



## **Biodiversity and Land Management Plan**

## Document Control

| Rev | Description                                                                                                                                                                       | Prepared By | Approved By | Date      |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-----------|
| 0   | New management plan format and content.                                                                                                                                           | J Burton    | S Martin    | 6/5/2025  |
| 0.1 | Incorporate and address comments from CPHR, Transport for NSW and Bogan Shire Council.                                                                                            | J Burton    | W. Olson    | 1/12/2025 |
| 0.2 | Incorporate and address comments from DPHI. Changes to:<br>Section 2.2.1 (Table 2)<br>Section 8.4.1<br>Section 12<br>New sections added:<br>Section 14.1<br>Section 15<br>8.1.7.2 | J Burton    | W. Olson    | 16/04/26  |
| 0.2 | Approved by nominee of the Planning Secretary                                                                                                                                     |             |             | 16/04/26  |

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## 1. INTRODUCTION

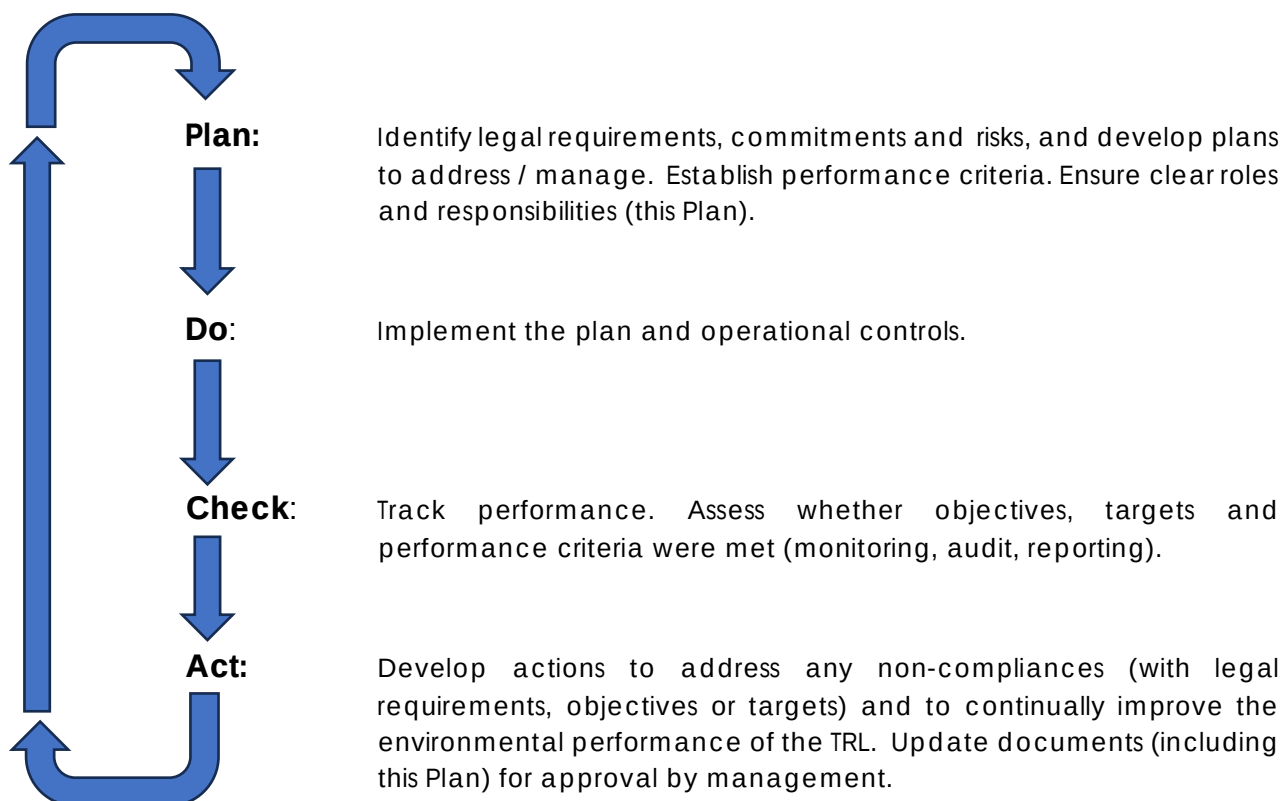
Tritton Resources Limited (TRL), a wholly owned subsidiary of Aeris Resources Limited operates the Tritton Copper Mine (ML1544) and the Girilambone Copper Mine complex including the Murrawombie Copper Mine (ML1280), North East Copper Mine (ML1383) and the Avoca Tank Project (ML1818). The Mines are located west and north-west of Nyngan, in the Bogan Shire Council Local Government Area (LGA) within the central west region of New South Wales. The location of the four mining operations is provided in Figure 1.

### 1.1. Purpose

The purpose of the Biodiversity and Land Management Plan (BLMP) is to describe the key risks and compliance requirements as they relate to impacts on biodiversity and land management values in the vicinity of the Tritton Copper Operations. The BLMP outlines the key management strategies and actions to meet regulatory requirements and mitigate and manage potential risks.

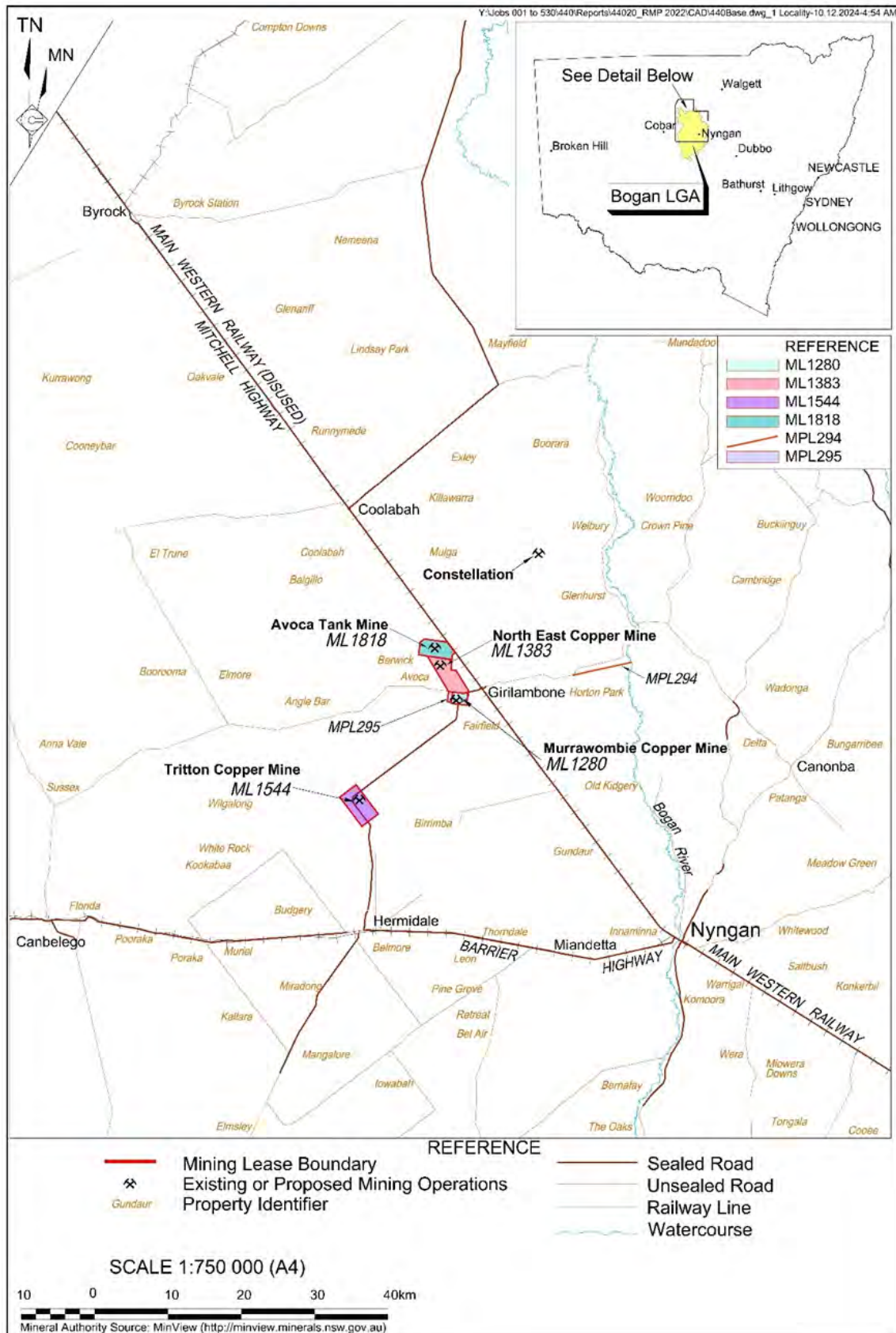
### 1.2. Relationship to Environmental Management System

The BLMP forms part of the overall Environmental Management Framework at Tritton Resources Limited (TRL). The Environmental Management Framework is further described in the Environmental Management Strategy (TRL-HSET-PLN-0023) which includes alignment with the AS/NZS ISO 14001:2016 - Environmental Management Systems. The EMS broadly includes the following key aspects:



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Figure 1 Site Locality



## 1.3. Scope

The scope of the BLMP includes the four current mining operations owned by Aeris Resources / Tritton Resources Limited (TRL) in the vicinity of Nyngan, including:

- Tritton Copper Mine (TCM) (DA 41/98, including Modification 9 and Mining Lease 1544).
- Murrawombie Copper Mine (MCM) (DA 1/91, including Modification 5 (DA 2015/010/4) and Mining Lease 1280).
- North East Copper Mine (NECM) (DA 6/95, including Modifications and Mining Lease 1383).
- Avoca Tank Project (ATP) (DA 10/2015/004/003, including Modification 2 and Mining Lease 1818).

These sites are collectively referred to as 'Tritton Copper Operations'.

This BLMP includes management measures to address all legal requirements (Consent Conditions) commitments and risks related to the following aspects:

- Flora and fauna;
- Weeds and pests;
- Land management; and
- Visual amenity and landscape management.

Several aspects that may be related to biodiversity and land management, including the above aspects have been excluded from this BLMP where they are required to be addressed by other planning documents as per the various TRL approvals or TRL management systems. These aspects and relevant plans (where addressed) is presented below in Table 1.

*Table 1 Aspects excluded from this BLMP*

| Aspect                                          | Management Plan (where addressed)                                                                                     |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Erosion and sediment control                    | Water Management Plan (TRL-HSET-PLN-0032)                                                                             |
| Soil stripping, stockpiling and re-application  | Rehabilitation Management Plan:<br>TCM (TRL-HSET-PLN-0034)<br>MCM (TRL-HSET-PLN-0035)<br>NECM/ATP (TRL-HSET-PLN-0036) |
| Rehabilitation (including landform development) |                                                                                                                       |
| Seed collection                                 |                                                                                                                       |
| Achieving land capability (as stated in EIS)    |                                                                                                                       |
| Natural heritage                                | Heritage Management Plan (TRL-HSET-PLN-0026)                                                                          |

## 1.4. Objectives

The overarching aim of this BLMP is to facilitate the protection, where possible of endangered ecological communities (EEC), threatened species and native flora and fauna through the implementation of strategies targeting the identification of biodiversity values, and the management of potential adverse impacts from mining operations. This BLMP also aims to implement responsible and sustainable land management practices, to ensure the land is suitable for post mining land uses.

Key objectives with regard to the management of biodiversity and land within the Tritton Copper Operations include the following:

- To provide a description of known biodiversity values and areas within the Tritton Copper Operations (informed by assessments and surveys undertaken to date).
- To detail management measures for the protection of known biodiversity values at the Tritton Copper Operations.
- To manage the land in a responsible manner and prevent impacts on biodiversity values and surrounding land holders by managing weeds and pests.
- To ensure the operational mining landscape poses no significant visual amenity risks from public or private vantage points.
- To clearly define the responsibilities and accountabilities of TRL employees with regards to the management of biodiversity values and land management aspects.
- To assess the effectiveness of management measures and identify (continuous) improvement opportunities.

## 2. STATUTORY REQUIREMENTS

### 2.1. Legislation

Regulatory requirements apply to the identification and management of native flora, fauna, weeds and pests. Key legislation as it applies to this BLMP is presented in the following sections:

#### 2.1.1. *Biodiversity Conservation Act 2016 (NSW)*

The *Biodiversity Conservation Act 2016* (BC Act) aims to maintain a healthy, productive and resilient environment for the well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. The BC Act aims to prevent extinction and promote recovery of threatened species, populations, ecological communities and their habitats. This is done through eliminating and managing threats to the survival or evolutionary development of species, populations, and ecological communities, such as the impacts of development.

Development applications, including those required for each of the Tritton Copper Operations require an assessment of flora, fauna and vegetation communities, and if required consideration under the Biodiversity Offset Scheme.

#### 2.1.2. *Environment Protection and Biodiversity Conservation ACT 1999 (Commonwealth)*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) enables the Australian Government to join with the states and territories in providing a national scheme of environment and heritage protection and biodiversity conservation. The EPBC Act focuses Australian Government interests on the protection of matters of national environmental significance (NES), with the states and territories having responsibility for matters of state and local significance. Under the EPBC Act, actions that have, or are likely to have a significant impact on a matter of NES require approval from the Australian Government Minister for the Environment and Energy.

Matters of NES protected under the EPBC Act that are relevant to this BLMP include:

- Listed threatened species and communities.
- Listed migratory species.

#### 2.1.3. *Biosecurity Act 2015 (NSW)*

The *Biosecurity Act 2015* replaces the *Noxious Weeds Act 1993* as the legislation regulating the management of weeds in NSW. The *Biosecurity Act* provides a framework for the control of invasive weeds. It applies to government, councils, landholders and public authorities and provides a general biosecurity duty to all persons to prevent, eliminate or minimise any biosecurity risks plants pose.

The Bogan Shire Council is the 'Controlling Authority' for the control of declared priority weeds in the vicinity of the Tritton Copper Operations. Priority weeds and required control measures are outlined in the Central West Regional Strategic Weed Management Plan 2023-2027 (Central West Local Land Services (2022)).

|                                                                                           |                  |                                              |                              |                |
|-------------------------------------------------------------------------------------------|------------------|----------------------------------------------|------------------------------|----------------|
| Doc No: TRL-HSET-PLN-0025                                                                 |                  | Title: Biodiversity and Land Management Plan |                              |                |
| Site: Tritton                                                                             | Revision No: 0.1 | Published Date: 00/00/0000                   | Next Review Date: 00/00/0000 | Page: 10 of 72 |
| This document is UNCONTROLLED once printed – refer to Tritton CDMS for CONTROLLED version |                  |                                              |                              |                |

## 2.1.4. Environmental Planning and Assessment Act 1979 (NSW)

The *Environmental Planning and Assessment Act* (EP&A Act) is the core legislation relating to planning and development activities in NSW and provides the statutory framework under which development proposals are assessed and approved. The EP&A Act aims to encourage the proper management, development and conservation of resources, environmental protection and ecologically sustainable development. Part 4 of the Act details how authorities are to determine development applications, as well as identifying whether projects require an Environmental Impact Statement (EIS).

Mining operations subject to this BLMP have been assessed and approved under Part 4 of the EP&A Act (Section 1.3).

## 2.2. Conditions of Consent

The management of biodiversity values, weeds, pests and contaminated lands (subject to this BLMP) at the Tritton Copper Operations is regulated by the various TRL Development Consents (Section 1.3). Specific conditions, as they relate to these aspects are replicated below (Table 2).

Table 2 Compliance Conditions of Consent

| Condition No.                                                                      | Condition                                                                                                                                                                                                                                                                                                                                                                                                      | Section Where Addressed      |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| <b>DA 41/98 – Tritton Development Consent (Modification 9) (11 September 2025)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                |                              |
| 1                                                                                  | The Applicant must carry out the development:<br>(i) generally in accordance with the EIS;<br>(ii) in accordance with the conditions of this consent;<br>(iii) generally in accordance with the development layout; and<br>(iv) in accordance with all written directions of the Secretary.                                                                                                                    | Section 2.2.1                |
| 6                                                                                  | The Applicant must prepare an Environmental Management Plan (EMP) for the mining operations, which must include, the preparation of the following:<br><br>(ii) a Contingency Strategy prepared in consultation with CPHR for any threatened species that maybe affected by the construction and operation of the mine;                                                                                         | Section 8.1.5                |
|                                                                                    | (x) management measures for any fauna and flora species listed under the Threatened Species Conservation Act 1995 that occur on the site.<br><br>The EMP shall be prepared to the satisfaction of the Secretary in consultation with relevant agencies and shall be submitted at least 1 (one) month prior to the commencement of construction, or within such period as otherwise agreed to by the Secretary. | Section 8.1<br><br>Section 6 |

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| Condition No. | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Section Where Addressed |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 21            | The Applicant must consult with the CPHR when implementing the recommendations detailed in section 4.6.1.1 and 4.6.2.1 of the EIS, including the placement of a fence around the Tailings Storage Facility prior to tailings production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Section 8.1.7           |
| 22            | The Applicant must ensure that, following the production of tailings, there is an alternative and permanent source of potable water for wildlife. Details should be included in the Contingency Strategy required by Condition 6(ii).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Section 8.1.7           |
| 23            | <p>Prior to the construction of the tailings dam, and following consultation with the RR and EPA, the Applicant must prepare a Management and Monitoring Plan for the Tailings Dams to the satisfaction of the Secretary. The Plan must be prepared by a suitably qualified person and be submitted to the Department one month prior to the commencement of the works. The Plan shall include but not be limited to:</p> <ul style="list-style-type: none"> <li>(i) A full list of chemicals and reagents and their concentrations to be released into the tailings dams and the expected dilutions of those chemicals and reagents after release;</li> <li>(ii) A toxic profile of these chemicals and reagents (ie in tailings water);</li> <li>(iii) An assessment of expected effects of the chemicals and reagents on the species of concern, particularly threatened species;</li> <li>(iv) Ameliorative measures and contingency planning measures to ensure adverse impacts on wildlife are minimised;</li> <li>(v) Provisions for on-going monitoring of the chemical and reagent concentrations of the tailings dam and wildlife use of the dam; and</li> <li>(vi) The monitoring component of the plan shall also include provision for the monitoring of wildlife usage of the alternative water supply required by Condition 22.</li> </ul> | Section 8.1.7           |
| 24            | The Applicant must implement the Management and Monitoring Plan in accordance with its provisions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | As Above                |
| 25            | Prior to any tree clearing for the Tailings Storage Facility, the Applicant must inspect the area for potential bat roost trees and nest hollows. Identified trees should be retained where possible, or if lost, any bat colonies should be relocated in consultation with CPHR. The locations of trees with hollows and any other significant threatened fauna attributes should be identified and presented in the contingency plan required by Condition 6(ii) of this consent.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Section 8.1.4           |

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| Condition No.                                                                       | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Section Where Addressed          |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| 26                                                                                  | All hollowed vegetation, stumps and logs removed during the construction of the Tailings Storage Facility must be relocated to the designated areas of compensatory planting identified in Figure 2.12 of the EIS.                                                                                                                                                                                                                                                                                                                                | Section 8.1.8                    |
| 27                                                                                  | In relation to the Kultarr, the Applicant must;<br><br>a) Put in place pre-start monitoring. Any Kultarr located should be relocated to suitable habitat as near as possible to the capture site. This habitat shall be defined by a suitably qualified person; and<br><br>b) Any captured Kultarr to be relocated shall be held for a period no longer than 10 days in suitable conditions.                                                                                                                                                      | Section 8.1.5.4                  |
| 28                                                                                  | The Applicant must, where practicable, ensure that the identified communities containing the species <i>Pterostylis cobarensis</i> are protected from mining and mining related disturbance by means of a buffer area at least 20 metres wide.                                                                                                                                                                                                                                                                                                    | Section 8.1.5.1                  |
| 29                                                                                  | The Applicant must submit a Landscape Plan to Council prior to the issuing of a Construction Certificate. The Plan must be prepared by a suitably qualified person and must address, but not be limited to, the following matters:<br><br>(i) Details on screen planting around the Tailings Storage Facility, with particular attention to minimising the visibility of the facility from Yarrandale Road; and<br><br>(ii) Details on the proposed landscaping treatment of the mine processing area, Tailings Storage Facility and office area. | Complete<br>No longer applicable |
| 30                                                                                  | All landscaping and tree planting works referred to in Condition 29 must be completed as far as practicable within 12 (twelve) months of the commencement of operations.                                                                                                                                                                                                                                                                                                                                                                          | Complete<br>No longer applicable |
| 31                                                                                  | All disturbed areas are to be revegetated as soon as practicable on completion of construction using species and fertilisers in combinations and at such rates acceptable to the CPHR's Nyngan Catchment Advisory Officer.                                                                                                                                                                                                                                                                                                                        | Section 8.1.6                    |
| 32                                                                                  | The Applicant must ensure that the external colour and texture of all structures shall, where practical, blend into the natural surroundings of the locality.                                                                                                                                                                                                                                                                                                                                                                                     | Section 8.4                      |
| <b>DA 2015/010/2 Murrawombie Development Consent (Modification 5) (4 July 2024)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                  |
| 13                                                                                  | Existing trees within and around the mining lease (not areas actually being mined) are retained wherever possible.                                                                                                                                                                                                                                                                                                                                                                                                                                | Section 8.1                      |

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| Condition No.                                                                                                    | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Section Where Addressed       |                                                                                 |                |                                                                                 |                                                                                                                  |    |                 |                                                                 |                          |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----|-----------------|-----------------------------------------------------------------|--------------------------|
| DA 6/95 North East Development Consent (including modifications)                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |                                                                                 |                |                                                                                 |                                                                                                                  |    |                 |                                                                 |                          |
|                                                                                                                  | No specific conditions relating to the management of aspects addressed in this plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -                             |                                                                                 |                |                                                                                 |                                                                                                                  |    |                 |                                                                 |                          |
| DA 10/2015/004/003 Avoca Tank Development Consent (Modification 2) (15 May 2025)                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |                                                                                 |                |                                                                                 |                                                                                                                  |    |                 |                                                                 |                          |
| B2                                                                                                               | <p>Prior to the commencement of impact to biodiversity values the class and number of ecosystem credits in Table B4 must be retired to offset the residual biodiversity impacts of the development.</p> <p><i>Table B4. Ecosystems credits required to be retired – like for like</i></p> <table><tr><th>Impacted plant community type</th><th>Number of ecosystem credits</th><th>IBRA subregion</th><th>Plant community type(s) that can be used to offset the impacts from development</th></tr><tr><td>PCT103 – Poplar Box – Gum Coolabah – White Cypress Pine shrubby woodland mainly on the Cobar Peneplain Bioregion</td><td>94</td><td>Canbelego Downs</td><td>Western Peneplain Woodlands including PCT 103, PCT 135, PCT 145</td></tr></table> | Impacted plant community type | Number of ecosystem credits                                                     | IBRA subregion | Plant community type(s) that can be used to offset the impacts from development | PCT103 – Poplar Box – Gum Coolabah – White Cypress Pine shrubby woodland mainly on the Cobar Peneplain Bioregion | 94 | Canbelego Downs | Western Peneplain Woodlands including PCT 103, PCT 135, PCT 145 | Complete / Condition met |
| Impacted plant community type                                                                                    | Number of ecosystem credits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IBRA subregion                | Plant community type(s) that can be used to offset the impacts from development |                |                                                                                 |                                                                                                                  |    |                 |                                                                 |                          |
| PCT103 – Poplar Box – Gum Coolabah – White Cypress Pine shrubby woodland mainly on the Cobar Peneplain Bioregion | 94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Canbelego Downs               | Western Peneplain Woodlands including PCT 103, PCT 135, PCT 145                 |                |                                                                                 |                                                                                                                  |    |                 |                                                                 |                          |
| B3                                                                                                               | The requirement to retire credits in condition B2 may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the class and number of ecosystem credits, as calculated by the BAM Credit Calculator (BAM-C).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Complete / Condition met      |                                                                                 |                |                                                                                 |                                                                                                                  |    |                 |                                                                 |                          |
| B4                                                                                                               | Evidence of the retirement of credits or payment to the Biodiversity Conservation Fund in satisfaction of condition B2 must be provided to the consent authority prior to the commencement of impact to biodiversity values.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Complete / Condition met      |                                                                                 |                |                                                                                 |                                                                                                                  |    |                 |                                                                 |                          |
| B5                                                                                                               | Prior to the commencement of impact to biodiversity values the class and number of species credits in Table B7 must be retired to offset the residual biodiversity impacts of the development.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Complete / Condition met      |                                                                                 |                |                                                                                 |                                                                                                                  |    |                 |                                                                 |                          |

| Condition No.                   | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Section Where Addressed                     |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------|----------------|-------------------|-----|-----------------|---------------------------|----|-----------------|--------------------|----|-----------------|------------------|-----|-----------------|------------|-----|-----------------|--------------------------|
| B6                              | <p>Evidence of the retirement of credits or payment to the Biodiversity Conservation Fund in satisfaction of Table B7 requirements must be provided to the consent authority prior to the commencement of impact to biodiversity values.</p> <p><i>Table B7. Species credits required to be retired - like for like</i></p> <table border="1"> <thead> <tr> <th>Impacted species credit species</th><th>Number of species credits</th><th>IBRA subregion</th></tr> </thead> <tbody> <tr> <td>Bush Stone-Curlew</td><td>104</td><td>Anywhere in NSW</td></tr> <tr> <td>Major Mitchell's Cockatoo</td><td>54</td><td>Anywhere in NSW</td></tr> <tr> <td>Pine Donkey Orchid</td><td>80</td><td>Anywhere in NSW</td></tr> <tr> <td>Greenhood Orchid</td><td>107</td><td>Anywhere in NSW</td></tr> <tr> <td>Shrub Sida</td><td>107</td><td>Anywhere in NSW</td></tr> </tbody> </table> | Impacted species credit species             | Number of species credits | IBRA subregion | Bush Stone-Curlew | 104 | Anywhere in NSW | Major Mitchell's Cockatoo | 54 | Anywhere in NSW | Pine Donkey Orchid | 80 | Anywhere in NSW | Greenhood Orchid | 107 | Anywhere in NSW | Shrub Sida | 107 | Anywhere in NSW | Complete / Condition met |
| Impacted species credit species | Number of species credits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | IBRA subregion                              |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
| Bush Stone-Curlew               | 104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Anywhere in NSW                             |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
| Major Mitchell's Cockatoo       | 54                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Anywhere in NSW                             |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
| Pine Donkey Orchid              | 80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Anywhere in NSW                             |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
| Greenhood Orchid                | 107                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Anywhere in NSW                             |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
| Shrub Sida                      | 107                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Anywhere in NSW                             |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
| B7                              | Prior to the commencement of impact to biodiversity values, a Biodiversity Management Plan must be prepared to the satisfaction of the consent authority. The Biodiversity Management Plan may form part of a Construction Environmental Management Plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Complete (previous revisions of this Plan). |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
| B8                              | The Biodiversity Management Plan must identify the development site as per the Biodiversity Development Assessment Report (BDAR) and approved plans.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Appendix B                                  |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
| B9                              | The Biodiversity Management Plan must identify areas of land that are to be retained, as outlined in the BDAR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Complete / Condition met<br>Appendix B      |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |
| B10                             | Construction impacts must be restricted to the development site and must not encroach into areas of retained native vegetation and habitat. All materials stockpiles, vehicle parking, machinery storage and other temporary facilities must be located within the areas for which biodiversity impacts were assessed in the BDAR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Section 8.1                                 |                           |                |                   |     |                 |                           |    |                 |                    |    |                 |                  |     |                 |            |     |                 |                          |

# Biodiversity and Land Management Plan

| Condition No.                 | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Section Where Addressed |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                       |                |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                       |                               |                                                                                       |                     |                       |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------|----------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------|-----------------------|
| B11                           | <p>The Biodiversity Management Plan must identify all measures proposed in the BDAR to mitigate and manage impacts on Biodiversity outlined in Table B11*, including performance measures for each commitment where appropriate.</p> <p>Table B11. Statement of commitments to mitigate and manage biodiversity impacts.</p> <p>*Listed as 'Table B12' in DA 2015/004 in error.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Section 8.1             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                       |                |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                       |                               |                                                                                       |                     |                       |
|                               | <table><tr><th>Biodiverstiy Impact</th><th>Measure</th><th>Timing</th><th>Responsibility</th></tr><tr><td>Harm to non-threatened fauna species</td><td><p>Soft felling techniques will be employed during vegetation clearing. Techniques will be adaptive but may include:</p><ul style="list-style-type: none"><li>• Marking of habitat trees</li><li>• Removal of ground layer and midstorey around habitat trees</li><li>• Tapping habitat trees with machinery prior to removal</li><li>• 'slow drop' of habitat trees, by gentle lowering with hollow intact.</li><li>• Inspection of hollow and capture and release of any present fauna species.</li></ul></td><td>During vegetation clearing</td><td>Environmental Advisor</td></tr><tr><td>Offsite impacts to vegetation</td><td>Implementation of appropriate erosion and sediment practices following best practice.</td><td>During construction</td><td>Environmental Advisor</td></tr></table> |                         | Biodiverstiy Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Measure                    | Timing                | Responsibility | Harm to non-threatened fauna species | <p>Soft felling techniques will be employed during vegetation clearing. Techniques will be adaptive but may include:</p> <ul style="list-style-type: none"><li>• Marking of habitat trees</li><li>• Removal of ground layer and midstorey around habitat trees</li><li>• Tapping habitat trees with machinery prior to removal</li><li>• 'slow drop' of habitat trees, by gentle lowering with hollow intact.</li><li>• Inspection of hollow and capture and release of any present fauna species.</li></ul> | During vegetation clearing | Environmental Advisor | Offsite impacts to vegetation | Implementation of appropriate erosion and sediment practices following best practice. | During construction | Environmental Advisor |
|                               | Biodiverstiy Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         | Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Timing                     | Responsibility        |                |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                       |                               |                                                                                       |                     |                       |
|                               | Harm to non-threatened fauna species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         | <p>Soft felling techniques will be employed during vegetation clearing. Techniques will be adaptive but may include:</p> <ul style="list-style-type: none"><li>• Marking of habitat trees</li><li>• Removal of ground layer and midstorey around habitat trees</li><li>• Tapping habitat trees with machinery prior to removal</li><li>• 'slow drop' of habitat trees, by gentle lowering with hollow intact.</li><li>• Inspection of hollow and capture and release of any present fauna species.</li></ul> | During vegetation clearing | Environmental Advisor |                |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                       |                               |                                                                                       |                     |                       |
| Offsite impacts to vegetation | Implementation of appropriate erosion and sediment practices following best practice.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | During construction     | Environmental Advisor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |                       |                |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                       |                               |                                                                                       |                     |                       |
| C1                            | <p>The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Bogan Shire Council. This strategy must:</p> <p>g) Include the following environmental management plans:</p> <p>(v) Pest Animal Management Plan</p> <p>(vi) Weed Management Plan</p> <p>(vii) Fauna Management Plan</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | This Plan               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                       |                |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                       |                               |                                                                                       |                     |                       |

## 2.2.1. Commitments

Appendix A summarises commitments that relate to the management of biodiversity values, pests, weeds and visual amenity aspects arising from the various Environmental Assessments for each of the Tritton Copper Operations. Appendix A includes reference to the relevant section of this BLMP where the commitment is addressed.

As related to the TCM, TRL will carry out the development in general accordance with:

- The TCM EIS (including modification assessment reports);
- with the conditions of this consent (replicated in Table 2 as relevant to this BLMP);
- the development layout (Appendix 1 of the TCM Development Consent (DA 41/98)); and
- all written directions of the Secretary.

## 2.3. Licenses and Permits

In reference to the above development consents and EIS commitments, TRL holds two Environment Protection Licences (EPL) issued under the NSW *Protection of the Environment Operations Act 1997*(POEO Act):

- EPL 11254 (version dated 8 June 2021) Applies to stated Lots and Deposited Plans (DP) associated with the TCM Mining Lease (ML 1544).
- EPL 4501 (version dated 13 February 2025) – Applies to Mining Leases associated with the MCM (ML 1280), NECM (ML 1383) and the ATP (ML 1818) and includes Mining Purpose Lease (MPL) 295.

There are no specific conditions in these licences that relate to the management of biodiversity values or other aspects included in this BLMP.

There are no further licences or permits that relate to this BLMP.

## 3. DEFINITIONS

The following acronyms and definitions are used in this BLMP.

|                                         |                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AS/NZS</b>                           | Australian Standards/New Zealand Standards                                                                                                                                                                                                                                                             |
| <b>ATP</b>                              | Avoca Tank Project – a mining project associated with the North East Copper Mine.                                                                                                                                                                                                                      |
| <b>BC Act</b>                           | Biodiversity Conservation Act 2016 – NSW legislation for conserving biodiversity and managing threats to ecosystems and species.                                                                                                                                                                       |
| <b>BDAR</b>                             | Biodiversity Development Assessment Report – outlines biodiversity impacts and management measures including offsetting requirements.                                                                                                                                                                  |
| <b>Bogan River</b>                      | The ultimate receiving environment for runoff waters from the catchment in which the TRL mining operations are located.                                                                                                                                                                                |
| <b>Community Consultative Committee</b> | A committee composed of representative community members whose role it is to be consulted and provide feedback on key issues regarding TRL's mining operations.                                                                                                                                        |
| <b>Competent manner</b>                 | Possessing the requisite knowledge, skill, and judgment for the task or duty; exercising those attributes appropriately in the particular circumstances; performing the task with reasonable care, diligence, and timeliness; meeting the standard that a reasonable person in that role would expect. |
| <b>Copper Concentrate</b>               | Copper concentrate is a raw material produced from copper ore through a process called beneficiation, where the copper content is increased                                                                                                                                                            |
| <b>COS</b>                              | Coarse Ore Stockpile                                                                                                                                                                                                                                                                                   |
| <b>CPHR</b>                             | Conservation Programs, Heritage and Regulation group of the NSW Department of Climate Change, Energy, the Environment and Water (formally the NSW Biodiversity, Conservation and Science Directorate (BCS))                                                                                            |
| <b>CRD</b>                              | Cumulative Rainfall Departure; a means of identifying longer term drying or wetting trends.                                                                                                                                                                                                            |
| <b>DA</b>                               | Development Application – formal requests for permission to carry out development activities under specific conditions.                                                                                                                                                                                |
| <b>Day</b>                              | The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays                                                                                                                                                                                                    |
| <b>DPHI</b>                             | NSW Department of Planning, Housing and Infrastructure.                                                                                                                                                                                                                                                |
| <b>EEC</b>                              | Endangered Ecological Communities – areas of vegetation listed as endangered under the Biodiversity Conservation Act 2016 and the EPBC Act.                                                                                                                                                            |
| <b>EIS</b>                              | Environmental Impact Statement – document assessing environmental impacts and proposing mitigation measures.                                                                                                                                                                                           |
| <b>EMS</b>                              | Environmental Management Strategy – Overarching / framework environmental management document for Tritton                                                                                                                                                                                              |
| <b>EPA</b>                              | NSW Environmental Protection Authority                                                                                                                                                                                                                                                                 |
| <b>EPBC Act</b>                         | Environment Protection and Biodiversity Conservation Act 1999 – federal law protecting matters of national environmental significance.                                                                                                                                                                 |

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|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EPL</b>                     | Environment Protection Licences – issued under the NSW Protection of the Environment Operations Act 1997.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Evening</b>                 | The period from 6 pm to 10 pm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Environment</b>             | Environment means components of the earth, including—<br>(a) land, air and water, and<br>(b) any layer of the atmosphere, and<br>(c) any organic or inorganic matter and any living organism, and<br>(d) human-made or modified structures and areas,<br>and includes interacting natural ecosystems that include components referred to in paragraphs (a)–(c).                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Harm to the Environment</b> | Harm to the environment includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Incident</b>                | A set of circumstances that causes or threatens to cause material harm to the environment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>INX</b>                     | A commercial document control, incident investigation and action management system adopted and used by TRL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>JHA</b>                     | Job Hazard Analysis - a systematic process that identifies potential hazards associated with specific job tasks or activities to improve workplace safety and environmental management.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Kultarr</b>                 | A threatened marsupial species, subject to protection and monitoring during vegetation clearing activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Material harm</b>           | Harm to the environment is material if— <ul style="list-style-type: none"> <li>it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or</li> <li>it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and</li> <li>loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.</li> </ul> <p>For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.</p> |
| <b>MCM</b>                     | Murrawombie Copper Mine – a copper mining operation operated by Tritton Resources under Mining Lease 1280.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>ML</b>                      | Mining Lease – a legal right to extract minerals within a specified area.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>MOP</b>                     | Mining Operations Plan – former strategic plans for mining operations and land rehabilitation after mining activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>NECM</b>                    | North East Copper Mine – a mining site operated by Tritton Resources, part of the North East Mine operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Night</b>                   | The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>OEM</b>                     | Original Equipment Manufacturers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

# Biodiversity and Land Management Plan

|                                    |                                                                                                                                                                                          |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preliminary Hazard Analysis</b> | A Preliminary Hazard Analysis (PHA) is an initial safety assessment that identifies potential hazards and risks early in the design or planning stages of a system, process, or project. |
| <b>Risk Assessment</b>             | A risk assessment is a systematic process of evaluating the potential risks that may be involved in an activity; including an assessment of consequence and likelihood.                  |
| <b>ROM</b>                         | Run of Mine Pad - an area for storing unprocessed ore before it is sent for processing.                                                                                                  |
| <b>RMP</b>                         | Rehabilitation Management Plan – strategic plans for land rehabilitation during and after mining activities.                                                                             |
| <b>Sensitive Receiver</b>          | Refers to a location or area that is particularly vulnerable to the impact of noise, pollution, or other environmental disturbances.                                                     |
| <b>Surface Disturbance Permit</b>  | A permit required for clearance or disturbance of land to ensure that environmental impacts are minimized.                                                                               |
| <b>TARP</b>                        | Trigger Action Response Plan                                                                                                                                                             |
| <b>TCM</b>                         | Tritton Copper Mine – a copper mining operation owned by Tritton Resources located near Nyngan, NSW.                                                                                     |
| <b>TRL</b>                         | Tritton Resources Limited – the company managing the Tritton Copper Operations.                                                                                                          |
| <b>TSF</b>                         | Tailings Storage Facility – a site for storing waste materials from mining after the extraction of valuable minerals.                                                                    |
| <b>WRE</b>                         | Waste Rock Emplacement – areas designated for storing waste rock extracted during mining.                                                                                                |

## 4. OPERATIONS DESCRIPTION

### 4.1. Site Overview

The Girilambone copper deposits were first discovered in 1879 with mining commencing in 1881. At the time of preparing this BLMP, Tritton Resources Pty Ltd owns and operates four mines in the vicinity of Hermidale and Girilambone; each mine is briefly described in the following sections.

### 4.2. Relevant Operations

#### 4.2.1. Tritton Copper Mine

The mineralisation at the Tritton Copper Mine (TCM) was discovered in 1995 and following a series of preliminary assessments and preparation of an Environmental Impact Statement, Development Application (DA) 41/98 was approved on 1 September 1999 by the Minister for Planning and Urban Affairs. Mining operations under DA 41/98 are approved until 31 December 2036. Mining Lease (ML) 1544 was granted by the former Department of Mineral Resources on 22 December 2003. DA 41/98 has been modified nine times, with the most recent modification approved on 11 September 2025. Figure 2 presents the approved TCM site layout.

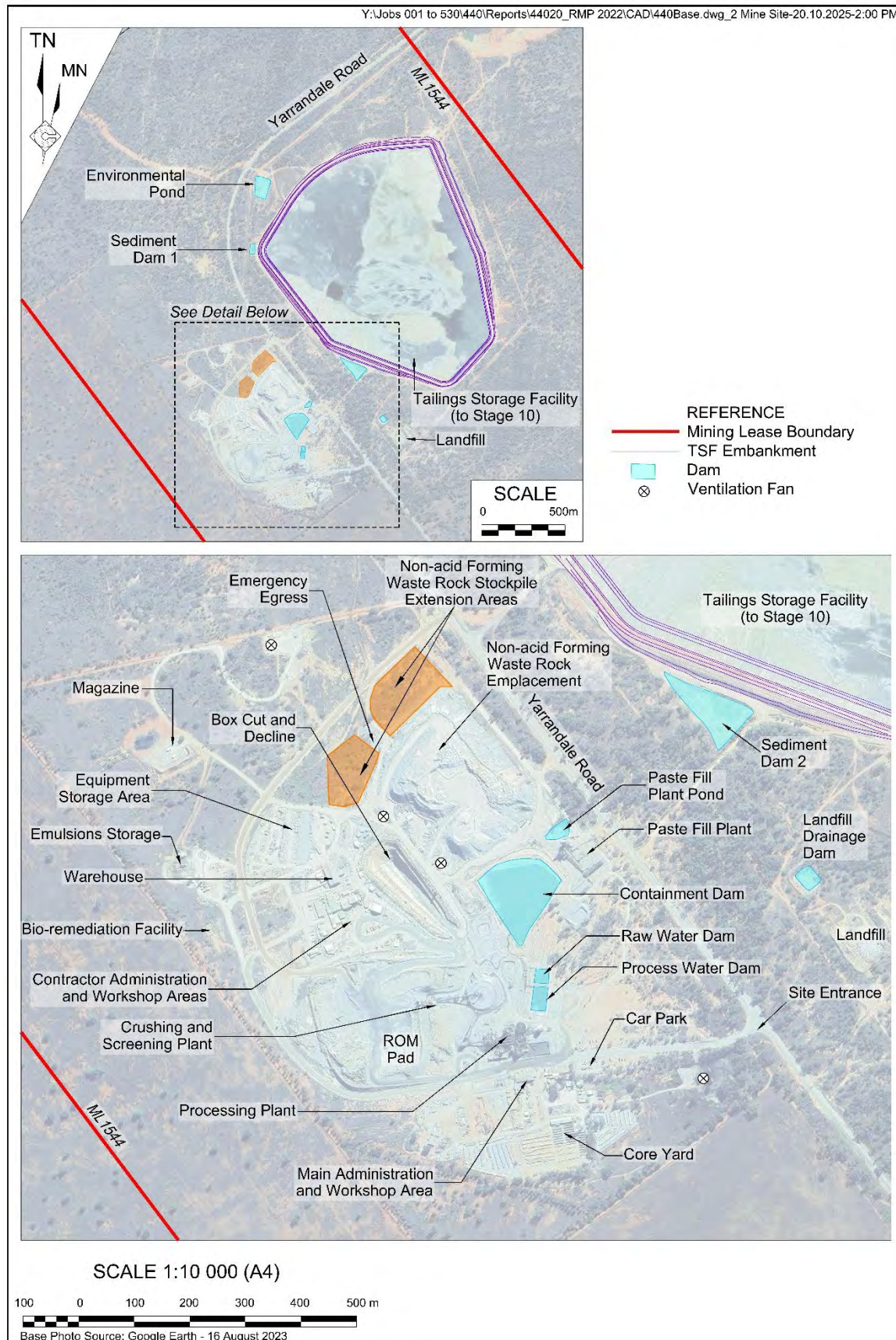
A summary of the approved activities at the Mine are provided as follows.

- Extraction of a total of approximately 12.83Mt of copper ore using underground mining techniques.
- Importation of no more than 1.8Mt of mined material (ore and waste material) from all mines within the Tritton Copper Operations in a calendar year.
- Construction and use of a Non-acid Forming Waste Rock Emplacement to a maximum height of 30m above the natural surface or approximately 301.5m AHD and a disturbance footprint of 8.5ha.
- Processing of site-generated and imported ore to produce a copper concentrate.
- Construction and use of a Tailings Storage Facility to an embankment height of 278m AHD and a disturbance footprint of 158.5ha.
- Export of no more than 30,000 tonnes of waste rock from the TCM in a calendar year, generally for the purposes of local road construction and maintenance.
- Transportation of the copper concentrate in shipping containers to the Hermidale rail siding, located approximately 19km to the south of the TCM, and transportation of that material by train to port for export.
- Export of up to 0.5Mtpa of tailings for paste fill operations at all other mines within the Tritton Copper Operations in a calendar year.
- Operation of a waste landfill facility and the receipt of wastes from all other mines within the Tritton Copper Operations.

|                                                                                           |                         |                                                     |                                     |                       |
|-------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------|-------------------------------------|-----------------------|
| <b>Doc No:</b> TRL-HSET-PLN-0025                                                          |                         | <b>Title:</b> Biodiversity and Land Management Plan |                                     |                       |
| <b>Site:</b> Tritton                                                                      | <b>Revision No:</b> 0.1 | <b>Published Date:</b> 00/00/0000                   | <b>Next Review Date:</b> 00/00/0000 | <b>Page:</b> 21 of 72 |
| This document is UNCONTROLLED once printed – refer to Tritton CDMS for CONTROLLED version |                         |                                                     |                                     |                       |

# Biodiversity and Land Management Plan

Figure 2 Tritton Copper Mine layout



|                                                                                           |                                                     |                                   |                                     |                       |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------|-------------------------------------|-----------------------|
| <b>Doc No:</b> TRL-HSET-PLN-0025                                                          | <b>Title:</b> Biodiversity and Land Management Plan |                                   |                                     |                       |
| <b>Site:</b> Tritton                                                                      | <b>Revision No:</b> 0.1                             | <b>Published Date:</b> 00/00/0000 | <b>Next Review Date:</b> 00/00/0000 | <b>Page:</b> 22 of 72 |
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## 4.2.2. Murrawombie Copper Mine

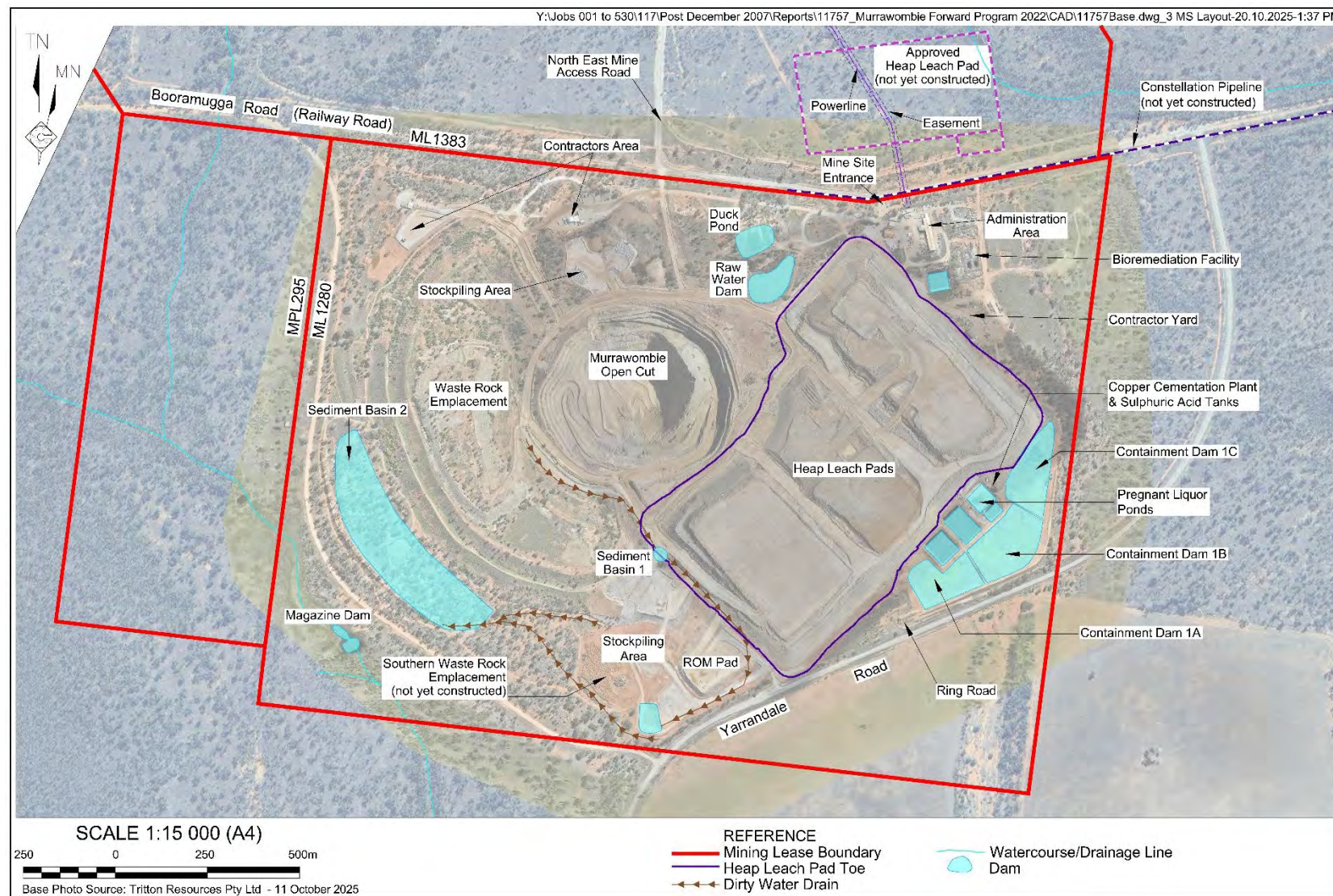
The operation of the existing Murrawombie Copper Mine (MCM) is approved under Development Application (DA) 1/91. DA 1/91 was issued by Bogan Shire Council, under the Environmental Planning and Assessment Act 1979 (EP&A Act), on 25 March 1991 to permit mining of copper ore by open cut mining methods with the resulting material to be processed on site using conventional heap leach, solvent extraction and electrowinning methodologies. Since that time, DA 1/91 has been modified five times, with the most recent being Modification 5, approved on 4 July 2024 (DA 2015/010/4). The MCM operates within Mining Lease 1280. Figure 3 presents the approved MCM site layout

In summary, approved activities at the MCM include the following.

- Mining using open cut and underground methods in accordance with the approved layout.
- Operation of the MCM on a 24-hour, 7 day per week basis.
- Construction of a waste rock emplacement to the west of the Murrawombie Open Cut.
- Construction of a flotation plant (not constructed).
- Construction and operation of four Heap Leach Pads to the east and northeast of the Murrawombie Open Cut, three of which have been constructed. Operation of the constructed heap leach facilities has ceased and rehabilitation of the majority of the facility has commenced.
- Operation of a copper cementation plant for the recovery of copper.
- Expansion of the Murrawombie open pit (approved under Modification 3)
- Transportation of up to 1Mtpa of copper ore to the TCM for processing.
- Construction and use of ancillary infrastructure including a mobile concrete Batching Plant.

# Biodiversity and Land Management Plan

Figure 3 Murrawombie Copper Mine Layout



|                                                                                           |                         |                                                     |                                     |                       |  |
|-------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------|-------------------------------------|-----------------------|--|
| <b>Doc No:</b> TRL-HSET-PLN-0025                                                          |                         | <b>Title:</b> Biodiversity and Land Management Plan |                                     |                       |  |
| <b>Site:</b> Tritton                                                                      | <b>Revision No:</b> 0.1 | <b>Published Date:</b> 00/00/0000                   | <b>Next Review Date:</b> 00/00/0000 | <b>Page:</b> 24 of 72 |  |
| This document is UNCONTROLLED once printed – refer to Tritton CDMS for CONTROLLED version |                         |                                                     |                                     |                       |  |

## 4.2.3. North East Copper Mine

The North East Copper Mine (NECM) is located approximately 6km northwest of the village of Girilambone and operates under Development Application (DA) 6/95 (BSC 2010) and Mining Lease (ML) 1383 and commenced operations in 1996. The development consent was issued by Bogan Shire Council and does not contain an expiry date.

Open cut mining at the NECM ceased in 1997. During the extraction period, three open pits were mined (Larsen's pit, Northeast pit and Hartman's pit) until copper oxide ore were exhausted in the upper part of the ore body. To process the oxide ore, the extracted ore was transported to the nearby MCM, crushed and placed on heap leach pads where the contained copper was leached using sulphuric acid and recovered using solvent extraction/electrowinning.

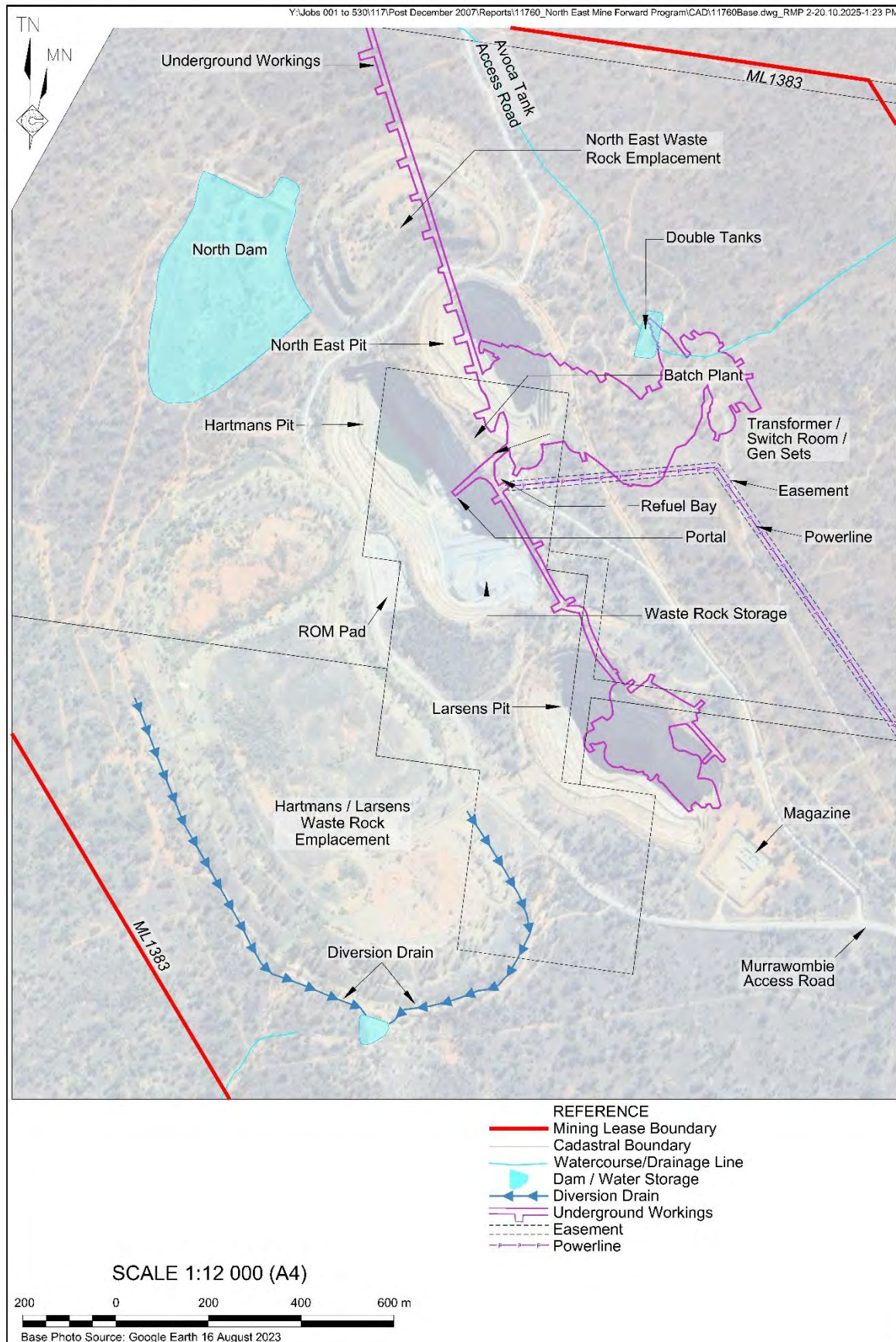
From 2007, mining was undertaken by underground extraction methods with mined ore transported to the TCM for processing. This continued until August 2016, before operations were suspended and the NECM was placed in care and maintenance. The north-eastern wall of the Hartman's pit contains a boxcut portal and is used to access the Avoca Tank Project which is located to the north of the NECM complex. Other NECM infrastructure is utilised for the Avoca Tank project including ROM pad, Waste Rock Emplacement (within the Hartman's Pit) and ancillary infrastructure including roads, power and water.

Figure 4 presents the approved NECM site layout.

|                                                                                           |                         |                                                     |                                     |                       |
|-------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------|-------------------------------------|-----------------------|
| <b>Doc No:</b> TRL-HSET-PLN-0025                                                          |                         | <b>Title:</b> Biodiversity and Land Management Plan |                                     |                       |
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# Biodiversity and Land Management Plan

Figure 4 North East Copper Mine Layout



#### 4.2.4. Avoca Tank Project

The Avoca Tank Project (ATP) is located approximately 2km north of the NECM and 24km northeast of the TCM and operates under DA 10/2015/004/003 (Bogan Shire Council (BSC) 2025). DA 2015/004 was granted in September 2016 and has been modified twice since its original approval (Mod 2 approved 15 May 2025). Access to the ATP is through an underground drive accessed via the Hartmans pit at the NECM. Existing infrastructure on the adjacent NECM is used for the ATP, including the existing run-of-mine (ROM) pad and waste rock emplacement (WRE). Other surface infrastructure associated with the ATP includes ventilation fans and an emergency egress. Ore extracted from the ATP is transported and processed at the nearby TCM. ATP operates within Mining Lease 1818. Figure 4 presents the approved ATP site layout.

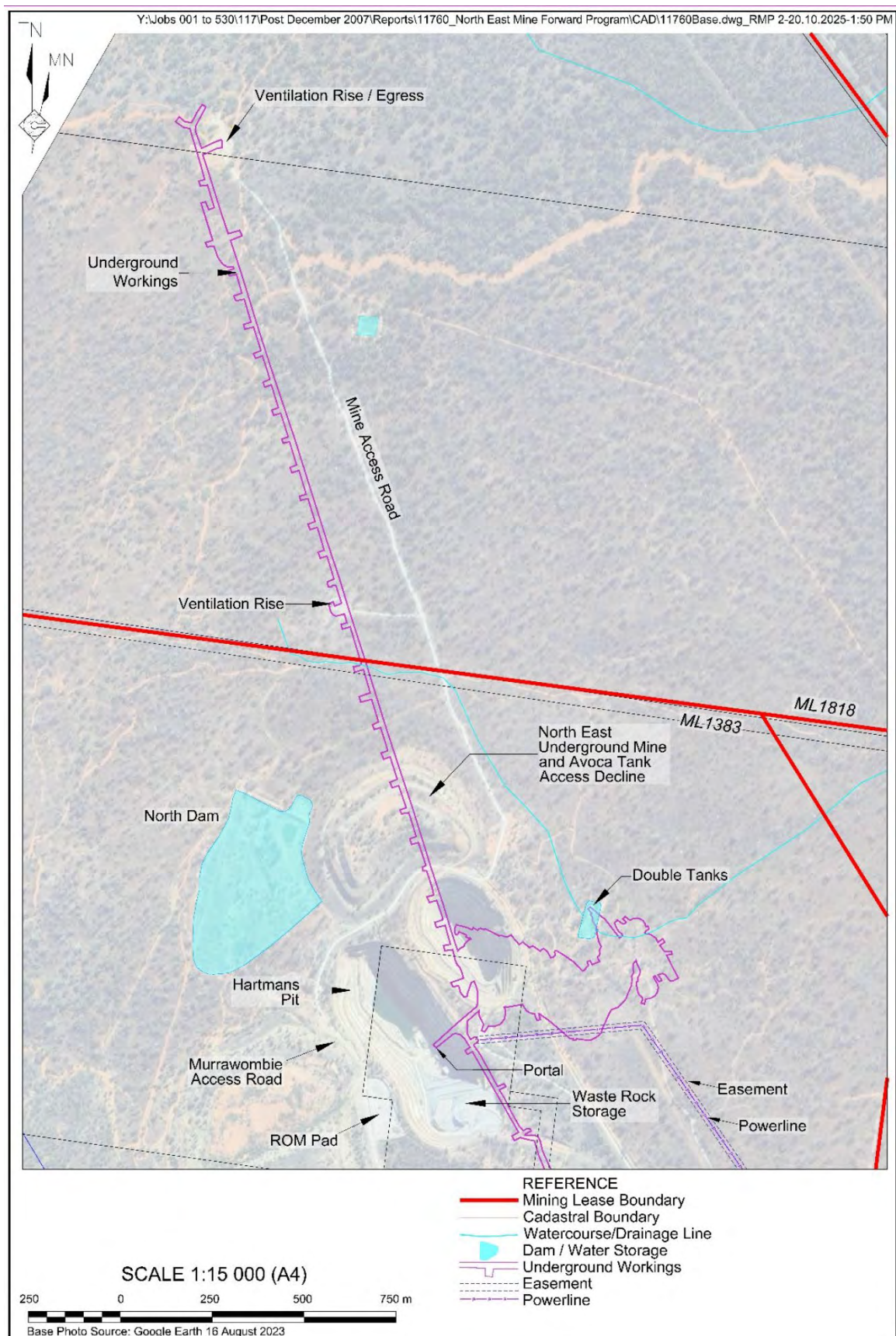
Collectively the North East Copper Mine and Avoca Tank Project are also referred to as North East Mine (NEM)

In summary, approved activities at the ATP include the following.

- Use of a portal (within Hartman's Pit), construction of a decline, underground workings and three vent rises (one equipped as an emergency egress and the others with a ventilation fan at surface).
- Extraction of the economically recoverable copper-gold-silver resources to a depth of approximately 500m below surface using long hole open stope mining techniques with some backfill.
- Transportation of ore material to the TCM for processing using road registered road trains via a combination of a private haul road and Booramugga and Yarrandale Roads.
- Establishment of a surface waste rock emplacement within Hartman's Pit for storage of waste rock extracted during the construction of access drives and mine development. Waste rock is being used to stabilise a landslip on the southern rim of the Hartman's Pit and is also re-used underground as a backfill component.
- Extension of infrastructure from the NECM, including a site access road, water pipeline and transmission line.
- Establishment of ancillary infrastructure.

# Biodiversity and Land Management Plan

Figure 5 Avoca Tank Project Layout



|                                                                                           |                                              |                            |                              |                |
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## 4.3. Timing of Activities

The Environmental Management Strategy (TRL-HSET-PLN-0023) outlines the process for assigning, scheduling and tracking the completion of key tasks, including those arising from this management plan. The TRL Environment Superintendent maintains a 'Works Program Schedule' (register of tasks) that is aligned with the life of mine plan and TRL budget cycles. This register is reviewed and updated on a periodic basis by the Environmental Superintendent. Any lagging or at risk tasks are escalated to the relevant manager or to the Health, Safety, Environment and Training (HSET) Manager for tabling at the TRL SLT Meeting.

## 4.4. Baseline Information

Previous biodiversity assessments and surveys of flora and fauna within the Tritton Copper Operations provide a baseline understanding of the existing environment and biodiversity values which require management. Appendix B provides a detailed summary of those baseline surveys and investigations undertaken to date, with results separated into sections associated with the relevant mine location.

In Summary:

- Vegetation varies across the Tritton Copper Operations from areas cleared for cropping, composed of annual native and introduced grasses to relatively intact native woodland ecosystems.
- Native vegetation in the area is described as a woodland community with native tree, shrub and understory species remaining present and intact. The woodland community, where present is in relatively good condition, despite previous disturbance from agriculture, grazing and the overgrazing by feral goats, livestock and native herbivores during occasional severe drought conditions.
- Threatened flora and fauna species (listed under NSW and / or commonwealth legislation) have been identified in the vicinity of each of the TRL mining operations (Table 3 (Flora) and Table 4 (Fauna)).
- Where possible, disturbance of the location of threatened species has been avoided and habitats retained.
- The vegetation community 'Benson ID 82 - Inland Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Penneplain Bioregion' is consistent with the scientific determination for the EEC 'Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Penneplain, Nandewar and Brigalow Belt South Bioregions' listed under the NSW Biodiversity Conservation Act 2016. This community is also listed as endangered under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999. A small patch of this vegetation community has been identified at the North East Copper Mine - ML 1383.

(Refer to Appendix B for further detail, including vegetation community maps and locations of threatened species).

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Table 3 Threatened Flora Present or Potentially Present

| Species                       | Common Name            | TCM | MCM | NECM | ATP |
|-------------------------------|------------------------|-----|-----|------|-----|
| <i>Bertya opposens</i>        | Cobar-Coolabah Bertya  | X   |     |      |     |
| <i>Leptorhynchus waitzia</i>  | Button Immortelle      | X   |     |      |     |
| <i>Pterostylis cobarensis</i> | Cobar Greenhood Orchid | X   |     |      | X   |

Table 4 Threatened Fauna Present or Potentially Present

| Species                          | Common Name                    | TCM | MCM | NECM | ATP |
|----------------------------------|--------------------------------|-----|-----|------|-----|
| <i>Antechinomys laniger</i>      | Kultarr                        | X   |     |      |     |
| <i>Ardea alba</i>                | Great Egret                    |     | X   |      |     |
| <i>Certhionyx variegatus</i>     | Pied Honeyeater                | X   |     |      |     |
| <i>Chalinolobus picatus</i>      | Little Pied Bat                | X   | X   |      | X   |
| <i>Cinclosoma castanotus</i>     | Chestnut Quail-thrush          | X   |     |      |     |
| <i>Daphoenositta chrysoptera</i> | Varied Sittella                | X   |     | X    |     |
| <i>Epthianura albifrons</i>      | White-fronted Chat             | X   |     |      |     |
| <i>Falco hypoleucos</i>          | Grey Falcon                    | X   |     |      |     |
| <i>Geophaps scripta</i>          | Squatter Pigeon                | X   |     |      |     |
| <i>Hirundapus caudacutus</i>     | White-throated Needletail      | X   |     |      |     |
| <i>Leipoa ocellata</i>           | Malleefowl                     | X   |     |      |     |
| <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo      | X   | X   | X    | X   |
| <i>Melanodryas cucullata</i>     | Hooded Robin                   | X   |     |      |     |
| <i>Neophema pulchella</i>        | Turquoise Parrot               | X   |     |      |     |
| <i>Nyctophilus corbeni</i>       | Corben's Long-eared Bat        | X   | X   |      | X   |
| <i>Polytelis swainsonii</i>      | Superb Parrot                  | X   |     |      | X   |
| <i>Pomatostomus temporalis</i>   | Grey-crowned Babbler           | X   | X   | X    | X   |
| <i>Saccolaimus flaviventris</i>  | Yellow-Bellied Sheath-tail Bat |     | X   |      | X   |
| <i>Vespadelus baverstocki</i>    | Inland Forest Bat              | X   |     |      | X   |

## 5. RESPONSIBILITIES

Personnel, contractors and visitors at TRL all have responsibility for the identification and management of biodiversity values and contributing to responsible land management by complying with relevant aspects (as applicable to their role) of this BLMP. Specific roles (Table 5) at TRL have key responsibilities in the approval, maintenance and implementation of this BLMP.

Table 5 BLMP Roles and Responsibilities

| TRL Role                                                 | Responsibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Site General Manager.                                    | <p>Overall accountability for the environmental performance of the Tritton Copper Operations.</p> <p>Ensure adequate resources are available for implementation of the BLMP.</p> <p>Approve continuous improvement initiatives.</p> <p>Chair the TRL Senior Leadership Team (SLT) meetings (which functions as 'Management Review' of the EMS).</p> <p>Promote a culture of environmental stewardship across the site, including biodiversity and land management awareness.</p>                                               |
| Health, Safety, Environment and Training (HSET) Manager. | <p>Overall responsibility for the development and implementation of this BLMP and the environmental performance of the Tritton Copper Operations.</p> <p>Responsible for the site safety management system, emergency response and environmental performance of the TRL (including implementation of the EMS).</p> <p>Ensure compliance with legal and other requirements.</p> <p>Provides relevant information to the TRL SLT Meeting regarding environmental performance and facilitates 'Management Review' of the EMS.</p> |
| Department Managers                                      | <p>Ensure Surface Disturbance Permits are obtained for any new disturbance that may impact biodiversity values.</p> <p>Responsible for the implementation of environmental risk controls, as they apply to their specific area(s) of responsibility.</p> <p>Ensure staff are trained in relevant environmental procedures.</p> <p>Incorporate environmental considerations into operational planning.</p> <p>Report environmental incidents and non-conformances immediately.</p>                                              |

# Biodiversity and Land Management Plan

| TRL Role                                                                          | Responsibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Superintendent.                                                     | <p>Develop, approve, implement, and maintain this BLMP.</p> <p>Ensure compliance with legal and other requirements.</p> <p>Responsible for the assessment and issuing of Surface Disturbance Permits, including an assessment of impacts on known biodiversity value areas.</p> <p>Responsible for the identification of environmental risks and tracking the implementation of risk controls.</p> <p>Undertake consultation as it relates to the content of the BLMP as required by development consents and other commitments.</p> <p>Responsible for the identification, reporting, investigation and corrective actions associated with environmental incidents and non-compliances.</p> <p>Identify opportunities for continuous improvement.</p> <p>Overall accountability for implementing monitoring programs and associated reporting.</p> <p>Provide environmental training and advice to all departments.</p> <p>Liaise with regulatory authorities on environmental matters.</p> <p>Prepare internal and external environmental reports.</p> |
| Senior Environmental advisors, Environmental Advisors, Environmental technicians. | <p>Responsible for implementing:</p> <ul style="list-style-type: none"> <li>• environmental monitoring programs;</li> <li>• undertaking environmental inspections;</li> <li>• implementing environmental awareness programs;</li> <li>• implementing other environmental programs; and</li> <li>• other tasks as directed by the Environmental Superintendent.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Community Relations Officer.                                                      | Responsible for the development, coordination and dissemination of information to community stakeholders.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## 6. COMMUNITY AND STAKEHOLDER ENGAGEMENT

TRL maintains an open-door policy regarding complaints, questions and feedback to the local community. As such, surrounding landholders are regularly consulted through informal telephone conversations and correspondence.

The Tritton Community Consultative Committee was established on 22 February 2013 as a means to share information and maintain relationships with the various stakeholders. Its' members consist of representatives from local business, farmers, Bogan Shire Council, Bogan Aboriginal Corporation, Nyngan Local Aboriginal Land Council and NTSCorp. This committee meets once a quarter to discuss issues related to the company's operation and the community.

In accordance with *Condition 6(ii) and Condition 6(iii)* of the Tritton Copper Mine Development Consent (DA 41/98); this BLMP was prepared in consultation with:

- the Conservation Programs, Heritage and Regulation (CPHR) group of the NSW Department of Climate Change, Energy, the Environment and Water (formally the NSW Biodiversity, Conservation and Science Directorate (BCS<sup>1</sup>) of the NSW Department of Planning, Housing and Infrastructure (DPHI)).

The draft BLMP was referred to the above regulatory agency for consultation when uploaded to the NSW Major Projects Portal. The following is a summary of comments received, and amendments made to the BLMP following feedback received from the consultation process.

Feedback and a number of recommendations were received from the CPHR group (letter dated 26 June 2025). Recommendations mostly relate to the inclusion of concise performance criteria and a Trigger Action Response Plan which have been included in the BLMP. Other, more detailed comments have also been addressed throughout the plan where necessary.

A detailed summary of the recommendations received and TRLs response has been provided to the DPHI.

Condition B7 of the Avoca Tank Approval (Modification 2) requires that the Biodiversity Management Plan (ie this BLMP) must be prepared to the satisfaction of the Consent Authority (ie Bogan Shire Council). The draft BLMP was provided to Bogan Shire Council in June 2025 for review and comment; no comments or feedback have been received. Concurrent with the submission of this plan for DPHI approval, TRL will seek final approval from Bogan Shire Council.

Following the above consultation process, the amended BLMP was submitted to NSW DPHI for approval. Several minor comments / requests for amendment were received from DPHI (Letter dated 16/4/26). All requested amendments were made to the BLMP and a table outlining how each comment was addressed was provided to DPHI. This revision was approved by a nominee of the Planning Secretary (letter dated 20/04/2026).

## 7. RISK ASSESSMENT

TRL maintain an Environmental Risk Register (TRL-HSET-RAS-0006) which is reviewed and updated on a periodic basis. The Risk Register is further described in the EMS (TRL-HSET-PLN-0023). During the preparation of this BLMP, the risk register was used to identify key risks as they relate to biodiversity and land management aspects. Section 8 includes management measures to control and mitigate these risks.

<sup>1</sup> The Biodiversity, Conservation and Science Directorate is now known as the Conservation Programs, Heritage and Regulation group of the NSW Department of Climate Change, Energy, the Environment and Water.

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## 8. MANAGEMENT MEASURES

The following subsections describe the management measures and controls that will be implemented to manage biodiversity and land management aspects, including compliance with development consents and commitments.

Performance Measures, Targets and a Trigger Action Response Plan are presented in Section 8.5

### 8.1. Biodiversity

The following sections describe the key biodiversity management measures at the Tritton Copper Operations. Measures have been devised to minimise impacts to biodiversity values and achieve stated objectives (Section 0).

#### 8.1.1. General Measures

TRL will establish and maintain a biodiversity database and geospatial biodiversity layer which identifies the known locations of endangered ecological communities, threatened flora, threatened fauna and any other priority biodiversity values areas (such as established conservation zones etc).

TRL will minimise (to the greatest extent possible) the amount of land disturbed by the operations. Opportunities will be identified and enforced via the Surface Disturbance Permit process (Section 8.1.3).

All sightings of threatened fauna must be reported to the Environmental Superintendent.

All native fauna injuries or fatalities (such as resulting from vehicle strike) will be reported to the Environment Superintendent.

The site general induction will include management protocols for injured native fauna and contact details for assistance (such as WIRES, site based emergency personnel and the Environmental Superintendent).

If fauna are identified within operational areas and there is the potential for activities at the Tritton Copper Operations to cause harm to native fauna, activities will be stopped (in the immediate work area) and the Environmental Superintendent notified:

- Measures will be devised and implemented aiming to allow fauna to self-relocate or otherwise avoid or minimise harm. Specialist advice may be sought (from qualified ecologists) if required.
- If the fauna is potentially dangerous and poses harm to personnel (e.g. venomous snakes), all personnel will vacate the work area, other than a spotter who may remain to track the location of the animal from a safe distance. The snake will be left to self-relocate or may be relocated by trained and authorised personnel.

TRL will maintain a clean, rubbish-free environment to discourage scavenging and reduce the potential for colonisation by introduced rodents and birds.

Domestic pets are not permitted at the Tritton Copper Operations.

Employees and contractors are not permitted to keep native fauna or to encourage fauna through feeding.

|                                                                                           |                         |                                                     |                                     |                       |
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New vehicle tracks would be minimised, any un-used tracks will be rehabilitated in accordance with the Rehabilitation management Plan for each site.

Native trees and shrubs, endemic to the area would be used in all rehabilitation projects to assist in returning the site to a more natural condition.

## **8.1.2. Vegetation Clearance**

Vegetation will only be removed, where it has been assessed and approved for removal (ie within the approved project disturbance area) as per the various TRL Development Consents and associated environmental assessments (including Figure 1 (Appendix 1) and Figure 2 (Appendix 3) from the TCM Development Consent (DA41/98)).

TRL will attempt to retain as much native vegetation as possible, and limit disturbance to what is essentially required to develop and operate the approved mine sites. Opportunities will be identified and enforced via the Surface Disturbance Permit process (Section 8.1.3).

Prior to the removal of vegetation or disturbance of soil, a Surface Disturbance Permit is required to be issued. The Surface disturbance permit process is further described in Section 8.1.3.

Prior to the removal of vegetation, a pre-clearance survey is conducted to identify any threatened flora or fauna species, key threatened species habitats and biodiversity resources such as native seed for collection or habitat structures for salvage / relocation etc. The pre-clearance survey process is further described below in Section 8.1.4.

TRL will establish and maintain firebreaks to prevent the spread of bushfires to and from neighbouring lands. Where possible, firebreaks will be established and maintained in areas where previous firebreaks have been established, limiting the extent of native vegetation and habitat removal.

Vegetation clearing, where practicable, should be left until autumn to avoid key breeding times of native fauna species.

## **8.1.3. Surface Disturbance Permit**

A Surface Disturbance Permit is required to be issued prior to the removal, clearance or destruction of any vegetation or disturbance of soils. The permit is issued by the TRL Environmental Superintendent (or delegate) and requires:

- An assessment as to whether the proposed disturbance has been clearly described, assessed and approved as part of a development consent. TRL maintain a spatial database showing the approved project disturbance area for each of the mine sites. This layer is used to determine / cross reference whether proposed disturbance area has been assessed and are approved for disturbance;
- Cross reference against the TRL biodiversity database and geospatial biodiversity layers, where known endangered ecological communities, threatened flora and threatened fauna are mapped;
- The completion of a site inspection and the undertaking of pre-clearance survey (Section 8.1.4) where required;

- The setting of management measures and controls to:
  - o avoid or minimise impacts to biodiversity values where possible;
  - o to ensure approved clearance areas are clearly delineated with flagging tape or temporary fencing etc as required;
  - o protect adjacent vegetation and habitats (that are not subject to clearing);
  - o enforce / undertake the pre-clearance survey requirements (Section 8.1.4);
  - o identify habitat resources for salvage, storage or relocation (such as native seed, stags, hollows, logs etc); and
  - o Meet any other commitments / align with best practice management.

#### **8.1.4. Pre-Clearance Survey**

Pre-clearance surveys will be completed prior to any vegetation removal to ensure that native fauna are identified, allowed to self-relocate or are relocated to alternate habitat locations. Every effort will be made to retain vegetation and habitat resources, in particular hollow-bearing trees and other habitat such as logs etc. However, if vegetation must be removed, the following guidelines will be adopted.

1. Identify fauna habitat resources that may be impacted by required clearing, such as hollow bearing trees, logs, burrows, nests etc. Habitats may be identified by a qualified ecologist or suitably qualified and experienced site-based personnel (environment department).
2. Clearly mark the habitat (hollow bearing trees, fallen logs etc) to be removed by differentiating with coloured flagging tape. Ensure it is clearly understood by all required personnel, the meaning of the coloured flagging tapes.
3. Check for fauna in the zone of disturbance before clearing any non-habitat bearing vegetation and scare or remove them before beginning operations.
4. Remove all non-habitat bearing vegetation and features prior to the removal / disturbance of identified habitats.
5. After clearing non-habitat vegetation, check to ensure no fauna have become trapped or injured during clearing operations. Any fauna found will be safely relocated to a nearby habitat.
6. Leave all identified habitat undisturbed for at least one night after clearing of non-habitat trees etc to allow any fauna the opportunity to remove themselves after initial site disturbance.
7. Ensure that a suitably qualified person (who is vaccinated for Australian bat lyssa virus) is engaged to supervise the removal of identified habitats. Any bats found must only be handled by the vaccinated person.
8. Before felling / removing identified habitat, knock or tap along trunk / shake the tree, nudge logs etc using an excavator or loader to scare fauna from the hollows. Repeat several times.

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9. Fell habitat trees using 'soft fall' techniques into the zone of disturbance, by gently lowering the tree with hollows / habitats remaining intact and facing upwards. Gently disturb / move other habitat items. If removing a hollow-bearing tree in stages, the non-hollow-bearing branches will be removed before the hollow-bearing branches are removed.
10. After felling, the area is left for one night to allow any remaining fauna to 'self relocate'.
11. Re-check after felling / disturbing habitat to ensure no fauna have become trapped or injured during clearing operations. Hollows / habitat structures will be checked for remaining fauna. Any fauna found will be safely relocated by an appropriately licenced ecologist to nearby habitat within 48 hours of clearing (location to be determined by suitably qualified ecologist in consultation with the site Environmental Superintendent).
  - a. Any Kultarr located will be relocated to suitable habitat as near as possible to the capture site. This habitat will be defined by the engaged ecologist (or other suitably qualified person);
  - b. Any captured Kultarr to be relocated must be held for a period no longer than 10 days in suitable conditions.
12. Habitat items (logs, stags etc) from the felled trees will be salvaged and either stored (in preparation for placement) or directly placed into areas of 'protected vegetation' or onto rehabilitation areas to provide habitat. Selected trees / stags with identified hollows may be re-stood within rehabilitation areas. The placement and management of habitat items within rehabilitation areas is further described in the TRL Rehabilitation Management Plans.

Clearing / felling of habitat resources, where possible will consider and avoid key breeding / lifecycle times of known and potential native threatened fauna (on case-by-case basis).

## **8.1.5. Threatened Species / Endangered Ecological Community Contingency Strategy**

### **8.1.5.1. Cobar Greenhood Orchid**

The Cobar Greenhood Orchid (*Pterostylis cobarensis*) has been previously recorded within ML1544 and ML1383.

*Condition 28* of Schedule 2 of the TCM Development Consent 41/98 (Applicable to ML1544 only) requires that "where practicable, identified communities containing the species *Pterostylis cobarensis* are protected from mining and mining related disturbance by means of a buffer area at least 20m wide."

As the identified subpopulations of the Cobar Greenhood Orchid are located a significant distance (far greater than 20m) beyond the approved TCM disturbance area, it is considered that this distance forms an effective buffer and therefore adequate protection from mining-related impacts. Any proposed alterations to the approved TCM approved disturbance area will require further survey, assessment and approval to disturb native vegetation (ie. future development consent or modification).

Any proposed clearing or disturbance of these areas will be considered as part of the Surface Disturbance Permit process, where the process will identify that these areas are not approved for disturbance, and that the locality contains threatened species (requiring additional assessment and development consent).

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Any new populations identified (noting that surveys for this species must be only performed between October to November (known flowering season)) will be mapped and included on the geospatial biodiversity layer for future consideration as part of the surface disturbance permit process.

Where land is under the control of TRL, weed infestations and pest species that may impact the Cobar Greenhood Orchid sites will be identified and managed as presented in Sections 8.2 and Section 8.3 of this BLMP respectively.

Where under the control of TRL, grazing will not be permitted in areas of known Cobar Greenhood Orchid populations, and / or otherwise fenced to prevent harm from grazing.

#### 8.1.5.2. Cobar-Coolabah Bertya and Button Immortelle

The Cobar-Coolabah Bertya (*Bertya opposens*) and the Button Immortelle (*Leptorhynchos waitzia*) were considered to be 'potentially present' in the vicinity of the Tritton Copper Mine (ML 1544) (RWC 1998), however flora surveys undertaken to date have not recorded either species as occurring within ML1544.

General measures as described above for the Cobar Greenhood Orchid would be implemented should these species be positively identified within the Tritton Copper Operations.

#### 8.1.5.3. Endangered Ecological Communities

The vegetation community 'Benson ID 82 - Inland Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion' is consistent with the scientific determination for the EEC 'Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions' listed under the NSW BC Act. This community is also listed as endangered under the Commonwealth EPBC Act. This vegetation community has been identified at the North East Copper Mine - ML 1383.

The patch of EEC is small (approximately 1ha in size), and in poor condition. It is located south east of Hartman's Pit and bounded by site access roads on two sides. No additional disturbance is proposed in the vicinity of this small patch of EEC. Any proposed clearing in these areas will be considered as part of the Surface Disturbance Permit process, where the process will identify that the locality contains an EEC. The patch of EEC is identified on site biodiversity database and geospatial layers.

Where under the control of TRL, grazing will not be permitted in known EEC areas, and / or otherwise fenced to prevent harm from grazing. Management of the area includes:

- Preventing any encroachment into the area (managed via the Surface Disturbance Permit process).
- Weed control as described in Section 8.2.
- Pest control as described in Section 8.3.
- Rehabilitation of adjacent access roads as described in the NECM/ATP Rehabilitation Management Plan (TRL-HSET-PLN-0036) and Forward Program.

Any new patches identified will be included in the database / geospatial layer.

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## 8.1.5.4. Threatened Fauna

A number of threatened and migratory fauna species have been identified within the Tritton Copper Operations or have the potential to be present. Species are detailed in Section 4.4 and Appendix B.

Table 6 details general risks to threatened fauna and describes management measures for the protection of species from impacts from mine development and operations.

*Table 6 Risks and Management Measures for Threatened and Migratory Fauna Species*

| Risks                                                                                                      | Management Measures                                                                                                                                                                                | Existing (E)<br>Proposed (P) |
|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Habitat loss                                                                                               | Minimise clearing to only what is essentially required for the development and operations of Tritton Copper Operations.                                                                            | E                            |
| Loss of foraging and breeding habitat                                                                      |                                                                                                                                                                                                    |                              |
| Habitat fragmentation                                                                                      | Retention of habitat resources where possible (trees, shrubs, groundcovers, hollow bearing trees, stags and fallen timber).                                                                        | E                            |
|                                                                                                            | Apply the Surface Disturbance Permit (Section 8.1.3) and pre-clearance survey (Section 8.1.4) processes                                                                                            | E                            |
|                                                                                                            | Salvage of habitat resources from approved clearing activities and placement within protected vegetation areas / rehabilitation areas including the re-standing of stags and hollow bearing trees. | E                            |
|                                                                                                            | Manage grazing pressure (feral goats, rabbits, domestic livestock, native herbivores) to avoid overgrazing.                                                                                        | E                            |
|                                                                                                            | Weed control programs (Section 8.2).                                                                                                                                                               | E                            |
| Mortality through fox, feral cat predation.                                                                | Pest Control programs (particularly fox and feral goats) (Section 8.3)                                                                                                                             | E                            |
| Competing for resources with feral animals.                                                                |                                                                                                                                                                                                    | E                            |
| Fire hazard reduction (loss of habitat / interrupt breeding cycles).                                       | Controlled fire frequency to align with vegetation community guidelines and species recovery plans                                                                                                 | E                            |
| Direct impact to threatened fauna from vehicle strike, entanglement in mining and rural infrastructure etc | Reporting of injured fauna to the Environmental Superintendent.<br><br>Measures to assist injured fauna (WIRES, local veterinary support etc)                                                      | E                            |

## The Kultarr (*Antechinomys laniger*).

Condition 27 of Schedule 2 of the TCM Development Consent 41/98 requires that:

- pre-start monitoring be implemented, with any Kultarr located to be relocated to suitable habitat (defined by a suitably qualified person) as near as possible to the capture site; and
- any captured Kultarr to be relocated is held for no longer than 10 days in suitable conditions.

Section 8.1.4 outlines the TRL pre-clearance survey process where these specific requirements are included.

More recent fauna surveys within the Tritton Copper Operations, including EnviroKey (2010) and EnviroKey (2011b) at the TCM site, EnviroKey (2011a) and EnviroKey (2011c) at the Murrawombie Copper Mine, North East Copper Miner sites as well as EnviroKey (2014) at the Avoca Tank Project, have not recorded any observations of the Kultarr.

### *8.1.5.5. Clearing for Construction of the TSF*

Condition 25 of the TCM Development Consent 41/98, (as relevant to the TSF) describes pre-clearing requirements, the retention of bat roost trees and nest hollows where possible and that the location of trees with hollows and any other significant threatened fauna attributes should be identified and presented in the contingency plan required by Condition 6(ii).

Due to the nature of the TSF and construction methods, all mature vegetation was required to be removed from the construction / TSF footprint; i.e. it was not possible to retain individual hollow bearing trees within the embankment construction areas, without compromising embankment stability, affecting TSF drainage requirements, or restricting access for maintenance and inspection purposes. As such there are no records relating to retained fauna habitat structures (such as hollow bearing trees) within the TSF footprint. The TSF footprint, however, has been kept to the minimum required to construct and operate the facility. Select timber portions and trees were relocated to the compensatory planting area as described in Section 8.1.8. Further detail regarding clearing activities, salvage and placement of habitat resources and consultation with government agencies are contained in prior annual reviews, circa 2002 – 2008.

As no significant further clearing is anticipated for the construction of the TSF, TRL consider that the requirements of this condition have been met and no longer relevant to proposed activities described in this BLMP.

Should any significant additional clearing be required, (for example through a change in construction method or TSF design) TRL will:

- update this BLMP;
- implement the surface disturbance permit process (Section 8.1.3);
- implement the pre-clearance survey and clearance protocol (Section 8.1.4);
- identify habitat bearing trees and other habitat resources;
- retain habitat resources where possible;
- record the location of retained habitat resources (and present in future revisions of this BLMP);

|                                                                                           |                         |                                                     |                                     |                       |
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- relocate salvaged habitat resources to a suitable location, such as the Compensatory Planting Area (Section 8.1.8) and / or to site rehabilitation areas; and
- consult with the CPHR regarding any required fauna relocation.

## **8.1.6. Rehabilitation of Native Vegetation**

Progressive rehabilitation of mine disturbed areas will assist the expansion and connectivity of native vegetation throughout the Tritton Copper Operations. Rehabilitation (progressive and final) is described in detail in the Rehabilitation Management Plan (RMP) for each mining lease area.

## **8.1.7. Fauna Impact from wildlife access to the TSF decant**

Investigative works undertaken as part of the initial Tritton Copper Mine EIS and as per Condition 23 of the TCM Development Consent (DA 41/98) (required to be completed prior to TSF construction) verified that the risk of fauna impact from TSF decant water is low. This was based on worldwide experience in using similar reagents, low concentrations of reagents in supernatant waters, assessment of Safety Data Sheets and low availability of water due to recovery and re-use of water. Nonetheless, TRL will:

- Undertake periodic assessment of TSF decant water and compare against ANZECC guidelines (for livestock and or aquatic ecology values (as native fauna values are not available)) (Section 8.1.7.1)
- Ensure alternate water sources are available (Figure 6), and
- Ensure the Tailings Dam Operations and Maintenance Manual includes requirements to meet Condition 23 of the TCM Development Consent (DA 41/98).

### **8.1.7.1. Decant Water Quality**

The water quality of the tailings decant water is influenced by the addition of process chemicals and the oxidation of sulfide minerals within the tailings, which causes the release of sulfuric acid and dissolved metals.

In accordance with Condition 23(i - ii) of the TCM Development Consent (DA41/98) Table 7 lists the process chemicals added to the process water and their environmental hazard and toxicity information from the Safety Data Sheet (SDS).

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Table 7 List of process chemicals and ecological hazard information from the SDS

| Process Chemical                            | Dose rate            | Ecotoxicity Information from SDS                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bulk Hydrated Lime                          | 2.9 kg /tonne of ore | The aquatic toxicity of calcium hydroxide is due to its alkalinity.                                                                                                                                                                                                                                                                                          |
| Scaletrol PDC 9592<br>(water descale agent) | 10 gm /tonne of ore  | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.                                                                                                                                                           |
| Maxiflox 530<br>(Flocculant)                | 19 gm/tonne of ore   | This material is not classified as dangerous for the environment. The effects on aquatic organisms are due to an external (non-systemic) mode of action, and are significantly reduced within 30 minutes due to binding of the product to dissolved organic carbon and inorganic sorbents such as clays and silts. 48 hrs. EC50 (Daphnia magna): > 200 mg/L. |
| DSP052 (Flotation collector)                | 40 gm/tonne of ore   | Avoid contaminating waterways.                                                                                                                                                                                                                                                                                                                               |
| Luproset D 1313.<br>(Flotation depressant)  | 115 gm/ tonne of ore | Based on available data, the classification criteria are not met.                                                                                                                                                                                                                                                                                            |

The TSF decant water quality has been routinely monitored (location ID TSW02) since 2010. Water quality summary statistics and comparison against the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ (2000)) livestock water quality guidelines are presented in Table 7. For the purpose of meeting Condition 23(iii) of the TCM Development Consent (DA41/98) livestock water quality guidelines were selected for the comparison as there are no relevant guidelines to evaluate the potential impacts to migratory birds, local terrestrial wildlife, or threatened species.

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Table 8 Summary statistics for TSF decant water quality data from 2010-2022 and comparison with relevant water quality guideline values

| Parameter | Statistic |               |               |               | ANZECC / ARMCANZ<br>Livestock Guideline value |
|-----------|-----------|---------------|---------------|---------------|-----------------------------------------------|
|           | min       | max           | mean          | median        |                                               |
| pH        | 2.40      | 7.92          | 3.82          | 3.36          |                                               |
| EC        | 1130      | 30400         | 8749          | 7310          |                                               |
| Sulphate  | 487       | <b>35500</b>  | <b>3230</b>   | <b>2450</b>   | 1000                                          |
| Arsenic   | <0.001    | 0.080         | 0.008         | 0.004         | 0.5                                           |
| Barium    | <0.001    | 0.152         | 0.043         | 0.045         |                                               |
| Beryllium | <0.001    | 0.082         | 0.003         | <0.001        |                                               |
| Cadmium   | 0.0003    | <b>1.0000</b> | <b>0.0680</b> | <b>0.0202</b> | 0.01                                          |
| Cobalt    | 0.006     | 26            | 1.783         | 0.490         |                                               |
| Chromium  | <0.001    | 0.834         | 0.110         | 0.014         | 1                                             |
| Copper    | 0.003     | <b>144</b>    | <b>9.83</b>   | <b>2.90</b>   | 0.5                                           |
| Iron      | <0.05     | 856           | 57.2          | 14.4          |                                               |
| Mercury   | <0.0001   | <b>0.0004</b> | <0.0001       | <0.0001       | 0.002                                         |
| Manganese | 0.17      | 100           | 6.81          | 2.54          |                                               |
| Nickel    | 0.002     | <b>3.020</b>  | 0.201         | 0.062         | 1                                             |
| Lead      | <0.001    | <b>1.900</b>  | 0.047         | 0.020         | 0.1                                           |
| Vanadium  | <0.01     | 0.34          | <0.01         | <0.01         |                                               |
| Zinc      | 0.02      | <b>181</b>    | 14.4          | 3.5           | 20                                            |

Potential impacts to wildlife and threatened species are managed and mitigated by:

- TSF fencing in place (Section 8.1.7.2).
- Alternative water supply (TSF08) (Figure 6).
- Environmental inspection program to ensure that controls are maintained and effective (Section 10).

Ongoing water quality monitoring, as required by Condition 23(v) of the TCM Development Consent (DA41/98) is conducted in accordance with the Water Management Plan (TRL-HSET-PLN-0032).

Monitoring of wildlife usage of the alternative water supply (Environment Pond, location ID TSW08) is conducted during routine inspections of this pond. Any wildlife using the pond are recorded in inspection form TRL-ENV-FRM-016 (Section 10).

Figure 6 Alternate Water Sources in the Vicinity of the TRL Tailings Storage Facility



#### 8.1.7.2. Other potentials impacts on wildlife from the TSF

Condition 21 of the TCM Development Consent (DA 41/98) requires TRL to consult with the CPHR when implementing the recommendations detailed in Section 4.6.1.1 and 4.6.2.1 of the EIS, including the placement of a fence around the Tailings Storage Facility prior to tailings production.

Section 4.6.1.1 states that provisions of the Native Vegetation Conservation Act 1997 do not apply due to the project being approved under the EP&A Act.

Section 4.6.2.1 relates to proposed safeguards including the timing of vegetation clearing, minimising impacts on fauna, the retention of habitats, fencing of TRL owned land allowing it to regenerate, monitoring for the Kultarr and monitoring potential impact on wildlife from accessing the TSF decant pond.

At the time of preparing this BLMP, evidence of consultation with CHPR could not be located, however, previous independent environmental audits have found TRL to be compliant with the requirements of Condition 21.

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The 2022 Independent Environment Audit (GHD 2022) included:

- a summary of any outstanding items from the prior 2018 audit. Compliance with Condition 21 was initially found to be non-compliant, due to the absence of evidence related to consultation, however correspondence with NSW OEH was later noted and deemed to satisfy the requirement for consultation.
- The 2022 audit outcome, which found TRL to be compliant with Condition 21. Evidence of consultation was noted in the audit findings: '*Consultation with EPA on 15 May 2019 on the Flora and Fauna Management Plan 2019 updated 2021 and response from EPA (Helen Smith) on 20 May*'.

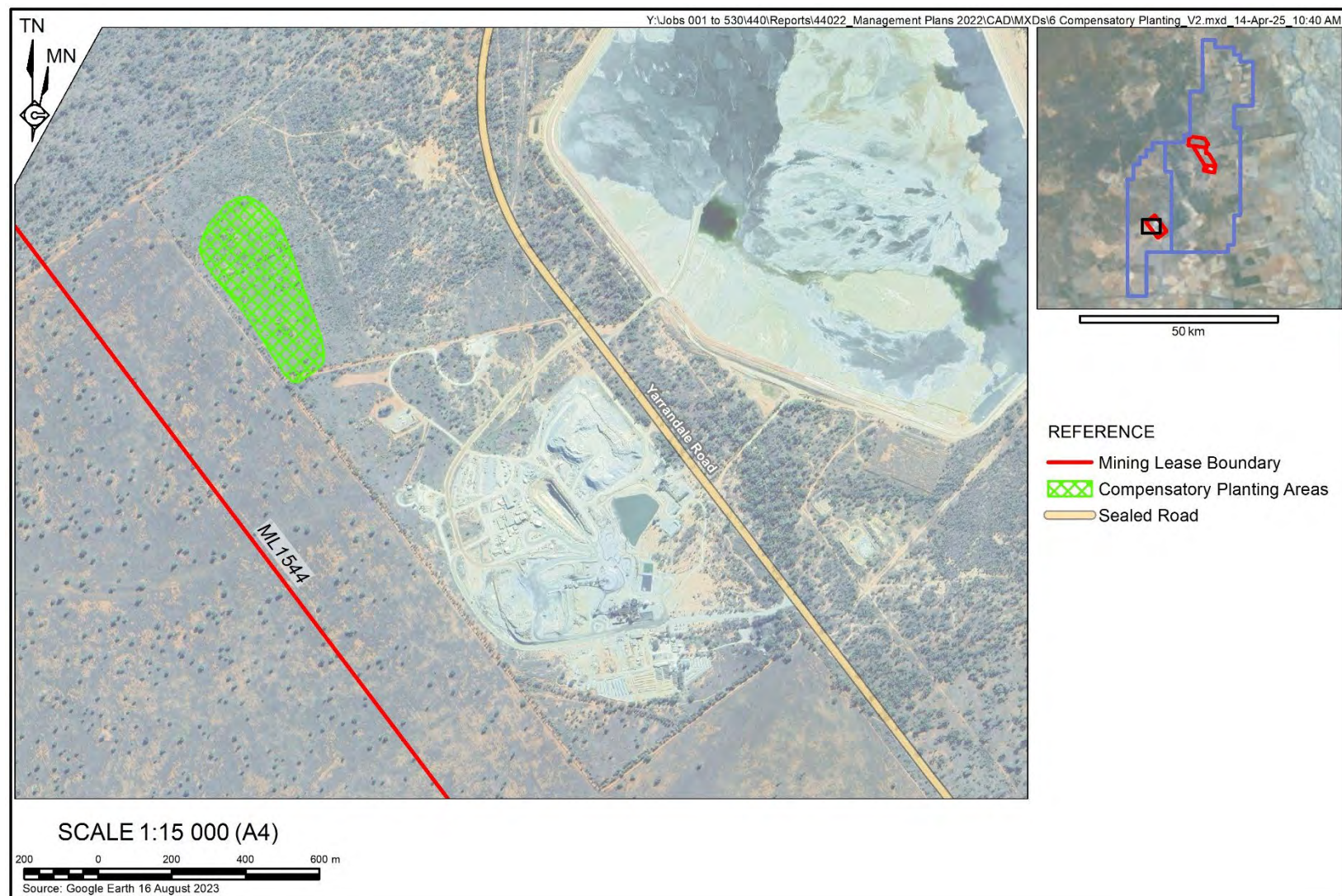
### **8.1.8. Compensatory Planting Areas**

The Tritton Environmental Assessment and Condition 26 of the TCM Development Consent (DA41/98) require the establishment of designated compensatory planting areas. TRL has established a suitable area located to the north-west of site as shown in Figure 7. Any cleared habitat resources from the establishment of the TSF have been placed in this area. The management objective of the compensatory area is to control potential impacts to the area and generally minimise access and disturbance to allow natural regeneration of the area and occupation and use by native fauna. The compensatory planting area is within the site outer perimeter fence to prevent grazing by domestic livestock and feral goats. TRL undertakes periodic inspections (Section 10), weed control (Section 8.2) and pest control (Section 8.3) within the area to ensure that biodiversity values are maintained and that no unauthorised access or disturbance occurs.

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Figure 7 Compensatory Planting Area



|                                                                                           |                         |                                                     |                                     |                       |  |
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## 8.2. Weeds

Weeds at the Tritton Copper Operations will be controlled in accordance with the appropriate strategy as defined in the Central West Regional Strategic Weed Management Plan 2023-2027 (Central West Local Land Services (2022)). Priority weeds are presented in Table 9.

Table 9 Priority Weeds (Source Central West Local Land Services (2022))

| Common name              | Scientific Name                                      | Regional Management Priority |
|--------------------------|------------------------------------------------------|------------------------------|
| Athel pine               | <i>Tamarix aphylla</i>                               | Eradication                  |
| Blackberry               | <i>Rubus fruticosus</i>                              | Containment                  |
| Bridal creeper           | <i>Asparagus asparagoides</i>                        | Prevention                   |
| Burr ragweed             | <i>Ambrosia confertiflora</i>                        | Eradication                  |
| Carrion flower           | <i>Orbea variegata</i>                               | Eradication                  |
| Cats claw creeper        | <i>Dolichandra unguis-cati</i>                       | Asset Protection             |
| Chilean needle grass     | <i>Nassella neesiana</i>                             | Eradication                  |
| Coolatai grass           | <i>Hyparrhenia hirta</i>                             | Eradication                  |
| East Indian hygrophila   | <i>Hygrophila polysperma</i>                         | Prevention                   |
| Fireweed                 | <i>Senecio madagascariensis</i>                      | Eradication                  |
| Giant Reed               | <i>Arundo donax</i>                                  | Eradication                  |
| Green Cestrum            | <i>Cestrum parqui</i>                                | Asset Protection             |
| Harrisia                 | <i>Harrisia</i> spp                                  | Eradication                  |
| Honey locust             | <i>Gleditsia triacanthos</i>                         | Eradication                  |
| Hudson pear              | <i>Cylindropuntia pallida</i> and <i>C. tunicata</i> | Eradication                  |
| Hygrophila               | <i>Hygrophila costata</i>                            | Prevention                   |
| Johnson grass            | <i>Sorghum halepense</i>                             | Asset Protection             |
| Kidney-leaf mud plantain | <i>Heteranthera reniformis</i>                       | Prevention                   |
| Ludwigia                 | <i>Ludwigia peruviana</i>                            | Prevention                   |
| Mesquite                 | <i>Prosopis</i> spp                                  | Eradication                  |
| Prickly pears            | <i>Cylindropuntia</i> spp                            | Eradication                  |
| Prickly pears            | <i>Opuntia</i> spp                                   | Asset Protection             |
| Sagittaria               | <i>Sagittaria platyphylla</i>                        | Prevention                   |
| Salvinia                 | <i>Salvinia molesta</i>                              | Prevention                   |
| Serrated tussock         | <i>Nassella trichotoma</i>                           | Containment                  |
| Spiny burr grass         | <i>Cenchrus longispinus</i>                          | Containment                  |
| St John's wort           | <i>Hypericum perforatum</i>                          | Asset Protection             |
| Yellow waterlily         | <i>Nymphaea mexicana</i>                             | Prevention                   |

Recommended published techniques for the management of weeds will be consulted prior to weed control, such as:

- the New South Wales Weed Control Handbook (DPI, 2018);
- Weeds of National Significance Website (Weed Profiles) <https://weeds.org.au/weeds-profiles/> (Weeds Australia (2023); and / or
- the Bogan Shire Council weed guides <https://bogan.nsw.gov.au/environment/vegetation-noxious-weeds>

General measures for controlling and monitoring weeds will be undertaken by appropriately qualified and experienced persons as follows:

1. Monitor the location and density of all weeds through inspections of TRL owned lands (Section 10).
2. Identification of suitable control methods (i.e. cultivation, mulching, slashing, application of herbicides etc) and timing for identified weeds (particularly targeted to avoid and mitigate the spread of noxious weeds).
3. Implementation of the selected control methods on the identified weeds.
4. Follow-up site inspections to evaluate the effectiveness of the weed control.
5. Follow-up control where previous control has been sub-optimal.

In addition to the weed control measures above, preventative weed control measures will be undertaken, such as:

- restricting the disturbance of land;
- restricting the import of soils or vegetative matter;
- inspection and cleaning of earthmoving equipment prior to initially accessing the mine site;
- appropriate biosecurity management practices to reduce the incidence and spread of weeds between control areas; and
- workforce awareness to identify and notify new and emerging weed infestations.

### 8.3. Pests

Pests are considered a material threat to native flora and fauna. Table 10 identifies the range of pests known or likely to be present within the Tritton Copper Operations, control method options and performance measures for each pest species.

Feral animals will be monitored and controlled by appropriately qualified and experienced persons. Methods to control feral animals will be selected depending on the severity of the feral animal presence and the potential for harm to non-targeted native fauna.

|                                                                                           |                         |                                                     |                                     |                       |
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The procedure for controlling feral animals is as follows:

1. Monitor the abundance of feral animals in the mine development through routine inspections (Section 10).
2. Identification of target feral animals and suitable control methods (Table 10) and timing.
3. Implementation of the selected control methods on the target feral animals.
4. Re-monitor (inspect) the abundance of feral animals to evaluate the effectiveness of the control methods.
5. Follow-up control where previous control has been sub-optimal

*Table 10 Pest Management Strategy*

| Pest Species   | Control method                                                                                                                                                                 | Management Strategy                                                                                                                                                                                                                                                                 | Performance measures                                                                       |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Fox / wild dog | Control methods may include: <ul style="list-style-type: none"> <li>1080 aerial baiting</li> <li>1080 ground baiting</li> </ul>                                                | Continued monitoring of fox / wild dog populations.<br><br>Fox / wild dog control programs will occur on an as needs basis following the identification of significant numbers.<br><br>Monitoring and implementation of coordinated control programs with neighbouring landholders. | Reduction in fox / wild dog numbers as indicated by bait uptake, observations and surveys. |
| Rabbit         | Control methods include: <ul style="list-style-type: none"> <li>Warren ripping</li> <li>Warren fumigation</li> <li>1080 (Pindone) baiting and</li> <li>RHD baiting.</li> </ul> | Monitoring populations / warrens through site inspections and observations.<br><br>Control programs implemented on an as needs basis following the identification of significant numbers of rabbits / active warrens.                                                               | Reduction in rabbit numbers by bait uptake and inspections / observations.                 |

| Pest Species | Control method                                                                                                                        | Management Strategy                                                                                                                                                                                                                                            | Performance measures                                                      |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Feral Pig    | Traditional control methods include: <ul style="list-style-type: none"> <li>• Live trapping</li> <li>• Strategic poisoning</li> </ul> | Monitoring populations through site inspections and observations.<br><br>Control programs implemented on an as needs basis following the identification of significant numbers of feral pigs / feral pig activity.                                             | Reduced numbers of pigs observed and evidence of pig activity.            |
| Feral Goat   | Mustering and trapping programs (for commercial sale). This can be done by attracting goats to a water point to increase captures.    | Monitoring of goat populations through site inspections and observations including impacts to native vegetation and rehabilitation success.<br><br>Control programs implemented on an as needs basis following the identification of significant goat numbers. | Reduced numbers of goats and the increased condition of native vegetation |
| Feral Cat    | Trapping and destruction.                                                                                                             | Monitoring populations through site inspections and observations.<br><br>Control programs implemented on an as needs basis following the identification of significant feral cat numbers.                                                                      | Reduced numbers of feral cats observed.                                   |

In addition to the feral animal controls measures above, TRL will maintain a clean, rubbish-free environment across the Tritton Copper Operations, particularly around administration and contractor areas. This will discourage scavenging and reduce the potential for colonisation of these areas by non-endemic fauna (e.g. introduced rodents, birds).

## 8.4. Visual Amenity

Management measures to reduce visual amenity impacts from public and private vantage points are outlined in this section. Due to the relatively remote nature of the Tritton Copper Operations, and sparse residential dwellings, visual amenity impacts are considered low risk, nonetheless the following management measures are implemented at TRL.

### 8.4.1. General Measures

Building materials and external cladding for all buildings and structures will be selected to be earthy / forest tones and non-reflective in nature.

The height of any building or stockpile will be the lowest manageable height to reduce the potential for components to be visible on the horizon from surrounding locations.

All possible remnant vegetation will be retained to allow screening of the Tritton Copper Operations from public vantage points.

Progressive rehabilitation will be implemented, in accordance with the TRL Rehabilitation Management Plans (for each Mining lease / operational area) to reduce visual amenity impacts.

Should TRL receive a community complaint regarding visual amenity impacts, TRL will investigate and in consultation with the affected landholder, implement mitigation measures, such as planting vegetation screens to improve the visual amenity. Community complaints will be managed and recorded as stated in the EMS (TRL-HSET-PLN-0023).

All external lighting shall comply with the *Australian Standard AS4282 (INT) – Control of Obtrusive Effects of Outdoor Lighting*. Key measures will include:

- External lighting will be the minimum required for safety and operational purposes.
- External lighting will point to the ground and not above the horizontal, and / or contain suitable shrouding to prevent light spill.
- Motion sensors will be used where appropriate, and procedures implemented to ensure that un-necessary lights are turned off.

Where feasible, soil stockpiles will be located to provide visual screening from public vantage points.

Where feasible, supplementary tree and shrub planting will be undertaken along road verges and in other suitable locations to reduce visual amenity impacts.

### 8.4.2. Tritton Copper Mine Visual Amenity Measures

The Tritton Copper Mine EIS (RWC 1998) proposed the establishment of native vegetation screens to mitigate the visual amenity from public road vantage points. At the time of preparing this BLMP, the majority of plantings had been completed in priority areas adjacent to Yarrandale Road as shown in Figure 8 below. Activities are now restricted to the maintenance of established plantings and retained vegetation. A summary of completed works is presented below; with the exception of maintenance of planted areas, no further visual amenity screening or landscaping works are proposed.

|                                                                                           |                         |                                                     |                                     |                       |
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## 8.4.2.1. Tritton Office Area

Surrounding the office area, shrubs have been planted to improve visual amenity and the aesthetic appeal of the site. These plantings consist primarily of native shrub species and include;

- Grevilleas:
  - o Grevillea 'Superb' (*Grevillea* spp)
  - o Grevillea 'Robyn Gordon' (*Grevillea* spp)
  - o Grevillea 'Ned Kelly' (*Grevillea* spp)
- Bottlebrushes:
  - o Callistemon 'Hot Pink' (*Callistemon* spp)
  - o Dwarf Red Bottlebrush (*Callistemon* spp)

These plantings were selected due to their mature dimensions, maximum height of 2m (to office windows) and width of 1.5m and will be maintained as required. A drip irrigation system is installed to the site water taps to allow efficient watering of the plantings surrounding the buildings.

## 8.4.2.2. Site Boundary

Screen plantings have also been established around the site boundaries to supplement retained native vegetation. These trees provide a visual barrier surrounding the Tritton site, a source of habitat for native avifauna and an offset to land clearing undertaken as part of the Tailings Storage Facility construction. The plantings consist of tree species including:

- White Cypress Pine (*Callitris glaucophylla*);
- Green Mallee (*Eucalyptus viridis*); and,
- Bimble Box (*Eucalyptus populnea*)
- Red Box (*Eucalyptus intertexta*)
- Kurrajongs (*Brachychiton populneus*)

The trees are planted 3 meters apart in three staggered rows also 3 meters apart. The Green Mallee and Bimble Box are planted in the two rows furthest from the road along the front of the site and alternatively with the White Cypress Pine.

## 8.4.2.3. Pastefill Plant and Office Screens

One tree screen has been planted to provide a visual barrier for the pastefill plant and site office. The screen was established within the Travelling Stock Route in front of the paste plant and consist of red box, bimble box and kurrajongs planted in rows 6 meters apart and trees 5 meters apart.

## 8.4.2.4. Effluent Management Plantings

Septic tank overflow trenches for the site have been planted with various native tree and shrub species. Species have been chosen that are adapted to being ephemerally inundated to effectively draw down the surface water to maintain hygienic operation of the overflow trench; these species include the following;

- Western Boobialla (*Myoporum montanum*)
- Coolibah tree (*Eucalyptus coolabah*)
- Kurrajong (*Brachychiton populneus*)
- Teatree species (*Melaleuca bracteate*)
- River Cooba (*Acacia stenophylla*)
- River Bottlebrush (*Melaleuca paludicola*)
- Ebor (*Callistemon ebor*)
- Grevillea 'superb' (*Grevillea* spp)
- Round-leaved tea tree (*Leptospermum rotundifolium*)
- Cross-leaf honey-myrtle (*Melaleuca decussata*)
- Rushes (*Juncus usilalis*)

## 8.4.2.5. Tailings Storage Facility

The Tailings Storage facility (TSF) is designed to be constructed in ten<sup>2</sup> stages. Throughout each stage lift that requires clearing of vegetation, only the minimum required area will be cleared, allowing the maximum amount of vegetation to remain intact. A corridor of woody vegetation will be retained between the TSF and Yarrandale road at all stages of TSF construction. In addition, TSF embankments will be progressively rehabilitated as stated in the Tritton Copper Mine Rehabilitation Management Plan (TRL-HSET-PLN-0034).

<sup>2</sup> Modification 9 to the TCM Development Consent (DA41/98) approves the raising of the TCM TSF to include Stages 8 to 10. Stages 8-10 will be constructed as 'upstream lifts' requiring no or negligible vegetation removal.

Figure 8 TRL Visual Amenity and Landscape Plan



## 8.5. Performance Measures, Targets, Trigger Action Response Plan

Performance criteria, completion criteria, and a Trigger Action Response Pan (TARP) which adhere to the SMART principles (specific, measurable, achievable, realistic, and timely) that will be implemented to improve biodiversity and land management outcomes are provided below in Table 11.

|                                                                                           |                         |                                                     |                                     |                       |
|-------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------|-------------------------------------|-----------------------|
| <b>Doc No:</b> TRL-HSET-PLN-0025                                                          |                         | <b>Title:</b> Biodiversity and Land Management Plan |                                     |                       |
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# Biodiversity and Land Management Plan

Table 11 Performance Criteria and Corrective Measures

| Aspect                                                                 | Performance Criteria / Targets                                                                                                                  | Completion Criteria                                                                                                                                                | Trigger                                                                                     | Action                                                                                                                                                                 | Response                                                                                                                                                                  |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extent of clearing                                                     | All clearing is within the approved disturbance area.<br><br>Surface Disturbance Permit issued for all clearing.                                | There is no unauthorised clearing during the life of operations.                                                                                                   | Unauthorised or incidental clearing.<br><br>Clearing outside the approved disturbance area. | Immediately cease work / barricade the affected area.<br><br>Arrange veterinary care for any injured fauna.                                                            | Register as an event / incident.<br><br>Externally report (material harm) if required.                                                                                    |
| Native fauna injury / mortality during vegetation clearing activities. | Minimise injury / mortality to native fauna during vegetation clearance:<br><br><5 native animals injured or killed during clearing activities. | Native fauna populations and threatened species populations remain viable in the Tritton Copper Operations locality and generally unimpacted by mining activities. | >5 mortality of native fauna species                                                        | Escalate to TRL Management.<br><br>Commence investigation.                                                                                                             | Undertaken investigation to identify basic causes, root causes and measures to be implemented (preventative, mitigation, repair).<br><br>Identified measures implemented. |
|                                                                        | 0 threatened native animals injured or killed during clearing activities.                                                                       |                                                                                                                                                                    | >0 mortality to threatened species                                                          |                                                                                                                                                                        |                                                                                                                                                                           |
| Compensatory Planting Area                                             | No damage or evidence of unauthorised access.                                                                                                   | There is no disturbance or harm to the compensatory planting area.                                                                                                 | Evidence of damage / unauthorised access.                                                   |                                                                                                                                                                        | Revise Surface Disturbance Permit process.                                                                                                                                |
| Consumption of TSF decant water by native fauna.                       | Inspections confirm that the TSF decant is not accessed by native fauna.<br><br>0 native fauna deaths from consuming TSF decant water.          | Native fauna populations remain viable in the Tritton Copper Operations locality and generally unimpacted by mining activities.                                    | >0 native fauna deaths from consuming TSF decant water.                                     | Arrange veterinary care for any injured fauna.<br><br>Initiate pumping to reduce decant volume.<br><br>Check perimeter fencing.<br><br>Check alternate water supplies. | (Incident Management Process (EMS TRL-HSET-PLN-0023)).                                                                                                                    |

# Biodiversity and Land Management Plan

| Aspect                               | Performance Criteria / Targets                                        | Completion Criteria                                                                                                                                                                                                                                                                                                         | Trigger                                                                                                                                                                                                                                                                    | Action                                                                                                                   | Response                                                                                                                                             |
|--------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Priority Weeds on TRL managed lands. | Visual assessment of priority weeds make up <5% of total plant cover. | Priority weeds maintained at low levels and prevented from spreading to neighbouring lands.                                                                                                                                                                                                                                 | Priority weeds make up >5% of plant cover.<br><br>A community complaint regarding the spread of weeds.                                                                                                                                                                     | Review weed control strategies, methods and frequency.<br><br>Implement additional weed control measures.                | Track effectiveness of control measures.<br><br>Investigate and resolve community complaint. (Complaints Management Process (EMS TRL-HSET-PLN-0023)) |
| Pest Animal impact.                  | Visual inspections identify increasing pest numbers and impacts.      | Pest numbers result in only minor impact:<br><br>Rabbit burrows occupy <400m <sup>2</sup> per mine site.<br><br>Feral pig diggings occupy <400m <sup>2</sup> per mine site<br><br>Feral Goats <20 identified per mine site per inspection.<br><br>Foxes, wild dogs / feral cats <2 identified per mine site per inspection. | Rabbit burrows occupy >400m <sup>2</sup> per mine site.<br><br>Feral pig diggings occupy >400m <sup>2</sup> per mine site<br><br>Feral Goats >20 identified per mine site per inspection.<br><br>Foxes, wild dogs / feral cats >2 identified per mine site per inspection. | Review pest control strategies, methods and frequency.<br><br>Implement additional pest control measures where required. | Track effectiveness of control measures.<br><br>Seek specialist pest control advice should targets not be met.                                       |
| Visual Amenity                       | 0 community complaints regarding visual amenity impacts.              | No community complaints                                                                                                                                                                                                                                                                                                     | >0 community complaints regarding visual amenity impacts                                                                                                                                                                                                                   | Implement temporary screening measures where feasible.                                                                   | Investigate and resolve community complaint (Complaints Management Process (EMS TRL-HSET-PLN-0023))                                                  |

## 9. MONITORING PROGRAM

Monitoring programs, as they relate to the management of biodiversity values and land management are presented below in Table 12.

The BLMP (Section 8.1.7) refers to water sampling and analysis results from the TSF decant; these aspects are included in the TRL Water Management Plan (TRL-HSET-PLN-0032).

Table 12 TRL Biodiversity and Land Management Monitoring Programs

| Monitoring Type                                                                                                                                                                                                                                                                                                                                                                                                                | Frequency                                                                                       | Reporting of Results                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Native fauna injury or death from vehicle strike or other cause.</p> <p>All native fauna deaths are reported to the Environmental Superintendent who maintains a register of native fauna deaths.</p> <p>The Environmental Superintendent will periodically review the frequency and location of fauna deaths and devise corrective measures, such as further reductions in vehicle speed limits, exclusion fencing etc</p> | As needed / observed by operational personnel.                                                  | <p>Injured fauna are reported to WIRES or a local veterinary service. In severe cases, injured fauna may be humanely euthanised on site in accordance with industry guidelines.</p> |
| Targeted and general flora and fauna surveys. Surveys conducted in accordance with the NSW Biodiversity Assessment Scheme (i.e completion of a Biodiversity Assessment Report (BDAR))                                                                                                                                                                                                                                          | Prior to expansion of the existing disturbance footprint / assessment of new disturbance areas. | <p>Results to be reported in accordance with development application approval process.</p> <p>Results to be incorporated into updated BLMP.</p>                                     |

## 10. ENVIRONMENTAL INSPECTIONS

A range of environmental and operational inspections are undertaken to assess the status of biodiversity and land management aspects. Inspections are itemised in Table 13. All inspections are documented, and any corrective measures are assigned to the area owner in accordance with TRL procedures.

Table 13 excludes inspections undertaken as part of the Surface Disturbance Permit or Pre-clearance Survey processes.

*Table 13 TRL Biodiversity and Land Management Inspection Regime*

| Inspection Type                                                                                                                                                                                                              | Frequency                                         | Reporting of Results                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Visual inspection of water management structures, pits and voids for presence of fauna (including trapped, injured or dead fauna).                                                                                           | Daily during operations by operational personnel. | Fauna present within water management structures (including dead fauna) to be reported to the Environment Superintendent immediately.                                                                       |
| Sightings of threatened fauna by site personnel and vehicle drivers.                                                                                                                                                         | Opportunistic by all operational personnel.       | Threatened Fauna sightings reported to the Environment Superintendent.                                                                                                                                      |
| TSF inspection to identify: <ul style="list-style-type: none"> <li>Native fauna in the vicinity,</li> <li>Native fauna utilising the TSF decant.</li> <li>Native fauna utilising alternate water supply (TSW 08).</li> </ul> | Monthly.                                          | Findings reported to Environment Superintendent<br><br>Documented record stored in the site compliance management system.<br><br>Any corrective actions assigned via the site compliance management system. |
| Grazing status (impact on native vegetation including rehabilitation and compensatory planting areas).                                                                                                                       | Quarterly                                         | Findings reported to Environment Superintendent<br><br>Documented record stored in the site compliance management system.<br><br>Any corrective actions assigned via the site compliance management system. |

| Inspection Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Frequency | Reporting of Results                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>General environment inspections including:</p> <ul style="list-style-type: none"> <li>Weeds (% weed cover);</li> <li>Pests (Pest numbers and extent of damage)</li> <li>Compensatory planting areas (weeds / pests / unauthorised access / damage).</li> <li>Known threatened flora areas, known EEC areas (weeds / pests / unauthorised access / damage).</li> <li>Land management.</li> <li>Unauthorised land disturbance.</li> <li>Unauthorised grazing.</li> <li>Exclusion fencing condition and effectiveness.</li> <li>Visual amenity plantings (health and any fatalities requiring re-planting).</li> </ul> | Quarterly | <p>Inspection documented (inspection form TRL-ENV-FRM-016)</p> <p>Documented record stored in the site compliance management system.</p> <p>Corrective actions devised and assigned to area owner as per TRL procedures.</p> |

## 11. COMPLIANCE, AUDITING AND REPORTING

### 11.1. Assessing Compliance

Compliance requirements and any key obligations or commitments as they relate to biodiversity and land management are contained in the TRL Legal and Other Obligations Register (TRL-HSET-REG-0002). The Environmental Superintendent is responsible for the implementation of this BLMP and will undertake periodic assessments of compliance against the requirements of the TRL Legal and Other Obligations Register and this BLMP. Any findings indicating misalignment with the aims, objectives or specific requirements of this plan will be managed as per the EMS (TRL-HSET-PLN-0023) as either an incident, non-compliance or opportunity for continuous improvement.

## 11.2. Independent Environmental Audits

Condition 8 of the TCM Development Consent (DA41/98) requires the undertaking of an independent environmental audit. The audit will assess the Company's environmental performance against compliance conditions and the implementation of this BLMP.

Similarly, Condition C8 of the ATP Development Consent (DA 10/2015/004/003) requires that within 2 years of the commissioning of the development, and every three years thereafter, that an independent environmental audit is undertaken. The audit will assess the Company's environmental performance against compliance conditions and the implementation of this BLMP.

Further detail regarding the conducting of the required audits is contained in the EMS (TRL-HSET-PLN-0023) and applies to this BLMP.

## 11.3. Reporting

The EMS (TRL-HSET-PLN-0023) includes details on the required reporting mechanisms as they apply to the various TRL Operations. Formal annual reporting mechanisms (Annual Review) are required to meet the TCM Development Consent (DA41/98) and the ATP Development Consent (DA 10/2015/004/003). For each annual report produced, the report will include a summary of any biodiversity and land management related impacts (incident/non-compliance), (continuous) improvement initiatives and an update on key programs.

The external reporting of any 'reportable incidents' and non-compliances to regulatory authorities and relevant stakeholders will be undertaken as stated in the EMS (TRL-HSET-PLN-0023).

## 12. ENVIRONMENTAL INCIDENT AND EMERGENCY PLANNING, PREPAREDNESS AND RESPONSE

The TCM Development Consent (DA 41/98) defines an incident as '*a set of circumstances that causes or threatens to cause material harm to the environment*'.

All incidents where there is actual, or a risk of potential environmental harm are externally reported to the respective regulatory authority:

- DPHI – as per *Condition 7* of the TCM Development Consent (DA41/98) (applicable to Tritton Operations), TRL will immediately notify the DPHI and any other relevant agencies after it becomes aware of an incident. The notification will identify the development (including the development application number and name) and set out the location and nature of the incident.
- The NSW Conservation Programs, Heritage and Regulation group will be notified of incidents involving threatened species or EECs.
- Other regulatory agencies depending on the nature of the incident, such as Bogan Shire Council.

Any incident reported will require an investigation to be conducted as soon as practical. The investigation will be undertaken to determine the root cause(s) of the incident and to devise corrective and preventative measures.

|                                                                                           |                         |                                                     |                                     |                       |
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| <b>Doc No:</b> TRL-HSET-PLN-0025                                                          |                         | <b>Title:</b> Biodiversity and Land Management Plan |                                     |                       |
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TRL maintains a register of any complaints received in relation to any environmental performance issues. The register includes the date and nature of the complaint, and actions taken to mitigate or prevent reoccurrence.

Further detail regarding the identification, reporting and management of incidents, and TRL's emergency response procedures are contained in the EMS (TRL-HSET-PLN-0023) and apply to this BLMP.

## 13. TRAINING AND AWARENESS

All personnel involved in on-site operations at each of the Tritton Copper Operations will receive training on biodiversity and land management and required mitigation measures (as applicable to the general workforce). The training will provide information relating to the following.

- A summary of legal obligations as related to biodiversity and land management aspects;
- The location of any biodiversity value items in close proximity to operational mining areas (ie. 'no go' areas);
- Required biodiversity and land management measures as applicable to the general workforce (in accordance with this BLMP);
- incident reporting; and
- the general contents and location of this BLMP.

Training will be undertaken through the completion of the site general induction.

Additional instruction will be provided to key personnel whose role requires the consideration or implementation of specific biodiversity or land management mitigation measures. Instruction will be provided by the Site Environmental Superintendent or delegate, including the provision of operational control documentation (for example, Environmental Operating Procedures).

Awareness covering relevant topics of biodiversity and land management will be provided throughout the year through daily pre-starts, posters and safety meetings.

## 14. CORRECTIVE AND PREVENTATIVE ACTIONS

Any corrective or preventive actions, or opportunities for improvement identified through environmental inspections, audits, incident investigations or non-compliances are assigned and tracked through the site's compliance management system. Where required, management plans, procedures, templates and schedules are updated, approved by management and implemented as per the EMS framework (Section 1.2). These aspects are further described the EMS (TRL-HSET-PLN-0023).

|                                                                                           |                         |                                                     |                                     |                       |
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## 14.1. Non-Compliance Notification / Management

The EMS (TRL-HSET-PLN-0023) includes definitions and protocols for the identification and reporting of non-compliances. Key aspects are summarised in the following section.

The definition of a “non-compliance,” as defined under the TCM Development Consent (DA 41/98) is: *‘An occurrence, set of circumstances or development that is a breach of this consent but is not an incident.’*

Any identified non-compliances will be entered into INX as an ‘event’ where the non-compliance is investigated and where basic and root causes are determined. The investigation will develop corrective and preventative actions which are assigned to relevant personnel and tracked through to completion. Should the non-compliance meet the definition of material harm, it will also be reported as a ‘reportable incident’.

Condition 7A of the TCM Development Consent (DA 41/98) requires that ‘within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.’ TRL will report all identified non-compliances as per this requirement.

While only the TCM Development Consent requires the reporting of non-compliances, TRL will notify all relevant agencies, regardless of whether reporting is specified in the respective development consent (including the provision of a report within 7 days of becoming aware of the non-compliance).

In addition, a summary of non-compliances, as related to the specific development consents will be included in the TCM or ATP Annual Reviews.

## 15. ACCESS TO INFORMATION

Condition 8A of the TCM Development Consent (DA 41/98) and Condition C10 of the ATP Development Consent (DA 10/2015/004/003) require the publishing of information on the Company website. In addition, Section 66(6) of the POEO Act requires the publishing of monitoring data, where required to be collected by any Environmental Protection Licence.

To meet the above requirements, TRL will publish the following information on the Company website and keep it up to date:

- TCM Development Consent (DA 41/98) (including modifications);
- Tritton EIS (including environmental assessments undertake to support modifications);
- ATP Development Consent (DA 10/2015/004/003) (including modifications);
- Avoca Tank Project EIS (or equivalent) (including environmental assessments undertaken to support modifications);
- Mining Leases;
- Rehabilitation documents as required by Standard Mining Lease Conditions;
- Environmental Protection Licences;
- All approved strategies, plans and programs required under the conditions of consent.

|                                                                                           |                         |                                                     |                                     |                       |
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- Regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;
- a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of the consents, or any approved plans, or EPL;
- A summary of the current progress of the developments;
- contact details to enquire about the development or to make a complaint;
- a complaints register, updated monthly (all TRL operations);
- Minutes of CCC Meetings;
- the Annual Reviews of the development;
- audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; and
- any other matter required by the Secretary (Tritton), or Bogan Shire Council (Avoca Tank);

## 16. REVIEW AND IMPROVEMENT

The EMS (TRL-HSET-PLN-0023) contains details regarding the review of strategies and management plans including this BLMP.

This BLMP will be reviewed on the following basis:

*'within three months of the submission of an Annual Review, Incident Report, Independent Environmental Audit or any modification to development consents, the applicant shall review, and if necessary revise, the strategies, plans and programs required under the consents to the satisfaction of the Secretary (TCM Development Consent (DA41/98)) or Bogan Shire Council (ATP Development Consent (DA 10/2015/004/003)).*

The revision will include, where relevant, any corrective or preventive actions, or opportunities for improvement identified through environmental inspections, audits, incident investigations or non-compliances (Section 14). Revised management plans are approved as per the TRL delegation of authority.

|                                                                                           |                         |                                                     |                                     |                       |
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## 17. RELATED DOCUMENTS

Internal documents referenced within this BLMP are presented in Table 14.

*Table 14 Internal Documents Relevant to this BLMP*

| Doc No.           | Document Name                                          | Author |
|-------------------|--------------------------------------------------------|--------|
| TRL-HSET-PLN-0023 | Environmental Management Strategy                      | TRL    |
| TRL-HSET-RAS-0006 | Environmental Risk Register                            | TRL    |
| TRL-HSET-PLN-0032 | Water Management Plan                                  | TRL    |
| TRL-HSET-PLN-0034 | Tritton Copper Mine Rehabilitation Management Plan     | TRL    |
| TRL-HSET-PLN-0035 | Murrawombie Copper Mine Rehabilitation Management Plan | TRL    |
| TRL-HSET-PLN-0036 | North East Mine Rehabilitation Management Plan         | TRL    |
| TRL-HSET-PLN-0026 | Heritage Management Plan                               | TRL    |
| TRL-HSET-PLN-0031 | Waste Management Plan                                  | TRL    |
| TRL-HSET-PLN-0027 | Hydrocarbon and Chemical Management Plan               | TRL    |
| TRL-HSET-REG-0005 | Contaminated Sites Register                            | TRL    |
| TRL-HSET-PRO-0013 | Surface Disturbance Procedure                          | TRL    |
| TRL-HSET-FRM-0089 | Surface Disturbance Permit Form                        | TRL    |
| TRL-HSET-REG-0002 | TRL Legal and Other Obligations Register               | TRL    |

## 18. REFERENCES

- ANZECC/ARMCANZ (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality
- Bogan Shire Council (2024) Vegetation & Noxious Weeds (weed guides) <https://bogan.nsw.gov.au/environment/vegetation-noxious-weeds>
- Central West Local Land Services (2022) Central West Regional Strategic Weed Management Plan 2023-2027 (
- EnviroKey. (2010) Flora and Fauna Study: Tritton Mine, Hermidale, N.S.W. A report prepared by S. Sass of EnviroKey for Tritton Resources Pty. Ltd. Report No. ER 0127.
- EnviroKey. (2011a) Flora and Fauna Impact Assessment: Proposed ROM Pad Extension, TRL North East Site (ML 1383) Girilambone, NSW. A report prepared by S. Sass for Tritton Resources Ltd. Report No. EclA 0249. Final Report. Version 1.0. 23/06/2011.
- EnviroKey. (2011b) Flora and Fauna Impact Assessment: Proposed Stage 4, Tailings Storage Facility, Tritton Mine, Hermidale, NSW. A report prepared by S. Sass for Tritton Resources Ltd. Report No. EclA 0252. Draft Report. Version 1.0. 28/06/2011.
- EnviroKey. (2011c) Flora and Fauna Study: Murrawombie and North East Mine, Girilambone, N.S.W (ML1280, ML1383 & MPL295). A report prepared by S. Sass, S. Parsell and L. Sass for Tritton Resources Pty. Ltd. Report No. ER.0301. Final Report. Version 1. 12/12/2011.
- EnviroKey. (2014) Ecology Assessment – Proposed Avoca Tank Project, Girilambone, NSW.
- GHD (2022). Mandatory Independent Environmental Audit – Tritton Mine. March 2022
- New South Wales Department of Primary Industry (2018) New South Wales Weed Control Handbook.
- RWC. (1998) Tritton Copper Project: Environmental Impact Statement. A report prepared by R.W Corkery & Co. Pty Limited for Nord Australex Nominees Pty Ltd and Straits Mining Pty Ltd.
- Weeds Australia (2023) Weeds of National Significance Website (Weed Profiles) <https://weeds.org.au/weeds-profiles/>.

|                                                                                           |                         |                                                     |                                     |                       |
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## APPENDIX A COMMITMENTS ARISING FROM ENVIRONMENTAL ASSESSMENTS

### *Commitments Arising from Environmental Assessments*

| Section                                  | Commitment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Section Where Addressed        |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>Tritton Environmental Assessments</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |
| <b>Initial EIS</b><br>4.6.1.2            | Vegetation would only be cleared in areas essential for surface infrastructure and mine related activities. All other vegetation would remain undisturbed by project related activities. Where possible, topsoil stockpiles would be positioned in areas involving least clearing.                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Section 8.1                    |
|                                          | Vegetation clearing for the Tailings Storage facility would be undertaken in a staged manner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Commitment met / now redundant |
|                                          | All infrastructure except the tailings storage facility would be positioned on the western side of Yarrandale Road, generally in the area already cleared.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Commitment met                 |
|                                          | Stock would be removed, and feral animals and weeds controlled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Section 8                      |
|                                          | New vehicle tracks would be minimised, and any existing tracks used would be properly maintained.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Section 8.1.1                  |
|                                          | Native trees and shrubs, endemic to the area would be used in all rehabilitation projects to assist in returning the site to a more natural condition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Section 8.1.6                  |
|                                          | A program of compensatory vegetation establishment in the area west of Yarrandale Road:<br><br>The applicants propose to undertake a program of planting on the western side of Yarrandale Road to partially compensate for the progressive removal of 120ha of vegetation on the eastern side of Yarrandale Road. It is proposed that topsoil stripped from the area of the proposed tailings storage facility is directly transferred onto areas of the Applicants property west of Yarrandale Road. The soil, together with tree debris, would provide for natural revegetation in those areas of the Applicants land not required for infrastructure components (Section 8.1.8). All area of compensatory planting would be fenced. | Section 8.1.8                  |
| <b>Initial EIS</b><br>4.6.2.1            | Any trees with hollows that need to be removed, would preferentially be felled in early autumn to avoid disruption to nesting birds in spring and early summer, and over-winter / hibernating bats in the cooler months.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Section 8.1                    |

| Section                 | Commitment                                                                                                                                                                                                                                                                                                                                      | Section Where Addressed        |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
|                         | All dead standing trees and logs on the ground would be left in-situ where possible to preserve their wildlife habitat.                                                                                                                                                                                                                         | Section 8.1                    |
|                         | The surface infrastructure area and the land owned by the Applicants would be fenced to restrict access from grazing stock thereby enabling those areas to regenerate.                                                                                                                                                                          | Section 8.1                    |
|                         | Monitoring would be undertaken prior to each clearing campaign to locate Kultarr in those areas. Any Kultarr located would be relocated beyond the proposed area of clearing for the campaign                                                                                                                                                   | Commitment met / now redundant |
|                         | An annual Kultarr monitoring program would be undertaken to monitor the impact of the proposed project on the local Kultarr population.                                                                                                                                                                                                         | Commitment met / now redundant |
|                         | The Applicant would undertake a program to monitor and assess the impact upon wildlife, if any, of the supernatant water on the surface of the Tailings Storage Facility.                                                                                                                                                                       | Section 8.1.7                  |
| <b>Mod 4</b><br>6.6.1.2 | An internal Surface Disturbance Permit will be completed prior to any clearing being undertaken.<br><br>This involves inspection of the area and must be signed by the Resident Manager, Environmental.<br><br>Personnel and the person carrying out the works.                                                                                 | Section 8.1.3                  |
| <b>Mod 4</b><br>6.6.2.2 | The borrow pit will be constructed to ensure fauna egress is available                                                                                                                                                                                                                                                                          | Section 8.1                    |
| <b>Mod 8</b><br>6.7.4   | The following mitigation measures would be implemented to minimise potential visual amenity impacts. <ul style="list-style-type: none"> <li>Promptly respond to any complaint relating to visual amenity.</li> <li>Undertake all proposed activities in accordance with existing plans and approvals including the approved MOP/RMP.</li> </ul> | Section 8.4                    |
| <b>Mod 9</b>            | No additional mitigation measures or commitments                                                                                                                                                                                                                                                                                                |                                |

| Section                                      | Commitment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Section Where Addressed |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Murrawombie Environmental Assessments</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         |
| <b>Initial EIS</b><br>4.3.2                  | Hollow logs and ground litter would be retained for fauna habitat where possible.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Section 8.1             |
| 4.7                                          | <p>The Company would undertake the following procedures to minimise the visual impact of the project and enhance the aesthetic appearance of the site:</p> <ul style="list-style-type: none"> <li>(i) Undertake progressive rehabilitation;</li> <li>(ii) Locate soil stockpiles as bunds primarily along Booramugga road and Hermidale Roads to reduce visual access;</li> <li>(iii) Undertake native tree and shrub planting along the above mentioned road verges in the vicinity of the Mining Area;</li> <li>(iv) Maintain the site in a tidy and uncluttered condition</li> </ul> | Section 8.4             |
| 5.7                                          | Development and rehabilitation would aim to minimise clearing and surface disturbance and to supplement existing vegetation and habitat by a revegetation program.                                                                                                                                                                                                                                                                                                                                                                                                                      | Section 8.1             |
| <b>Mod 1 (1995)*</b><br><br>Table 4.1        | Minimise areas disturbed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Section 8.1             |
|                                              | Progressive rehabilitation would assist in limiting exposed areas [visual amenity]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Section 8.2             |
|                                              | Responsible weed and vermin control programs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Section 8.3             |
|                                              | Areas subject to past grazing pressures would be allowed to regenerate with only limited grazing for fire management                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                         |
| <b>Stage 3 Mod (2007)</b>                    | No additional mitigation measures or commitments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -                       |
| <b>Mod 3 (2015)</b><br>Section 2.3.3         | Initial construction of the waste rock emplacement and subsequent lifts would involve construction of a visual bund.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Section 8.4             |
| Section 4.2.6                                | Ensure that all areas of proposed disturbance are clearly marked prior to the commencement of clearing campaigns to minimise the potential for over clearing of vegetation.                                                                                                                                                                                                                                                                                                                                                                                                             | Section 8.1.2           |
|                                              | Engage where necessary, a qualified or suitable experienced fauna spotter-catcher to undertake an initial assessment of the area to be cleared for threatened species and to guide and inspect the felling of any hollow bearing trees.                                                                                                                                                                                                                                                                                                                                                 | Section 8.1.4           |

| Section                                      | Commitment                                                                                                                                                                                                                                             | Section Where Addressed    |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
|                                              | Check all trees for the presence of nesting or roosting fauna before felling or pushing, then start tree removal immediately after visual inspection.                                                                                                  | Section 8.1.4              |
|                                              | When a tree with hollows requires removal, the tree is to be gradually nudged at intermittent intervals so that any animal occupying a habitat tree has the chance of vacating the area after the initial disturbance period.                          | Section 8.1.4              |
|                                              | Salvage tree trunks, major limbs and, if practicable, minor branches and immediately relocate to areas undergoing rehabilitation to avoid these becoming habitat for hollow dependent species within the cleared location.                             | Section 8.1.4              |
|                                              | Allow fauna that has become displaced from vegetation clearing to find its way to remnant vegetation and give suitable assistance to any injured fauna, where necessary.                                                                               | Section 8.1.4              |
| <b>Mod 4 (2023)</b><br>Table 6               | No additional management measures or commitments                                                                                                                                                                                                       | -                          |
| <b>Mod 5 (2024)</b>                          | No additional management measures or commitments                                                                                                                                                                                                       | -                          |
| <b>North East Environmental Assessments</b>  |                                                                                                                                                                                                                                                        |                            |
| <b>Initial EIS*</b><br>Table 4.1             | Minimise areas disturbed                                                                                                                                                                                                                               | Section 8.1                |
|                                              | Progressive rehabilitation would assist in limiting exposed areas [visual amenity]                                                                                                                                                                     | Section 8.2<br>Section 8.3 |
|                                              | Responsible weed and vermin control programs                                                                                                                                                                                                           |                            |
|                                              | Areas subject to past grazing pressures would be allowed to regenerate with only limited grazing for fire management                                                                                                                                   |                            |
| <b>Stage 1 Mod (2007)</b><br>Section 6.9.1.2 | No threatened flora species have been identified in the Project Site however should a threatened species be recognised, works will be halted, and the appropriate process implemented, including notification of Regulatory Authorities where required | Section 8.1                |
|                                              | With regard to weed management, the ongoing monitoring and spraying of noxious weeds is carried out on all land under the control of TRL. The weeds targeted are predominately African Boxthorn and Bathurst Burr.                                     | Section 8.2                |
| Section 6.9.2.2                              | Clearing will be kept to the minimum required for the power line and service infrastructure. Prior to any clearing for the operation the areas will be inspected by the company's environmental officer for potential roost trees.                     | Section 8.1.3              |

| Section                                          | Commitment                                                                                                                                                                                                                                                                                                    | Section Where Addressed |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Avoca Tank Environmental Assessments</b>      |                                                                                                                                                                                                                                                                                                               |                         |
| <b>Initial EIS (2014)</b><br><br>Section 4.3.7.3 | Draft and implement the following plans to manage potential biodiversity impacts:<br><br><i>Pest Animal Management Plan</i><br><br><i>Weed management Plan</i><br><br><i>Fauna Management Plan</i><br><br><i>Threatened Species Monitoring Plan</i>                                                           | This Plan               |
|                                                  | Clearly mark out the proposed disturbance footprints boundaries and identify vegetation to be cleared.                                                                                                                                                                                                        | Section 8.1.4           |
|                                                  | Implement a hollow-bearing tree pre-clearance survey where a qualified professional inspects all hollows and immediate surrounds for any species prior to clearing activities. If any fauna is identified, these would be relocated to areas outside of the proposed disturbance footprint prior to clearing. | Section 8.1.4           |
|                                                  | Ensure machinery required for the Proposal remains existing on vehicular access tracks or within the proposed disturbance footprint, where practicable. Where this is not possible, machinery would be manoeuvred to avoid sapling or remaining canopy trees wherever possible.                               | Section 8.1.4           |
|                                                  | Place felled canopy trees in adjacent vegetation areas outside of the proposed disturbance footprint to improve existing habitats.                                                                                                                                                                            | Section 8.1.4           |
|                                                  | Eradicate any identified noxious weed and other weed material encountered, ensuring that the weed is destroyed and/or removed using appropriate methods to ensure weeds to not spread into the remainder of the Project site.                                                                                 | Section 8.2             |
|                                                  | Design surface infrastructure to ensure the height of any stockpile or buildings are constructed to the lowest manageable height to reduce the potential for components to be visible on the horizon from surrounding locations.                                                                              | Section 8.4             |
| Section 4.11.3                                   | Construct built structures from dull coloured, non-reflective material.                                                                                                                                                                                                                                       | Section 8.4             |
|                                                  | Orientate night lighting towards the active areas of operation and towards the ground, minimising the light spill from the Project Site.                                                                                                                                                                      | Section 8.4             |
|                                                  | Ensure that lighting not required is turned off.                                                                                                                                                                                                                                                              | Section 8.4             |

| Section                                                                                                                                                                                                                                                                                                                           | Commitment                                                                                                                                                                      | Section Where Addressed     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 4.14.2.4                                                                                                                                                                                                                                                                                                                          | Ensure that appropriate weed and pest management programs are implemented in consultation with surrounding landholders and the Bogan Shire Council Weeds Officer.               | Section 8.2<br>Section 8.3  |
| <b>Mod 1 (2021)</b><br>Section 7.5                                                                                                                                                                                                                                                                                                | Re-commitment of the above mitigation measures                                                                                                                                  | N/A                         |
| Section 6                                                                                                                                                                                                                                                                                                                         | The disturbance associated with the proposed modified project has triggered the requirement for biodiversity offsets to be provided through the NSW Biodiversity Offset Scheme. | Complete /<br>Condition met |
| Section 7.9                                                                                                                                                                                                                                                                                                                       | Implement all reasonable and feasible measures to minimise the visual and lighting impacts of the Project (as required by Project DA Condition B19).                            | Section 8.4                 |
| <b>Mod 2</b>                                                                                                                                                                                                                                                                                                                      | No additional management measures or commitments                                                                                                                                |                             |
| <p><b>*Note:</b> The 1995 EIS proposed the development of 3 x pits, waste rock emplacements and associated infrastructure at North East, and 2 x additional heap leach pads, associated infrastructure and the diversion of Booroomugga Road at the Murrawombie Mine. The EIS was titled the 'Girilambone North Copper Mines'</p> |                                                                                                                                                                                 |                             |

## APPENDIX B FLORA AND FAUNA BASELINE DATA

|                                                                                           |                         |                                                     |                                     |                       |
|-------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------|-------------------------------------|-----------------------|
| <b>Doc No:</b> TRL-HSET-PLN-0025                                                          |                         | <b>Title:</b> Biodiversity and Land Management Plan |                                     |                       |
| <b>Site:</b> Tritton                                                                      | <b>Revision No:</b> 0.1 | <b>Published Date:</b> 00/00/0000                   | <b>Next Review Date:</b> 00/00/0000 | <b>Page:</b> 72 of 72 |
| This document is UNCONTROLLED once printed – refer to Tritton CDMS for CONTROLLED version |                         |                                                     |                                     |                       |

# **Appendix B**

## **Flora and Fauna Baseline Data**

**Tritton Mine (ML1544), Murrawombie Mine (ML1280),  
North East Mine (ML1383) and  
Avoca Tank Project (ML1818)**

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# 1 INTRODUCTION

Previous assessments and surveys of flora and fauna within the Tritton Mining Operations have served to provide a baseline understanding of the existing environment and biodiversity values which require management. The following sections provides a summary of those baseline surveys and investigations undertaken to date, with results separated into sections associated with the relevant mine location.

## 2 TRITTON COPPER MINE (ML1544)

### 2.1 FLORA

#### 2.1.1 Flora Species Richness

A total of 96 species have been recorded within ML1544 (EnviroKey 2010; 2011b). These comprised of:

- Eight tree species
- 18 shrub/sub-shrub species
- One fern species
- Three vine/twining species
- 44 forb species
- 18 grass species
- Four graminoid species

Of these, 12 introduced flora species were recorded (nine forbs and three grasses).

#### 2.1.2 Threatened Flora Species

The flora study prepared to support the original Environmental Impact Statement for the TCM listed 17 threatened flora species with the potential to occur within the TCM site (CES 1998b). Following a review of plant collection records obtained from the NSW National Parks and Wildlife Service's Atlas of NSW Wildlife database, an assessment of local habitat conditions and the preparation of a series of '8-point tests', it was concluded that three threatened flora species were considered likely to occur within the TCM site (Table 1).

**Table 1 Threatened Flora Species Likely to Occur Within ML1544**

| Species                                                                                                     |                   | Status           |                           |
|-------------------------------------------------------------------------------------------------------------|-------------------|------------------|---------------------------|
| Scientific Name                                                                                             | Common Name       | NSW <sup>1</sup> | Commonwealth <sup>2</sup> |
| <i>Bertya</i> sp. Cobar-Coolabah                                                                            | -                 | Vulnerable       | Vulnerable                |
| <i>Leptorhynchos waitzia</i>                                                                                | Button Immortelle | Endangered       | -                         |
| <i>Pterostylis cobarensis</i>                                                                               | Greenhood Orchid  | Vulnerable       | -                         |
| Note 1: Status listed under the NSW Biodiversity Conservation Act 2016.                                     |                   |                  |                           |
| Note 2: Status listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999. |                   |                  |                           |
| Source: Countrywide Ecological Services (CES 1998b), EnviroKey (2010) & EnviroKey (2011b).                  |                   |                  |                           |

Flora surveys undertaken to date have not recorded either *Bertya* sp. or *L. waitzia* as occurring within ML1544.

One threatened flora species, the Greenhood Orchid (*Pterostylis cobarensis*), has previously been recorded within ML1544 (GCNRC 1998; CES 1998b). GCNRC (1998) states: "A small *Pterostylis cobarensis* population was found in a regenerating Green mallee community on a ridge about one kilometre south of the southern boundary of the tailings storage facility". CES (1998b) noted that Greenhood Orchids observed within ML1544 were outside of the disturbance footprint for the TCM and will therefore not be impacted.

### 2.1.3 Vegetation Communities

Four native vegetation communities are known to occur:

- Benson ID 103 - Poplar Box – Gum Coolabah and White Cypress Pine Shrubby Woodland mainly in the Cobar Peneplain Bioregion
- Benson ID 105 - Poplar Box Grassy Woodland on flats mainly in the Cobar Peneplain and Murray – Darling Depression Bioregions
- Benson ID 176 - Green Mallee – White Cypress Pine very tall Mallee Woodland on gravel rises mainly in the Cobar Peneplain Bioregion
- Benson ID 250 and Benson ID 250 (Variant) – Derived Tussock Grassland of the Central Western Plains and Lower Slopes of NSW

The known spatial extent of these communities within ML1544 is shown in Figure 1. The following section provides a brief summary of each.

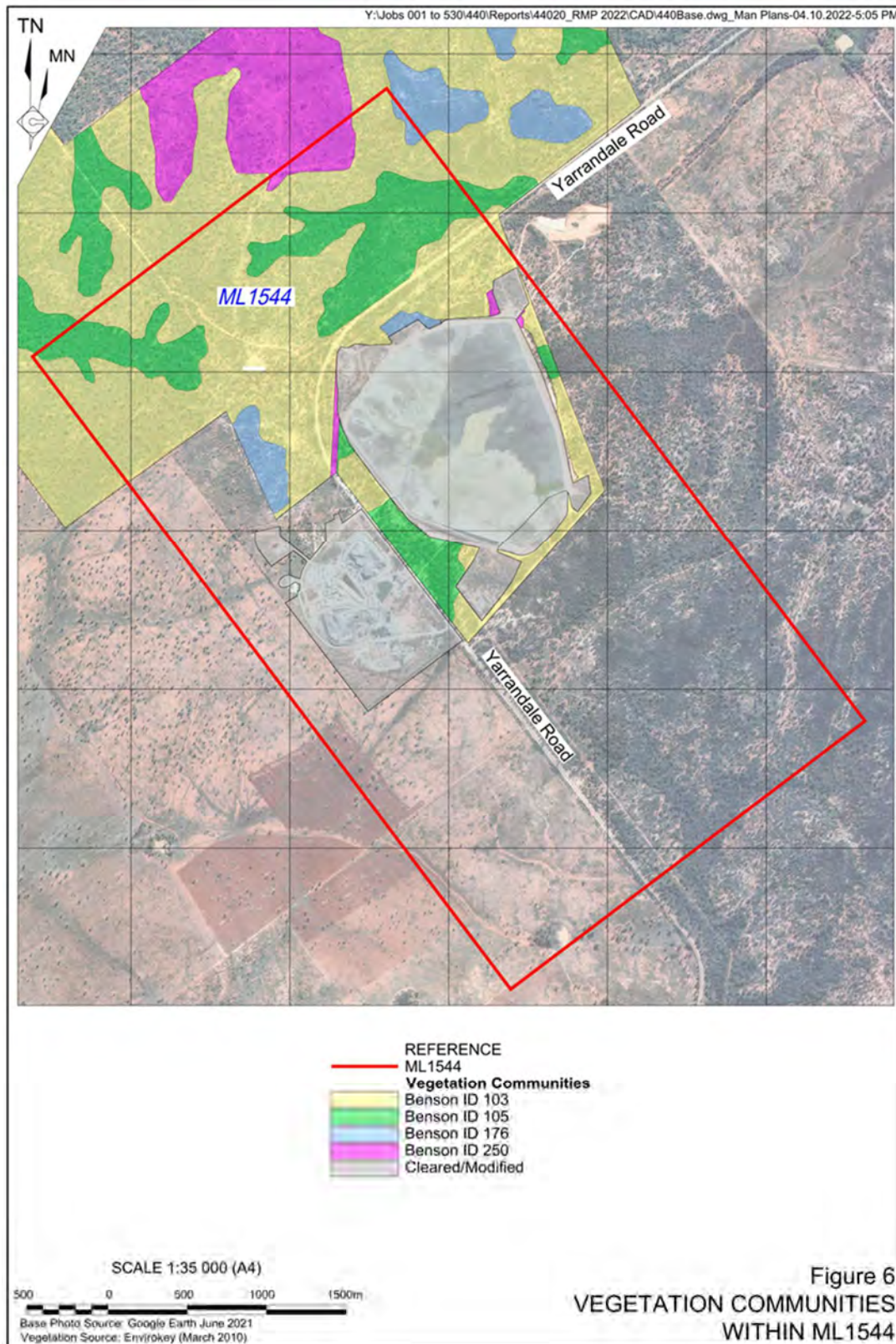
Benson ID 103 - Poplar Box – Gum Coolabah and White Cypress Pine Shrubby Woodland mainly in the Cobar Peneplain Bioregion

This community is generally open woodland dominated by Poplar Box (*Eucalyptus populnea* subsp. *bimbil*) with Gum Coolabah (*Eucalyptus intertexta*), Kurrajong (*Brachychiton populneus* subsp. *populneus*) and White Cypress Pine (*Callitris glaucophylla*) to 25m in height with a moderately dense shrub layer dominated by Wilga (*Geijera parviflora*), Budda (*Eremopholia mitchelli*) and Sticky Hop Bush (*Dodonea viscosa sens lat.*) (Plate 1). This community is generally confined to drainage lines and depressions where increased levels of moisture are likely to be contributing to the shrub layer. Vegetation condition is considered moderate with the greatest influence likely from past agricultural activities and both introduced and native herbivores.



**Plate 1 Benson ID 103 - Poplar Box – Gum Coolabah and White Cypress Pine Shrubby Woodland mainly in the Cobar Peneplain Bioregion.**

Figure 1 Vegetation Communities within ML 1544



Benson ID 105 - Poplar Box Grassy Woodland on flats mainly in the Cobar Peneplain and Murray – Darling Depression Bioregions

This vegetation community generally occurs on sandy red earth or clay soils on lower slopes, run-on areas and flats of the peneplain and plain landforms, predominately within the eastern part of the Cobar Peneplain Bioregion. It is open woodland dominated by Poplar Box (*Eucalyptus populnea* subsp. *bimbil*), Kurrajong (*Brachychiton populneus* subsp. *populneus*), White Cypress Pine (*Callitris glaucophylla*) and scattered Gum Coolibah (*Euclayptus intertexta*) to 25m in height (Plate 2). It is also characterised by a sparse shrub layer dominated by Wilga (*Geijera parviflora*) and various Emubush (*Eremopholia* sp.). Vegetation condition is considered moderate with the greatest influence likely from past clearing and both introduced and native herbivores.



**Plate 2 Benson ID 105 - Poplar Box Grassy Woodland on flats mainly in the Cobar Peneplain and Murray – Darling Depression Bioregions.**

Benson ID 176 - Green Mallee – White Cypress Pine very tall Mallee Woodland on gravel rises mainly in the Cobar Peneplain Bioregion

This vegetation community comprises a tall Mallee Woodland up to 10m in height dominated by Green Mallee (*Eucalyptus viridis*) with the occasional White Cypress Pine (*Callitris glaucophylla*), Currawang (*Acacia doratoxylon*) and Gum Coolabah (*Euclayptus intertexta*) (Plate 3). This community occurs on gravelly rises, with a variety of shrubs including hopbush, *Cassinia laevis*, *Acacia decora* and Wilga are present.



**Plate 3 Benson ID 176 - Green Mallee – White Cypress Pine very tall Mallee Woodland on gravel rises mainly in the Cobar Peneplain Bioregion.**

Benson ID 250 and Benson ID 250 (Variant) - Derived Tussock Grassland of the Central Western Plains and Lower Slopes of NSW

This vegetation community has been derived from the clearing of woodland vegetation in central west NSW, and as such, has a range of floristic variation including many weeds. It occurs on loam and clay soils derived from metamorphic or sedimentary rocks on slopes and crests of cleared rises and low hills in the Cobar Peneplain and South-western Slopes Bioregions. Two communities are present, one being a variant on Benson's description (which is dominated by grass) given the abundance of chenopods (Plate 4). Both have been derived from the clearing of surrounding vegetation and are of little conservation value.



**Plate 4 Benson ID 250 (Left) and Benson ID 250 (Variant) (right) - Derived Tussock Grassland of the Central Western Plains and Lower Slopes of NSW.**

## 2.2 FAUNA

### 2.2.1 Fauna Species Richness

Countrywide Ecological Services (CES 1998a) undertook the original fauna surveys for the Tritton Copper Project in October 1996. CES also prepared a Species Impact Statement (SIS), hereafter referred to as CES (1998b), following submission of the original Environmental Impact Statement for the Tritton Copper Project (RWC 1998) and additional fauna surveys in March and October of 1998.

Following a review of available scientific literature, databases including the Atlas of NSW Wildlife, and information provided by the National Parks and Wildlife Service, CES (1998b) identified the following threatened fauna with the potential to occur within the study area. This species checklist was used to inform the survey design in order to target potentially occurring threatened species. Note that the status of these species was identified in accordance with listings under the *Threatened Species Conservation Act 1995* and *National Parks and Wildlife Act 1974* at the time of the surveys.

- Amphibians:
  - 17 protected species.
- Birds:
  - 23 vulnerable;
  - 169 protected; and
  - 5 introduced species.
- Mammals:
  - 2 endangered;
  - 10 vulnerable;
  - 25 protected;
  - 7 presumed extinct; and
  - 12 introduced species.
- Reptiles:
  - 1 vulnerable; and
  - 31 protected species.

### Survey Results

The following six species of frog were recorded during the 1996 fauna survey. No amphibians were recorded during the 1998 survey.

- *Uperoleia rugosa* (Wrinkled Toadlet).
- *Uperoleia laevis* (Red-groined Toadlet).
- *Limnodynastes fletcheri* (Long-thumbed Frog).
- *Limnodynastes interioris* (Giant Burrowing Frog).
- *Litoria peronii* (Peron's Tree Frog).
- *Litoria rubella* (Desert Tree Frog).

The following mammal species were captured or observed during the fauna surveys.

- *Antechinus flavipes* (Yellow-footed Antechinus).
- *Macropus giganteus* (Eastern Grey Kangaroo).
- *Macropus fuliginosus* (Western Grey Kangaroo).
- *Macropus rufus* (Red Kangaroo).
- *Tachyglossus aculeatus* (Short-beaked Echidna).
- *Ovis aries* (Domestic Sheep).
- *Capra hircus* (Feral goat).
- *Sus scrofa* (Feral pig).
- *Vulpes vulpes* (Red Fox).
- *Oryctolagus cuniculus* (European Rabbit).
- *Bos Taurus* (Cattle).
- *Equus caballus* (Horse).

A total of 14 reptile species were observed during the fauna surveys, including the following.

- *Lerista muelleri* (Burrowing Skink).
- *Ctenotus robustus* (Robust Skink).
- *Menetia greyii* (Native Skink).
- *Cryptoblepharus carnabyi* (Snake-eyed Skink).
- *Morethia boulengeri* (Boulenger's Skink).
- *Heternotia binoei* (Binoe's Gecko).
- *Diplodactylus vittatus* (Wood Gecko).
- *Amphibolurus nobbi* (Nobbi Dragon).
- *Pogona barbata* (Eastern Bearded Dragon).
- *Pogona vitticeps* (Central Bearded Dragon).
- *Trachydosaurus rugosus* (Shingleback).
- *Varanus gouldii* (Gould's Goanna).
- *Egernia striolata* (Tree Skink).
- *Tiliqua scincoides* (Blue-tongued lizard).

A total of 51 and 41 bird species were observed during the 1996 and 1998 fauna survey respectively, including the following four species listed as vulnerable and two species listed as endangered.

- *Cacatua leadbeateri* (Pink Cockatoo) – vulnerable.
- *Polytelis swainsonii* (Superb Parrot) – vulnerable.
- *Falco hypoleucos* (Grey Falcon) – vulnerable.

- *Neophema pulchella* (Turquoise Parrot) – vulnerable.
- *Geophaps scripta* (Squatter Pidgeon) – endangered.
- *Leipoa ocellate* (Malleefowl) – endangered.

During the during the October 1996 fauna assessment, a total of five bat species were identified based on echo call identification, including: *Tadarida australis* (White-striped Mastiff-bat), *Mormopterus planiceps* (Little Mastiff-bat), *Eptesicus regulus* (Regal Eptesicus), *Chalinolobus gouldii* (Goulds Wattled Bat) and *Eptesicus vulturnus* (Pale Eptesicus).

During the 1998 supplementary bat survey, bat species were surveyed at 14 sampling locations using a combination of electronic ultrasonic detectors to monitor echolocation calls and harp traps to capture bat species with a lower chance of being detected electronically. At each survey site, monitoring was undertaken for a single night apart for three dams which were monitored for two nights. In total, bat surveys resulted in a total detection time across all monitoring locations of over 150 hours. Harp traps were deployed over four nights at two sites.

A total of 85 calls were recorded during the supplementary bat survey, representing a total of 9 bat species (Table 2). Harp traps captured three *Vespadelus vulturnus* at one site and no bats at a second site.

**Table 2 Bat Species Monitoring Results – 1998 Supplementary Bat Survey**

| Species                         | No. Echolocation Calls Recorded | No. Sites at which the Species was Recorded |
|---------------------------------|---------------------------------|---------------------------------------------|
| <i>Saccolaimus flaviventris</i> | 4                               | 3                                           |
| <i>Chalinolobus gouldii</i>     | 13                              | 8                                           |
| <i>Chalinolobus picatus</i>     | 3                               | 2                                           |
| <i>Nyctophilus sp.</i>          | 4                               | 4                                           |
| <i>Scotorepens greyii</i>       | 15                              | 7                                           |
| <i>Vespadelus baverstocki</i>   | 2                               | 2                                           |
| <i>Vespadelus vulturnus</i>     | 17                              | 7                                           |
| <i>Nyctinomus australis</i>     | 10                              | 7                                           |
| <i>Mormopterus planiceps</i>    | 17                              | 6                                           |

Source: CES (1998b) – After Table 4 of Attachment 2 of Section 2.

More recent fauna surveys have detected a total of 128 species within ML1544 (EnviroKey 2010; 2011b). These comprised of:

- 74 species of bird
- 20 species of mammal (seven of which are introduced species)
- 10 species of frog
- 24 species of reptile

### 2.2.2 Threatened and Migratory Fauna Species

Table 4 lists those threatened and migratory species which have been identified as occurring within or adjacent to ML1544 by previous assessments and surveys of fauna at the TCM site. The locations of threatened or migratory species sightings recorded by EnviroKey (2010; 2011b) are shown in Figure 2.

EnviroKey (2011b) identified four family troupes of the threatened Grey-crowned Babbler (*Pomatostomus temporalis temporalis*) within ML1544 (Figure 2). Table 3 presents estimates of home ranges and family troupe size based on observations of foraging individuals and groups recorded by Envirokey (2011b). Troupe size was determined while watching foraging and social activities from a distance with the highest number of birds together at a single observation taken as the troupe size.

**Table 3 Estimates of Grey-crowned Babbler home range and troupe size within ML 1544**

| Troupe No. | Home range estimate (ha) | No. of individuals (estimated) |
|------------|--------------------------|--------------------------------|
| 1          | 11.2                     | 7                              |
| 2          | 31.6                     | 14                             |
| 3          | 32.7                     | 11                             |

Figure 2 Threatened and Migratory Species ML1544

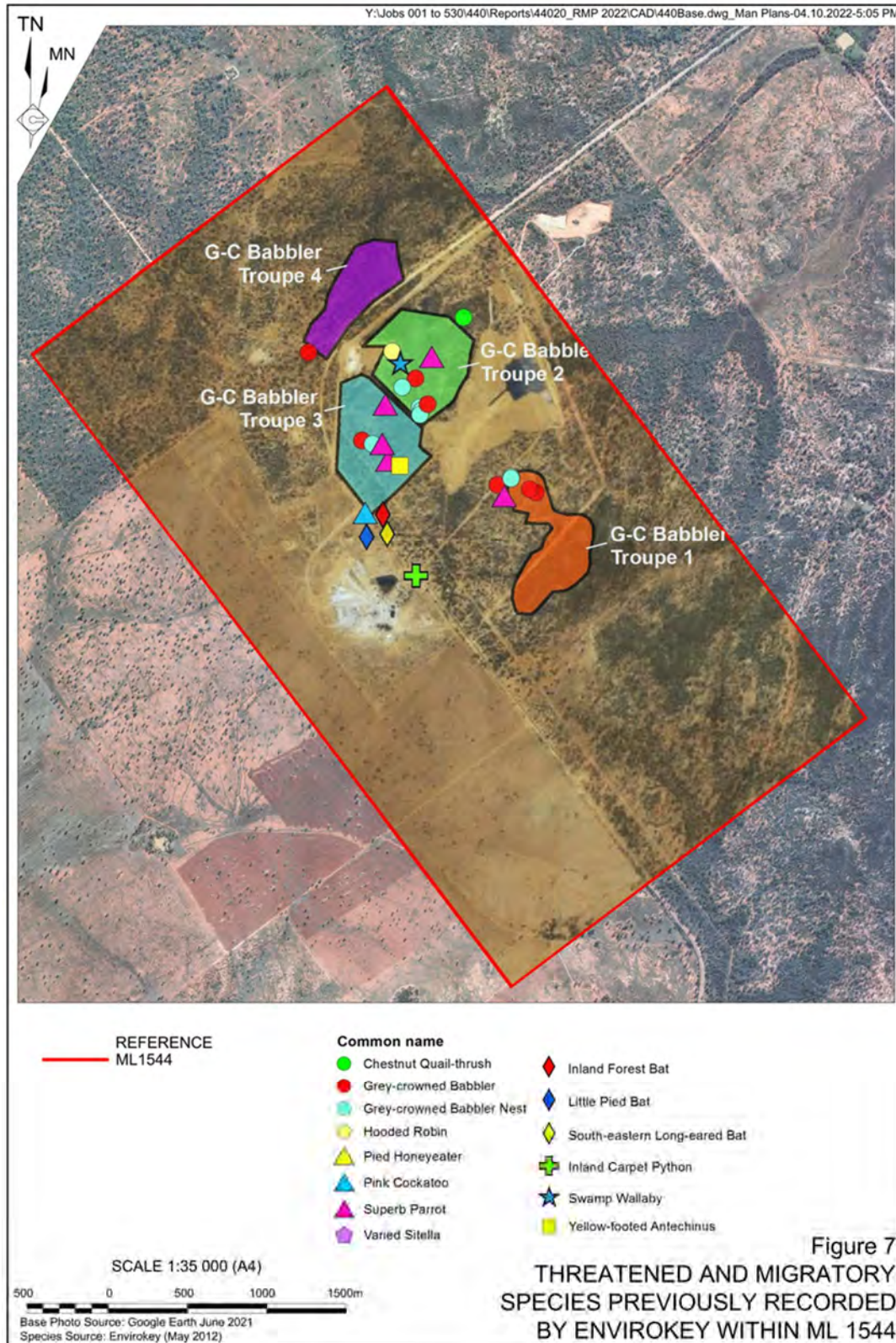


Table 4 Threatened and Migratory Fauna recorded within or adjacent to ML1544.

| Species                                   |                      | Status           |                           | Recorded during 2010/2011 Surveys | Comments from 2010/2011 Surveys.                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------|----------------------|------------------|---------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scientific Name                           | Common Name          | NSW <sup>1</sup> | Commonwealth <sup>2</sup> |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler | Vulnerable       | -                         | Yes                               | <ul style="list-style-type: none"> <li>EnviroKey (2011b) detected between six and seven family troupes within ML1544 (See Table 3), including 63 individual Grey-crowned Babblers.</li> <li>An additional three troupes are considered part of the local population as they are likely to use habitat within ML1544.</li> <li>This species is known to be resilient (to some degree) to impacts of habitat loss and habitat fragmentation.</li> </ul> |
| <i>Polytelis swainsonii</i>               | Superb Parrot        | Vulnerable       | Vulnerable                | Yes                               | <ul style="list-style-type: none"> <li>Superb Parrots have been regularly recorded within ML1544, with the area likely acting as a habitat corridor for the species as they move from their southern breeding habitats to northern foraging areas.</li> </ul>                                                                                                                                                                                         |
| <i>Certhionyx variegatus</i>              | Pied Honeyeater      | Vulnerable       | -                         | Yes                               | <ul style="list-style-type: none"> <li>A single male of the species was observed within ML1544.</li> <li>The presence of this species despite the lack of flowering food resources at the time suggests that a local population is present across the broader Hermitdale area.</li> <li>The Poplar-Box Woodlands represent the most suitable habitat for the species within ML1544.</li> </ul>                                                        |
| <i>Cacatua leadbeateri</i>                | Pink Cockatoo        | Vulnerable       | -                         | Yes                               | <ul style="list-style-type: none"> <li>Repeated observations of this species within ML1544 suggests use of the area as a nesting site.</li> <li>Recommended that future targeted surveys identify nesting locations to assist in developing appropriate management strategies.</li> </ul>                                                                                                                                                             |
| <i>Daphoenositta chrysoptera</i>          | Varied Sittella      | Vulnerable       | -                         | Yes                               | <ul style="list-style-type: none"> <li>A single individual was observed in Poplar-Box Woodland just beyond the boundary of ML1544.</li> <li>Likely that the species uses Poplar-Box Woodland habitat within ML1544.</li> </ul>                                                                                                                                                                                                                        |

**Table 4 (Cont'd)**  
**Threatened and Migratory Fauna recorded within or adjacent to ML1544.**

Page 2 of 3

| Species                       |                                           | Status                  |                           | Recorded during 2010/2011 Surveys | Comments from 2010/2011 Surveys.                                                                                                                                                                                                                                                                                                                          |
|-------------------------------|-------------------------------------------|-------------------------|---------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scientific Name               | Common Name                               | NSW <sup>1</sup>        | Commonwealth <sup>2</sup> |                                   |                                                                                                                                                                                                                                                                                                                                                           |
| <i>Cinclosoma castanotus</i>  | Chestnut Quail-thrush                     | Vulnerable              | -                         | Yes                               | <ul style="list-style-type: none"> <li>Mallee Woodland habitat most likely the only habitat that supports a local population of this species.</li> <li>Dense shrub layers in Poplar-Box Woodland may also provide forage and dispersal opportunities.</li> </ul>                                                                                          |
| <i>Melanodryas cucullata</i>  | Hooded Robin                              | Vulnerable              | -                         | Yes                               | <ul style="list-style-type: none"> <li>One male of the species was recorded in the Mallee Woodland.</li> <li>Mallee Woodland most likely provides the most suitable habitat within ML1544.</li> </ul>                                                                                                                                                     |
| <i>Chalinolobus picatus</i>   | Little Pied Bat                           | Vulnerable              | -                         | Yes                               | <ul style="list-style-type: none"> <li>Known to use derelict mines, caves, old buildings and tree hollows for roosting and maternity purposes.</li> <li>Nearby 'Budgery' site is a known roosting site for the Little Pied Bat.</li> <li>Mine-related water bodies within ML1544 represent a water and foraging significant resource for bats.</li> </ul> |
| <i>Vespadelus baverstocki</i> | Inland Forest Bat                         | Vulnerable              | -                         | Yes                               | <ul style="list-style-type: none"> <li>Known to use old buildings and tree hollows for roosting and maternity purposes.</li> <li>Mine-related water bodies within ML1544 represent a water and foraging significant resource for bats.</li> </ul>                                                                                                         |
| <i>Nyctophilus sp</i>         | South-eastern Long-eared Bat <sup>3</sup> | Vulnerable <sup>3</sup> | Vulnerable <sup>3</sup>   | Yes                               | <ul style="list-style-type: none"> <li>Known to use old buildings and tree hollows for roosting and maternity purposes.</li> <li>Mine-related water bodies within ML1544 represent a water and foraging significant resource for bats.</li> </ul>                                                                                                         |
| <i>Hirundapus caudacutus</i>  | White-throated Needletail                 | -                       | Vulnerable                | Yes                               | <ul style="list-style-type: none"> <li>Flock of approximately 20 birds recorded 'working' a progressive storm front as it passed over ML1544.</li> </ul>                                                                                                                                                                                                  |
| <i>Antechinomys laniger</i>   | Kultarr                                   | Endangered              | -                         | No                                | No observation since 1998 surveys.                                                                                                                                                                                                                                                                                                                        |

**Table 4 (Cont'd)**  
**Threatened and Migratory Fauna recorded within or adjacent to ML1544.**

Page 3 of 3

| Species                                                                                                                                                                                                                                                              |                    | Status                |                           | Recorded during 2010/2011 Surveys | Comments from 2010/2011 Surveys.   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------|---------------------------|-----------------------------------|------------------------------------|
| Scientific Name                                                                                                                                                                                                                                                      | Common Name        | NSW <sup>1</sup>      | Commonwealth <sup>2</sup> |                                   |                                    |
| <i>Leipoa ocellata</i>                                                                                                                                                                                                                                               | Malleefowl         | Endangered            | Vulnerable                | No                                | No observation since 1998 surveys. |
| <i>Falco hypoleucos</i>                                                                                                                                                                                                                                              | Grey Falcon        | Endangered            | -                         | No                                | No observation since 1998 surveys. |
| <i>Epthianura albifrons</i>                                                                                                                                                                                                                                          | White-fronted Chat | Vulnerable            | -                         | No                                | No observation since 1998 surveys. |
| <i>Neophema pulchella</i>                                                                                                                                                                                                                                            | Turquoise Parrot   | Vulnerable            | -                         | No                                | No observation since 1998 surveys. |
| <i>Geophaps scripta scripta</i>                                                                                                                                                                                                                                      | Squatter Pigeon    | Critically Endangered | Vulnerable                | No                                | No observation since 1998 surveys. |
| <p>Note 1: Status listed under the NSW Biodiversity Conservation Act 2016.</p> <p>Note 2: Status listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.</p> <p>Note 3: Status for the species <i>Nyctophilus coirbeni</i>.</p> |                    |                       |                           |                                   |                                    |
| Source: Countrywide Ecological Services (CES 1998b), EnviroKey (2010) & EnviroKey (2011b).                                                                                                                                                                           |                    |                       |                           |                                   |                                    |

### 2.2.3 Fauna Habitats

Four general fauna habitats have been identified within ML1544. These being:

- Grassy Woodland
- Mallee Woodland
- Shrubby Woodland
- Cleared Area

Fauna habitats within ML1544 correspond with the vegetation communities detailed in Section 4.1.1. Table 5 identifies each fauna habitat and their corresponding vegetation communities within ML1544 and Plate 5 provides examples of fauna habitat types.

**Table 5 Fauna habitats and their corresponding vegetation communities within ML1544**

| ML1544           |                         |
|------------------|-------------------------|
| Fauna habitat    | Vegetation community    |
| Grassy Woodland  | Benson ID 105           |
| Mallee Woodland  | Benson ID 176           |
| Shrubby Woodland | Benson ID 103           |
| Cleared          | Benson ID 250 / Variant |



Grassy Woodland



Mallee Woodland



**Plate 5 Existing fauna habitats within the ML1544.**

### **Grassy Woodland**

Within ML1544, this habitat type is considered to be of moderate condition (EnviroKey 2010; 2011b). Tree hollows were abundant providing an important resource to hollow-dependant fauna such as microchiropteran bats. The shrub layer varied, being almost absent in some areas.

Low quantities of fallen timber and leaf litter were present and microhabitat structure at ground level was relatively simple. A few patches of mistletoe were observed providing opportunity for mistletoe-dependant avifauna.

### **Mallee Woodland**

This habitat type is considered to be in good condition within ML1544 (EnviroKey 2010; 2011b). A diverse range of fallen timber and leaf litter is present as is a diverse shrub layer.

### **Shrubby Woodland**

Shrubby Woodland habitat can be found across the drainage lines and depressions of ML1544. This habitat type is also considered to be in relatively good condition (EnviroKey 2010; 2011b). Tree hollows were abundant providing an important resource to hollow-dependant fauna such as bats. A diverse shrub layer provides ample opportunity for small passerine bird to roost and nest and microhabitats such as fallen timber and leaf litter were also abundant. The position of this habitat type within drainage lines and depressions is likely due to increased nutrients and moisture levels in these landscape positions resulting in additional vegetation growth.

### **Cleared Land**

While Cleared Land habitat type is considered to be of little value to threatened fauna species, existing clearings provide an ecotone to adjoining habitats. This can be advantageous to some species that forage along such an interface, while having a negative influence through edge effects such as increased predation and wind throw.

## **2.2.4 Threatened Ecological Communities**

No Threatened Ecological Communities are known to occur within ML1544 (EnviroKey 2010; 2011b).

### **3 MURRAWOMBIE MINE (ML1280) AND NORTH EAST MINE (ML1383)**

#### **3.1 FLORA**

##### **3.1.1 Flora Species Richness**

A total of 77 species have been recorded within ML1280 and ML1383 (EnviroKey 2011c). These comprised:

- 14 tree species
- 18 shrub/sub-shrub species
- 1 fern species
- 3 vine/twiner species
- 25 forb species
- 16 grass species.

##### **3.1.2 Threatened Flora Species**

No threatened flora species have been recorded within ML1280 and ML1383 (EnviroKey 2011a; c).

##### **3.1.3 Vegetation Communities**

Previous studies have revealed the presence of seven vegetation communities within the ML1280 and ML1383 (EnviroKey 2011a; c).

- Benson ID 82 - Inland Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion
- Benson ID 103 - Poplar Box – Gum Coolabah and White Cypress Pine Shrubby Woodland mainly in the Cobar Peneplain Bioregion
- Benson ID 105 - Poplar Box Grassy Woodland on flats mainly in the Cobar Peneplain and Murray – Darling Depression Bioregions
- Benson ID 119 - Sandplain Mulga Tall Shrubland – Open Shrubland of the semi-arid and arid climate zones
- Benson ID 176 - Green Mallee – White Cypress Pine very tall Mallee Woodland on gravel rises mainly in the Cobar Peneplain Bioregion
- Cleared/Modified vegetation
- Cropping

Given there is some overlap between the vegetation communities of ML1544 and those within ML1280 and ML1383, each vegetation community will not be described again. Rather, only those vegetation communities not previously discussed, will be included within this section.

The known spatial extent of all vegetation communities within ML1280 and ML1383 is provided (Figure 3 and Figure 4).

Benson ID 82 – Inland Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Penneplain Bioregion

This community is generally an open woodland dominated by Inland Grey Box (*Eucalyptus macrocarpa*), Poplar Box (*Eucalyptus populnea* subsp. *bimbil*) with Gum Coolabah (*Eucalyptus intertexta*), Kurrajong (*Brachychiton populneus* subsp. *populneus*) and White Cypress Pine (*Callitris glaucophylla*) (Plate 6). Only a small patch of this community is known from within ML1383. With more intensive on-ground validation, further patches of this community could also be present within ML1383.



**Plate 6 Benson ID 82 – Inland Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Penneplain Bioregion.**

Benson ID 119 – Sandplain Mulga Tall Shrubland – Open Shrubland of the semi-arid and arid climate zones

This vegetation community is dominated by Mulga (*Acacia aneura*) and a sparse ground cover of grasses. One of the most widespread vegetation communities in western NSW, a small patch occurs north of Booroomugga Road almost directly opposite the office complex.

Figure 3 Vegetation Communities ML1280

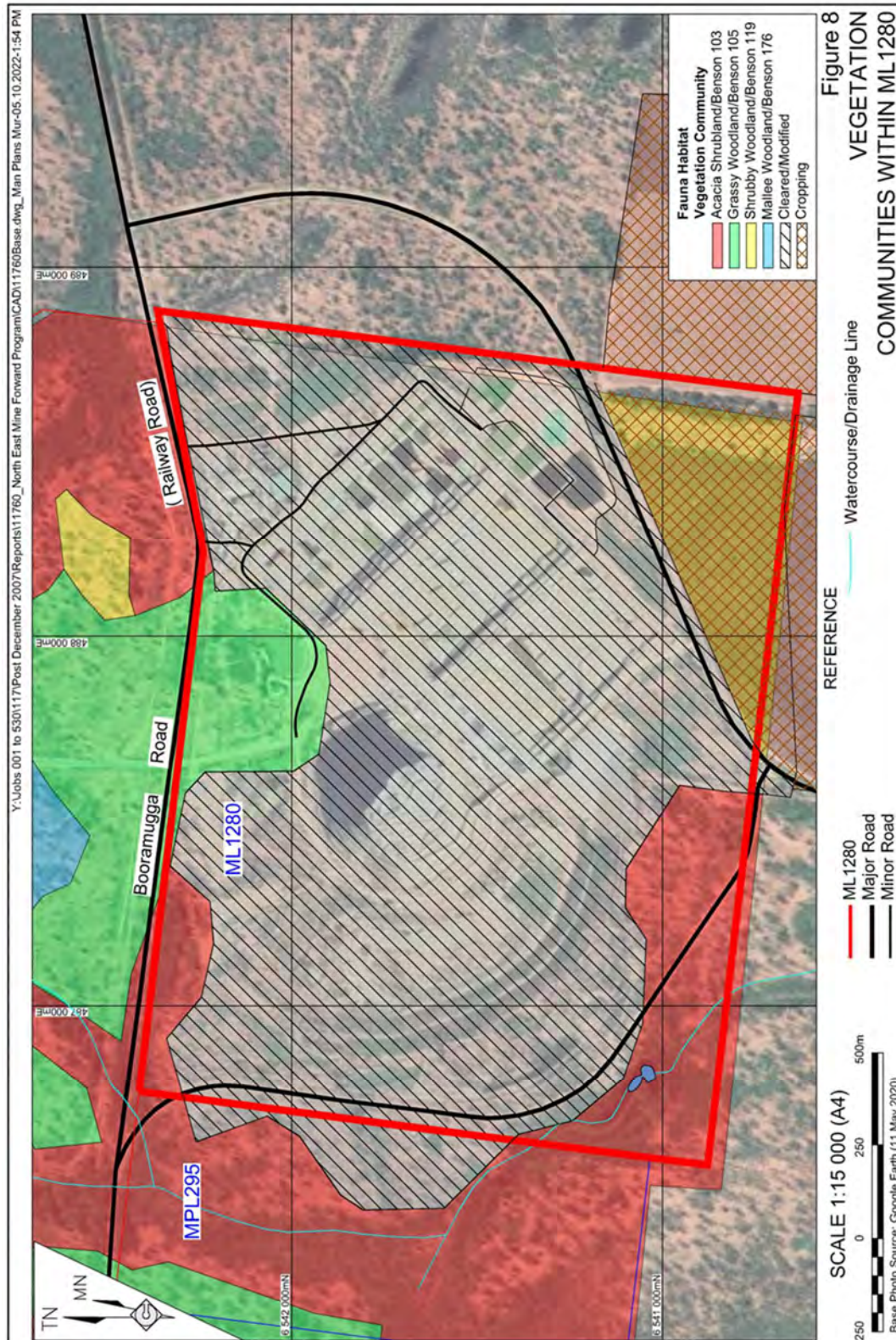
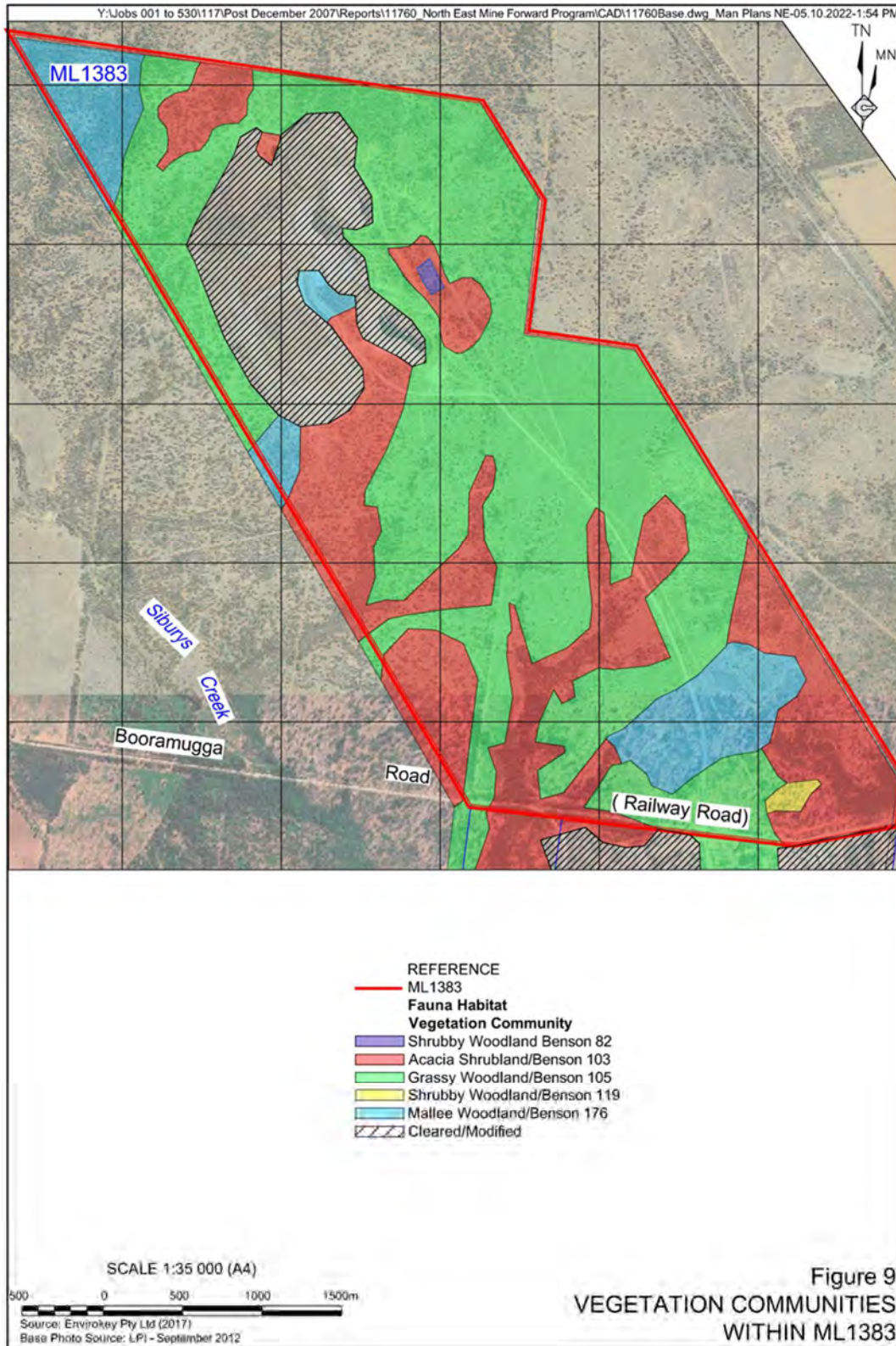


Figure 4 Vegetation Communities ML1383



## **3.2 FAUNA**

### **3.2.1 Fauna Species Richness**

A study of ML1280 and ML1383 identified a total of 98 fauna species (EnviroKey 2011c). These comprised:

- 61 bird species
- 11 Mammal species (excluding microchiropteran bats)
- 7 frog species
- 11 reptile species
- 8 microchiropteran bat species

### **3.2.2 Threatened and Migratory Fauna Species**

Seven threatened and migratory fauna species, as listed under the BC Act and EPBC Act, were detected by EnviroKey (2011c) during flora and fauna surveys conducted in October 2011. Table 6 lists these threatened species and provides a brief summary of their status within the MM and NEM sites. The locations of threatened and migratory fauna sightings as well as species of conservation significance previously recorded by EnviroKey within ML1280 and ML1383 are provided in Figure 5 and Figure 6.

Figure 5 Threatened and Migratory Species ML1280

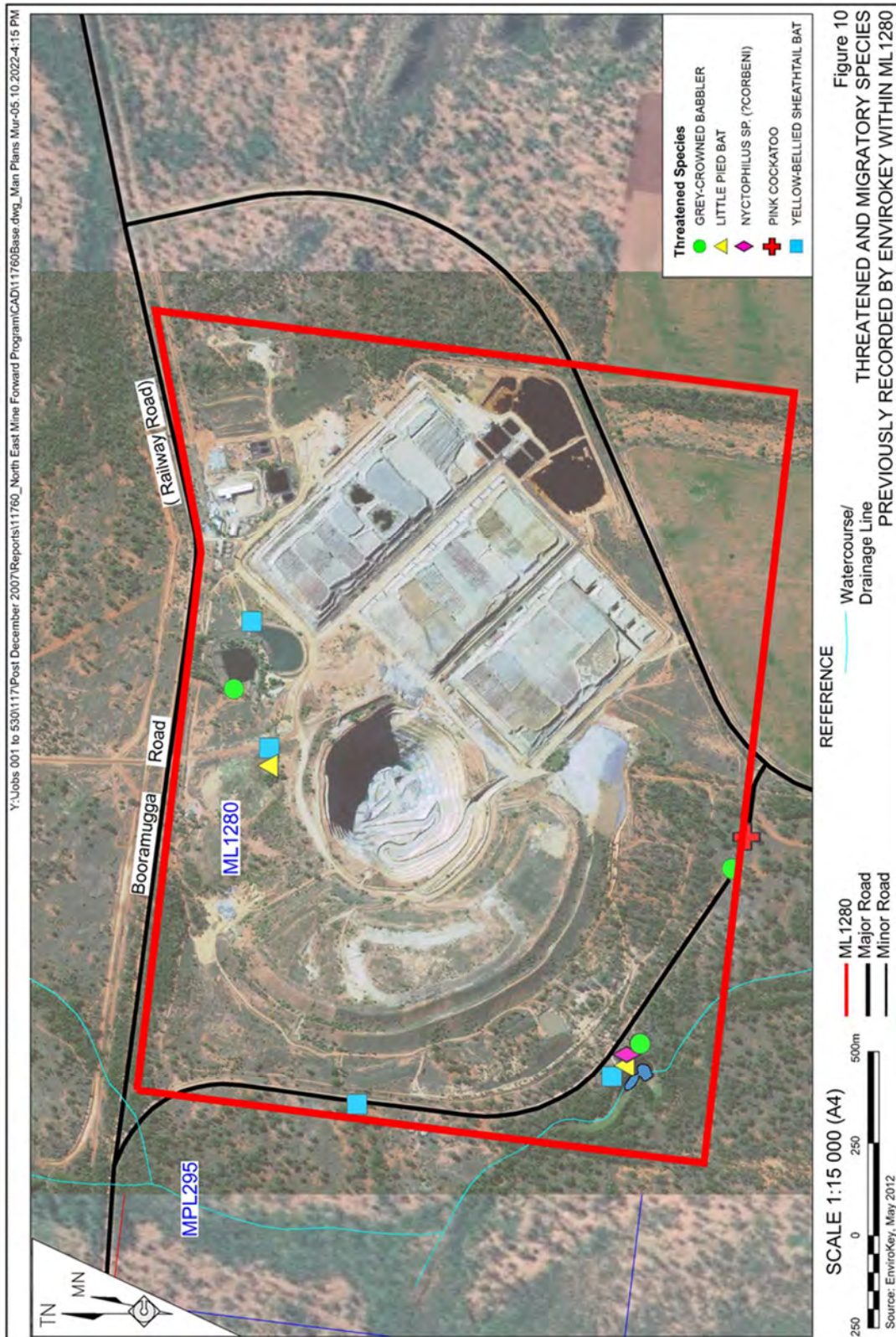


Figure 6 Threatened and Migratory Species ML1383

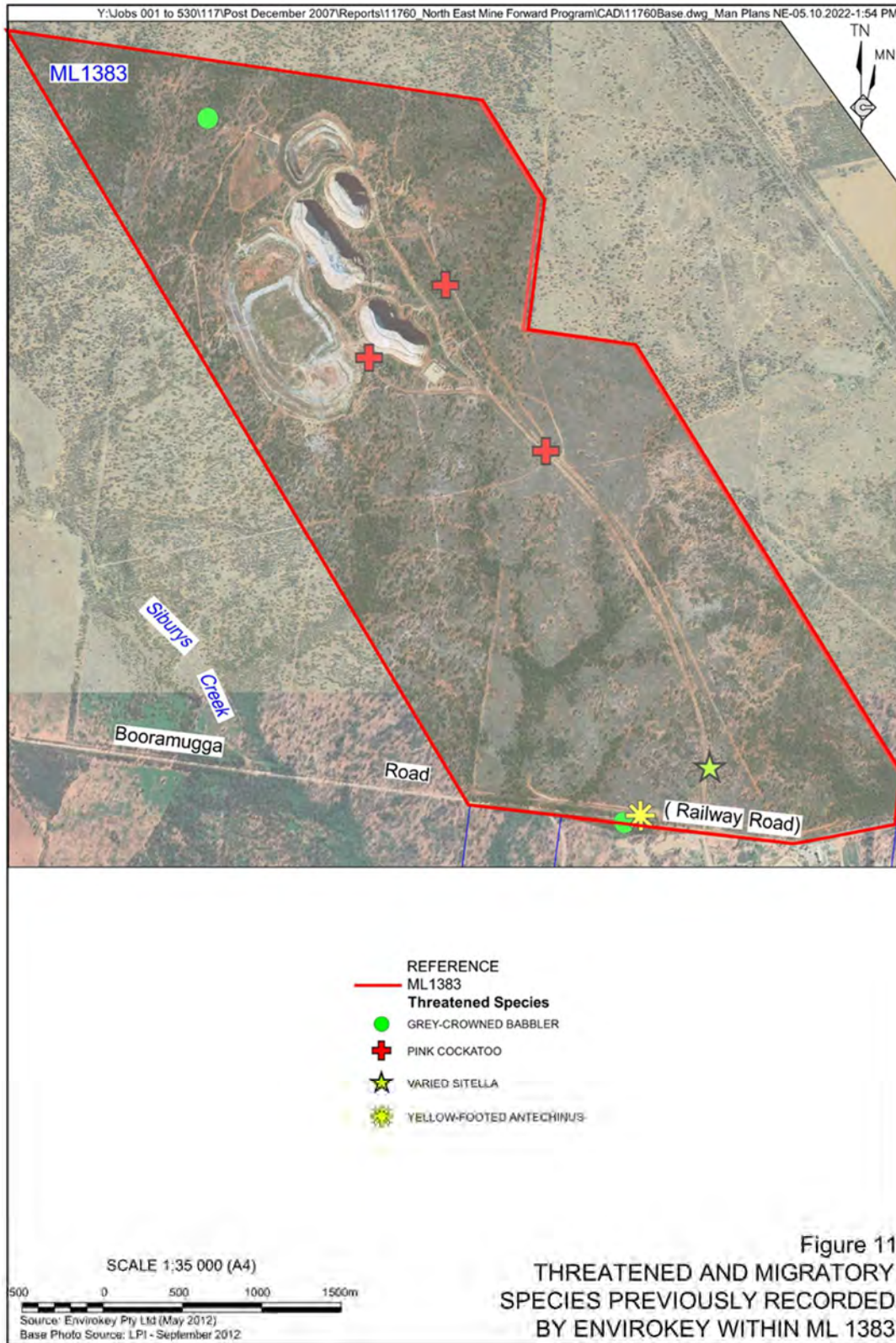


Table 6 Threatened and Migratory Fauna species recorded at the Murrawombie and North-East Mine in 2011.

| Species                                   |                                | Status           |                           | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------|--------------------------------|------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scientific Name                           | Common Name                    | NSW <sup>1</sup> | Commonwealth <sup>2</sup> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler           | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>Repeated observations suggest that habitat within the mine sites may be of importance to the local population.</li> <li>Monitoring suggests at least three family troupes are resident.</li> </ul>                                                                                                                                                                                                                                                                                                    |
| <i>Cacatua leadbeateri</i>                | Pink Cockatoo                  | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>Known densities of this species suggests the presence of a single breeding pair in the area.</li> <li>Regularity of sightings suggests that the pair is breeding within the site.</li> <li>Known habitat preferences suggest that nesting is likely to occur in a large, hollow-bearing tree which are typically found in drainage lines or depressions.</li> <li>Future targeted surveys will seek to establish the nesting location to provide for long-term management of this species.</li> </ul> |
| <i>Daphoenositta chrysoptera</i>          | Varied Sittella                | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>Recorded only within the Mallee Woodland, with this habitat type likely suitable for nesting and foraging.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                 |
| <i>Chalinolobus picatus</i>               | Little Pied Bat                | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>Known to use derelict mine shafts, caves, boulder piles, old buildings and hollow-bearing trees for roosting and maternity purposes.</li> </ul>                                                                                                                                                                                                                                                                                                                                                       |
| <i>Nyctophilus corbeni</i>                | South-eastern Long-eared Bat   | Vulnerable       | Vulnerable                | <ul style="list-style-type: none"> <li>Known to use tree hollows, crevices and loose bark for roosting and maternity purposes.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                    |
| <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail Bat | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>Known to use derelict mine shafts, caves, boulder piles, old buildings and hollow-bearing trees for roosting and maternity purposes.</li> <li>Likely to be roosting within the site as it was the most commonly recorded microchiropteran bat species.</li> <li>Future targeted surveys will target roosting locations to develop an understanding of local population occurrence.</li> </ul>                                                                                                         |
| <i>Ardea alba</i>                         | Great Egret                    | -                | Migratory                 | <ul style="list-style-type: none"> <li>Observed in water bodies including the permanent water storage to the north and the ephemeral wetland to the south of the Murrawombie waste rock emplacement.</li> </ul>                                                                                                                                                                                                                                                                                                                              |

Note 1: Status listed under the NSW Biodiversity Conservation Act 2016.

Note 2: Status listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

Source: EnviroKey (2011c).

### 3.2.3 Fauna Habitats

Five broad fauna habitat types were identified within ML1280 and ML1383 (EnviroKey 2011c). These being Shrubby Woodland, Cleared, Grassy Woodland, Mallee Woodland and Acacia Shrubland and Waterbodies.

As fauna habitats are not mapped directly, Table 7 identifies fauna habitats and their relationship to vegetation communities within ML1280 and ML1383. Plate 7 provides examples of fauna habitat.

**Table 7 Fauna habitats identified as vegetation communities within ML1383 and ML1280.**

| ML 1280 and ML 1383 |                      |
|---------------------|----------------------|
| Fauna habitat       | Vegetation community |
| Grassy Woodland     | Benson ID 105        |
| Mallee Woodland     | Benson ID 176        |
| Shrubby Woodland    | Benson ID 103/82     |
| Acacia Shrubland    | Benson ID 119        |
| Cleared             | Cleared/Cropped      |

#### Shrubby Woodland

Shrubby Woodland habitat occurs throughout ML1280 and ML1383. Most of the larger patches are located within the southern end, where the woodland continues up towards to the northern end along the western boundary of the ML1280 and ML1383. The largest patch of Shrubby Woodland follows Sidbury's Creek crossing Booroomugga Road heading north where it heads east and then crosses the Haul Road.

This habitat has abundant shrubby mid storey that enables forging and nesting habitat for small birds. With the presence of hollow bearing trees, these also provide potential nesting sites for larger birds such as the Pink Cockatoo which was recorded during a recent study. The shrubby habitat allows protection for small terrestrial mammals such as Yellow-footed Antechinus from predators. This species was only recorded within this habitat type. This habitat also provides a diverse abundance of scattered fallen timber.

#### Cleared

Cleared habitat is found within two distinct locations corresponding with the cleared/modified and cropping vegetation communities. These habitat patches relate directly to current and past mining operations, current agricultural activities and provide little in terms of fauna habitat.

#### Grassy Woodland

The Grassy Woodland habitat dominates the majority of ML1280 and ML1383. Starting from the north-eastern corner sweeping south across both sides of the Haul Road and stopping at Booroomugga Road with the exception of a small slither beside the boundary of the ML1280 and ML1383.

A large portion of this habitat type has been cleared at some point, resulting in scattered isolated trees and an abundant grassy ground cover. This occurrence provides large amounts of sunlight

exposure and microhabitat opportunities for reptile fauna. Although the open cover provides acceptable basking opportunity, it increases risk of predation from larger birds, such as raptors, by the decreased vegetation protection layer. This may lead to decreases in reptile faunal community composition.

**Mallee Woodland**

Mallee Woodland habitat is found in four separate locations within ML1280 and ML1383. The habitat has a sparse mid storey and canopy layer providing few opportunities for small birds. A paucity of hollow bearing trees was also identified. Open canopies favour reptile fauna which use the ample quantities of fallen timber to bask and refuge. This habitat is generally regarded as good condition.

**Acacia Shrubland**

Acacia Shrubland is located in a small patch almost directly north of the site office complex. The patch is surrounded by woodland habitats. This habitat provides a sparse, open ground layer of microhabitats characterised by ample leaf litter which provides important habitat for reptiles, invertebrates and small, terrestrial mammals.

**Waterbodies**

A range of permanent and ephemeral water bodies were identified across ML1280 and ML1383. These range from the large storage dam with water from the Gunningbar Creek to small ephemeral rain-filled depressions. Regardless of size or permanency, every water body in a semi-arid area provides a significant resource for a wide variety of fauna. This is most evident for species that depend on water to complete their life cycle such as frogs and water-dependent birds.



**Plate 7 Examples of fauna habitats within ML1280 and ML1383.**

### 3.2.4 Threatened Ecological Communities

One Endangered Ecological Community (EEC) has been recorded within ML1383 (EnviroKey 2011c). The vegetation community 'Benson ID 82 - Inland Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Penneplain Bioregion' is consistent with the scientific determination for the EEC 'Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Penneplain, Nandewar and Brigalow Belt South Bioregions' listed under the BC Act. This community is also listed as endangered under the EPBC Act.

## 4 AVOCA TANK PROJECT (ML1818)

The following summary of Flora and Fauna baseline data was prepared for the initial Avcoa Tank Project approval and provides a summary of survey findings and assessments form ML 1818. Modification 1 of the Avoca Tank project, approved on 7 October 2021, proposed a significant reduction in the surface disturbance footprint, and therefore reductions in native vegetation and habitat removal. Modification 1 required a formal Biodiversity Development Assessment Report and offset of biodiversity credits (under the NSW Biodiversity Offset Scheme) generated by the Project, which was resolved on 14 January 2022 through the retiring of credits via payment into the Biodiversity Conservation Fund.

Nonetheless, the following summary is based on the initial survey findings and assessments conducted in 2014.

As per condition B8 of the Avoca Tank Project Approval (DA10/2015/004/003) Figure 7, Figure 8 and Figure 9 below shows the development site as per the Biodiversity Development Assessment Report.

### 4.1 FLORA

#### 4.1.1 Flora Species Richness

A total of 127 species have been recorded within ML1818 (EnviroKey 2014). Of these, 113 were native species and 13 exotic.

#### 4.1.2 Threatened Flora Species

The ecology assessment prepared to support the Environmental Impact Statement for the Avoca Tank Project identified four threatened flora species for which there are records within 50 km of ML1818. Extensive field surveys identified a single individual of the threatened Cobar Greenhood Orchid (*Pterostylis cobarensis*) to the North of the ML and well away from the Project footprint. None of the other three threatened flora species were detected during the extensive field surveys and the EIS concluded these species either do not occur within the broader locality or the habitat within the ML is of little, if any, importance to the species (RQC 2014). The species likely to occur within ML1818 are shown in Table 8.

**Table 8 Threatened flora likely to occur within ML1818**

| Species                                                                                                     |                        | Status           |                           |
|-------------------------------------------------------------------------------------------------------------|------------------------|------------------|---------------------------|
| Scientific Name                                                                                             | Common Name            | NSW <sup>1</sup> | Commonwealth <sup>2</sup> |
| <i>Pterostylis cobarensis</i>                                                                               | Cobar Greenhood Orchid | Vulnerable       | -                         |
| Note 1: Status listed under the NSW Biodiversity Conservation Act 2016.                                     |                        |                  |                           |
| Note 2: Status listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999. |                        |                  |                           |

A seven-part test was completed for the Cobar Greenhood Orchid which concluded the proposed activity is unlikely to have a significant effect on the species provided appropriate management measures are implemented.

#### **4.1.3**      Vegetation Communities

One native vegetation community is known to occur within ML1818 (EnviroKey 2014):

- Benson ID 103 – Poplar Box – Gum Coolabah and White Cypress Pine Shrubby Woodland mainly in the Cobar Penneplain Bioregion

A description of Benson 103 vegetation community has been provided in previous sections.

The known spatial extent of these communities within ML1818 is shown in Figure 9 (initial EIS) and Figure 9 (Modification 1).

Figure 7 ATP Development Site (Source Envirokey 2014)



Figure 8 Vegetation Communities ML1818 (initial EIS)

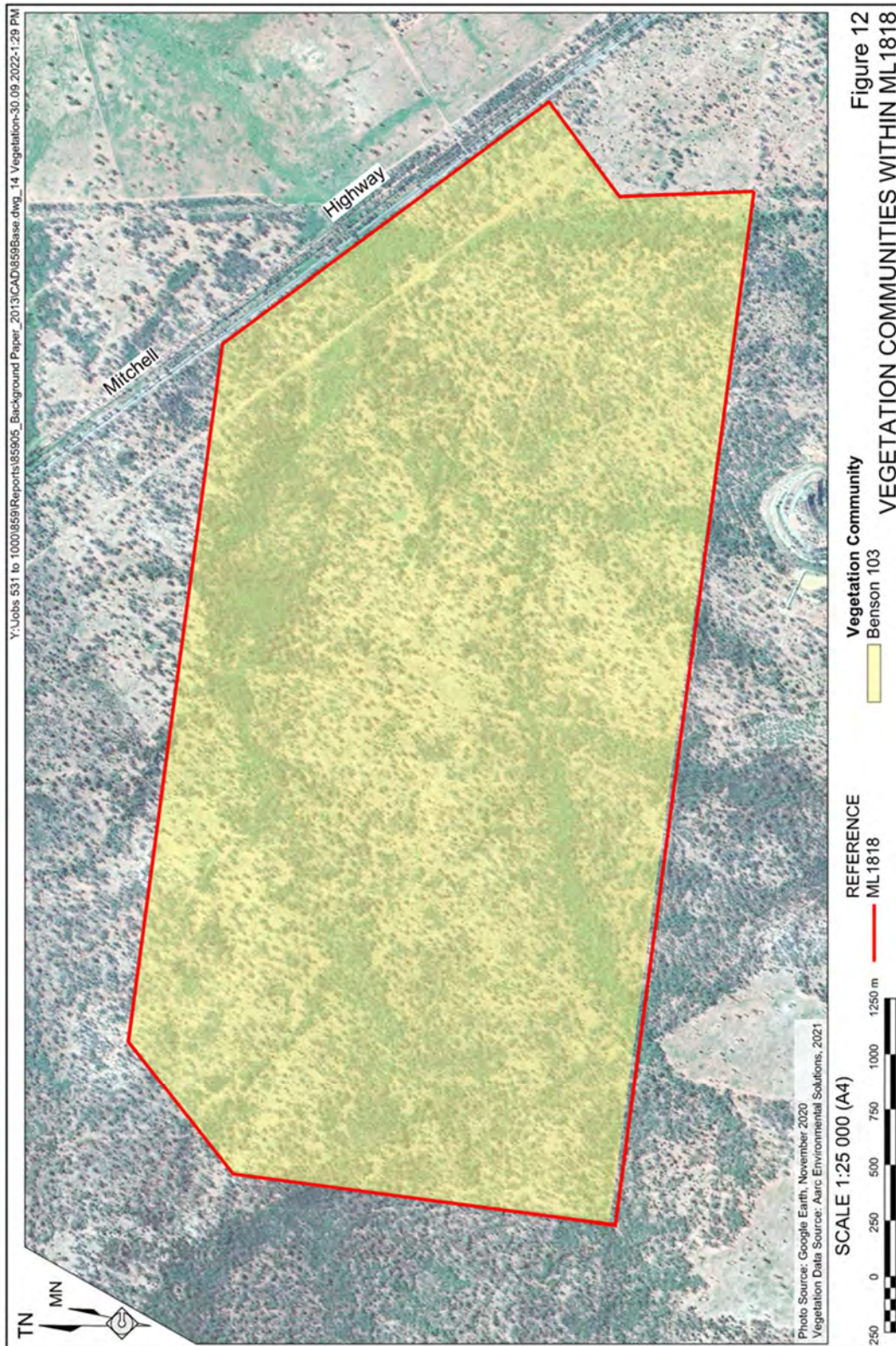
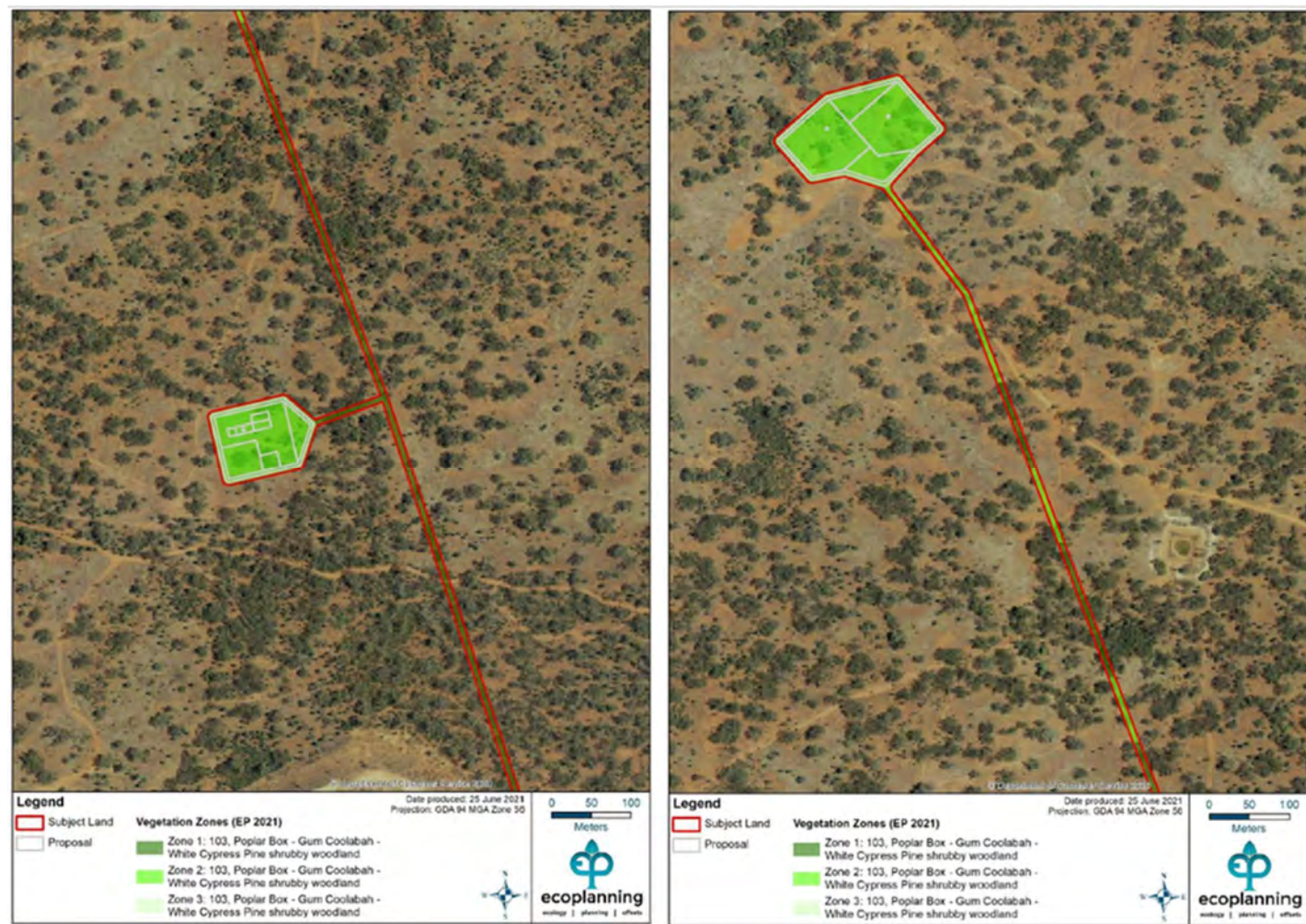


Figure 9 Vegetation Communities ML1818 (Modification 1)



## 4.2 FAUNA

### 4.2.1 Fauna Species Richness

A study of ML1818 and surrounds conducted in Autumn (between 13 and 20 March) and Spring (between 3 and 7 October) 2012 identified 114 fauna species (EnviroKey 2014). These comprised:

- 63 bird species
- 9 mammal species (excluding microchiropteran bats)
- 9 frog species
- 25 reptile species
- 8 microchiropteran bat species

Of the nine mammal species recorded, six were introduced. Most of the introduced species are considered threatening processes to biodiversity.

### 4.2.2 Threatened and Migratory Fauna Species

Seven<sup>1</sup> threatened and migratory fauna species were detected during the 2012 study (EnviroKey 2014). *Nyctophilus corbeni* was assumed to be present with the application of the precautionary principle as echolocation calls from this genus cannot be identified to species and *Nyctophilus c.* is the only threatened species within the genus. Table 9 lists these threatened species and their conservation status under the NSW *Biodiversity Conservation Act 2016* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Recorded locations are shown on Figure 10.

**Table 9 Threatened and Migratory Fauna species recorded at the Avoca Tank Project in 2012.**

| Species                                   |                           | Status           |                           | Comments                                                                                                                                                                                                                                                                 |
|-------------------------------------------|---------------------------|------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scientific Name                           | Common Name               | NSW <sup>1</sup> | Commonwealth <sup>2</sup> |                                                                                                                                                                                                                                                                          |
| <i>Lophochroa leadbeateri</i>             | Major Mitchell's Cockatoo | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>• Future targeted surveys identify nesting locations to assist in developing appropriate management strategies.</li> </ul>                                                                                                        |
| <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler      | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>• Grey-crowned Babbler appeared confined to the far north-west and western portions of the ML.</li> <li>• This species is known to be resilient (to some degree) to impacts of habitat loss and habitat fragmentation.</li> </ul> |
| <i>Polytelis swainsonii</i>               | Superb Parrot             | Vulnerable       | Vulnerable                | <ul style="list-style-type: none"> <li>• Superb Parrot was particularly common and was regularly observed feeding and flying through the ML.</li> </ul>                                                                                                                  |
| <i>Vespadelus baverstocki</i>             | Inland Forest Bat         | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>• Roosts in tree hollows and abandoned buildings</li> <li>• Known to roost in very small hollows in stunted trees only a few metres high.</li> </ul>                                                                              |

<sup>1</sup> At the time of assessment eight threatened species were identified, however, in the interim the listing of one species Rainbow Bee-eater (*Merops ornatus*) has changed from migratory to marine and thus been removed from the list.

| Species                                                                                                                                                                                           |                                | Status           |                           | Comments                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scientific Name                                                                                                                                                                                   | Common Name                    | NSW <sup>1</sup> | Commonwealth <sup>2</sup> |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <i>Chalinolobus picatus</i>                                                                                                                                                                       | Little Pied Bat                | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>Known to use derelict mines, caves, old buildings and tree hollows for roosting and maternity purposes.</li> <li>Nearby 'Budgery' site is a known roosting site for the Little Pied Bat.</li> </ul>                                                                                                                                                                                           |
| <i>Saccolaimus flaviventris</i>                                                                                                                                                                   | Yellow-bellied Sheath-tail-bat | Vulnerable       | -                         | <ul style="list-style-type: none"> <li>Known to use derelict mine shafts, caves, boulder piles, old buildings and hollow-bearing trees for roosting and maternity purposes.</li> <li>Likely to be roosting within the site as it was the most commonly recorded microchiropteran bat species.</li> <li>Future targeted surveys will target roosting locations to develop an understanding of local population occurrence.</li> </ul> |
| <i>Nyctophilus corbeni</i>                                                                                                                                                                        | Eastern Long-eared Bat         | Vulnerable       | Vulnerable                | <ul style="list-style-type: none"> <li>Known to use tree hollows, crevices and loose bark for roosting and maternity purposes.</li> </ul>                                                                                                                                                                                                                                                                                            |
| <p>Note 1: Status listed under the NSW Biodiversity Conservation Act 2016.</p> <p>Note 2: Status listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.</p> |                                |                  |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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**4.2.3 Fauna Habitats**

**One fauna habitat type was identified within ML1818 being Woodland vegetation community (EnviroKey 2014). Woodland habitat matches the Benson ID 103 vegetation community shown on Figure 7 ATP Development Site (Source Envirokey 2014)**



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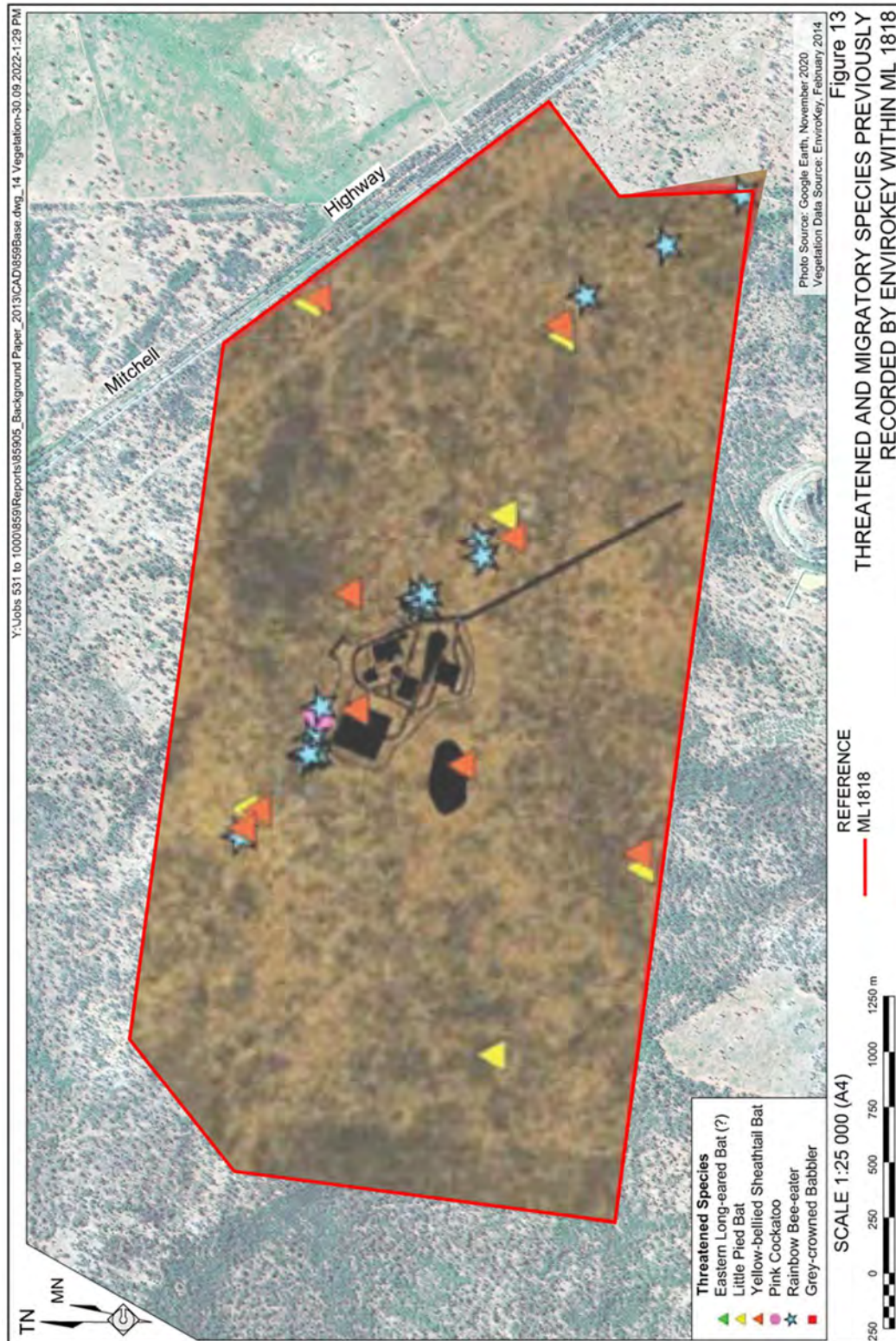
Figure 8 and Figure 9.

Habitat is considered to be of moderate to good condition and quality (EnviroKey 2014). There is a diversity of microhabitats present. However, canopy trees are generally relatively young, hollows are scarce, and most trees are coppiced, confirming that broadscale clearing has occurred in the past (EnviroKey 2014). There was a paucity of mistletoe in comparison to other sites within Nyngan / Hermidale / Girilambone districts (EnviroKey 2014). This is of relevance to arid zone honeyeaters.

#### **4.2.4 Threatened Ecological Communities**

No Threatened Ecological Communities occur within ML 1818 (EnviroKey 2014). Therefore, no Threatened Ecological Communities listed by the BCA or EPBC Act will be impacted by clearing.

Figure 10 Threatened and Migratory Fauna ML1818



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## 5 REFERENCES

CES. (1998a) Fauna Survey Tritton Copper Mine Proposal, via Hermidale, N.S.W. *A report prepared by Countrywide Ecological Services for RW Corkery & Co Pty Ltd.*

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