare fixed monitoring plots or a walk over of the ecological rehabilitation area	Second generation individuals of trees are within the 10 <sup>th</sup> -90 <sup>th</sup> percentile variation range of reference sites/data approved by the consent authority	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.  Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).	

**Table 12 (Cont'd)**  
**Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria**

Rehabilitation Objective Category	Spatial Reference	Rehabilitation Objectives (describe the desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Example Justification/Validation Methods* (evidence that the benchmark has been achieved)
Ecological rehabilitation (Cont'd)	A2 (Cont'd)	(Cont'd)	Cover of exotic species within 0.04 hectare fixed monitoring plots is low	Foliage cover of 'high threat exotic' (HTE) weeds is within 10 <sup>th</sup> -90 <sup>th</sup> percentile variation range of reference sites/data or at a level that does not cause significant risk to rehabilitation.	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that demonstrate long-term stability of rehabilitated landform. Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).
			Soil health is suitable to sustain the target vegetation community(s) (e.g. PCT)	Total organic carbon is within 10 <sup>th</sup> - 90 <sup>th</sup> percentile variation range of reference sites/data; and	Rehabilitation monitoring reports, independent soil reports (where required) that demonstrate long-term function of rehabilitated landform. Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).
				Total microbial biomass is within 10 <sup>th</sup> -90 <sup>th</sup> percentile variation range of reference sites/data approved by the consent authority; and	
				The ratio of fungus to bacteria (fungal:bacterial) biomass is within 10 <sup>th</sup> -90 <sup>th</sup> percentile variation range of reference sites/data	
			Resilience demonstrated by the effects of drought and fire on composition, structure and other function attributes.	Resilience to drought and fire.	Rehabilitation monitoring reports, environmental monitoring records.
Threats to rehabilitation.	Vertebrate pest species – presence and damage is recorded at a level that does not cause significant risk to rehabilitation.  Domesticated stock - presence and damage is recorded at a level that does not cause significant risk to rehabilitation.	Rehabilitation monitoring reports.			
Agricultural Revegetation	B1, B3, B4, B8	Revegetation is sustainable for the long-term and only requires maintenance that is consistent with the intended final land use.  Land use capability is capable of supporting the target agricultural land use.	Routine Soil Test (bulked soil cores 0-10 cm) – Includes: Total Carbon (TC), Total Nitrogen (TN), Organic Matter, TC/TN Ratio; Bray I and II Phosphorus; Colwell Phosphorus; Available cations (Calcium, Magnesium, Potassium, Ammonium, Nitrate, Phosphate, Sulfur); Available Micronutrients (Zinc, Manganese, Iron, Copper, Boron, Silicon); Exchangeable (Sodium, Potassium, Calcium, Magnesium, Hydrogen, Aluminium, Cation Exchange Capacity); pH and EC (1:5 water); Basic Colour, Basic Texture.	Land and Soil Capability classification or Agricultural Land Classification criteria met.	Rehabilitation monitoring reports, independent soil reports, environmental monitoring records, independent agronomist reports.  Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years).
			Commodity data (e.g. stocking rates, livestock weights, crop yields, pasture composition).	The re-established topsoil / subsoil substrate is capable of supporting the targeted pasture / cropping regime on a sustained basis.	
				Cropping / Pasture establishment is consistent with the range of species utilised within the region.	
				Cropping / Pasture establishment is in good health and provides adequate cover.	
				Cropping yields from rehabilitated areas are similar to adjacent cropping land.	
				Appropriate and reliable access to water for livestock.	
				Appropriate animal refuge areas for livestock (e.g. wooded/treed areas) during extreme weather conditions.	