

Air Quality and Greenhouse Gas Management Plan

Doc No: TRL-HSET-PLN-0024		Title: Air Quality and Greenhouse Gas Management Plan		
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Air Quality and Greenhouse Gas 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
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Definitions

The following acronyms and definitions are used in this AQGGMP

AS/NZS	Australian Standards/New Zealand Standards
ATP	Avoca Tank Project – a mining project associated with the North East Copper Mine.
Bogan River	The ultimate receiving environment for runoff waters from the catchment in which the TRL mining operations are located.
Community Consultative Committee	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.
Competent manner	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.
Copper Concentrate	Copper concentrate is a raw material produced from copper ore through a process called beneficiation, where the copper content is increased
COS	Coarse Ore Stockpile
CP	Constellation Project, an approved state significant project (SSD-41579871) owned and operated by Tritton Resources Limited.
CRD	Cumulative Rainfall Departure; a means of identifying longer term drying or wetting trends.
DA	Development Application – formal requests for permission to carry out development activities under specific conditions.
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
DPHI	NSW Department of Planning, Housing and Infrastructure.
Drivers Code of Conduct	The drivers code of conduct sets out the minimum accepted standards for operating heavy mining related (road registered) vehicle on public roads in the vicinity of Tritton Copper Operations.
EIS	Environmental Impact Statement – document assessing environmental impacts and proposing mitigation measures.
EMS	Environmental Management Strategy – Overarching / framework environmental management document for Tritton
Environment	Environment means components of the earth, including— (a) land, air and water, and (b) any layer of the atmosphere, and (c) any organic or inorganic matter and any living organism, and (d) human-made or modified structures and areas, and includes interacting natural ecosystems that include components referred to in paragraphs (a)–(c).
EPA	NSW Environmental Protection Authority
EPL	Environment Protection Licences – issued under the NSW Protection of the Environment Operations Act 1997.
Evening	The period from 6 pm to 10 pm.

Harm	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.
Incident	A set of circumstances that causes or threatens to cause material harm to the environment.
INX	A commercial document control, incident investigation and action management system adopted and used by TRL.
JHA	Job Hazard Analysis - a systematic process that identifies potential hazards associated with specific job tasks or activities to improve workplace safety and environmental management.
Material harm	Harm to the environment is material if— • it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or • 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 • 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. 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.
MCM	Murrawombie Copper Mine – a copper mining operation operated by Tritton Resources under Mining Lease 1280.
ML	Mining Lease – a legal right to extract minerals within a specified area.
NECM	North East Copper Mine – a mining site operated by Tritton Resources, part of the North East Mine operations.
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
OEM	Original Equipment Manufacturers
PM₁₀	PM ₁₀ refers to airborne particulate matter with a diameter of 10 micrometers (µm) or less, small enough to be inhaled into the lungs, originating from sources like dust, sea salt, industrial processes and vehicle emissions.
PM_{2.5}	PM _{2.5} refers to fine airborne particles with a diameter of 2.5 micrometers or less, which are so small they can penetrate deep into the lungs and bloodstream with common sources including vehicle exhaust, industrial emissions, and wildfire smoke.
Preliminary Hazard Analysis	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.
Risk Assessment	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.
ROM	Run of Mine Pad - an area for storing unprocessed ore before it is sent for processing.
RMP	Rehabilitation Management Plan – strategic plans for land rehabilitation required by Standard Mining Lease Conditions.

Scope 1 emissions	Scope 1 greenhouse gas emissions are emissions released into the atmosphere as a direct result of the activities at your facility. For example: - emissions from the use of refrigerants in air conditioning units - emissions from fuels used in transport - production of electricity by burning coal.
Scope 2 emissions	Scope 2 emissions for a facility represent the emissions that were released outside your facility boundary to produce the electricity that you imported into the facility and used.
Sensitive Receiver	Refers to a location or area that is particularly vulnerable to the impact of noise, pollution, or other environmental disturbances.
Surface Disturbance Permit	An internal permit required for clearance or disturbance of land to ensure that environmental impacts are minimised.
TARP	Trigger Action Response Plan
TCM	Tritton Copper Mine – a copper mining operation owned by Tritton Resources located near Nyngan, NSW.
TRL	Tritton Resources Limited – the company / business entity managing the Tritton Copper Operations.
TSF	Tailings Storage Facility – a site for storing waste materials from mining after the extraction of valuable minerals.
Wind Rose	A graphical representation of wind speed and direction over a specified period of time.
WRE	Waste Rock Emplacement – areas designated for storing waste rock extracted during mining.

1. INTRODUCTION

Tritton Resources Limited (TRL), a wholly owned subsidiary of Aeris Resources Limited operates the Tritton Copper Mine (Mining Lease (ML) 1544) and the Girilambone Copper Mine complex (including the Murrawombie Copper Mine (ML 1280), North East Copper Mine (ML 1383) and the Avoca Tank Project (ML 1818)) and the Constellation Project. 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 locations of the five mining operations are provided in Figure 1.

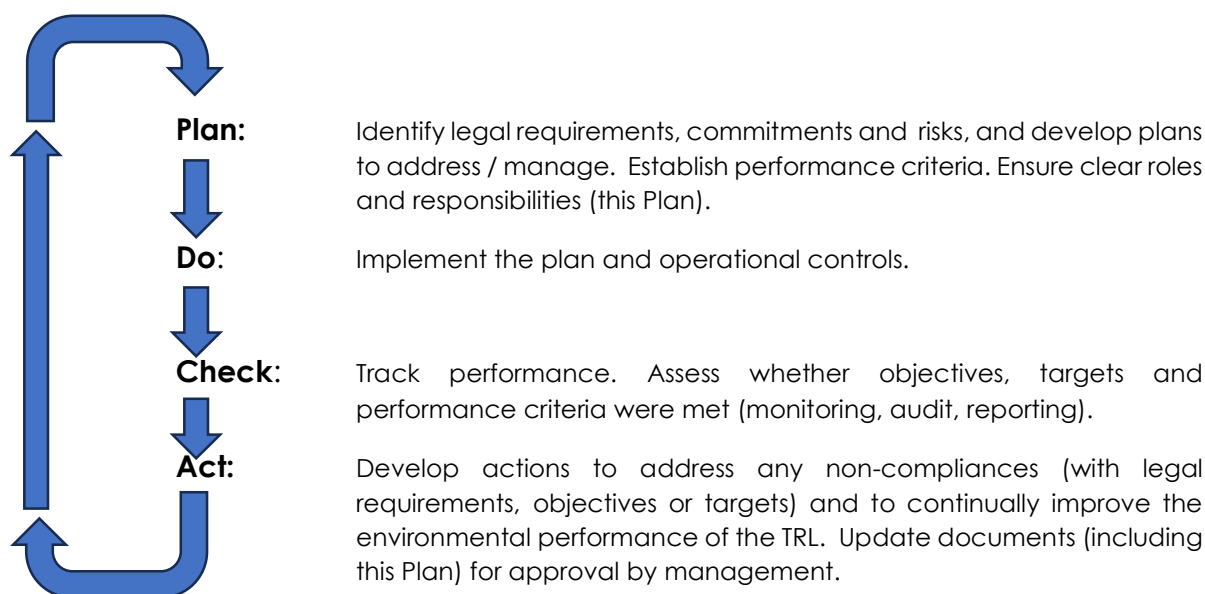
These sites are collectively referred to as 'Tritton Copper Operations'.

1.1. Purpose

The purpose of the Air Quality and Greenhouse Gas Management Plan (AQGGMP) is to describe the key risks and compliance requirements as they relate to the management of air quality and greenhouse gas emissions at the various Tritton Copper Operations mine sites. The AQGGMP outlines the key management strategies and actions to meet regulatory requirements and mitigate and manage potential air quality related risks.

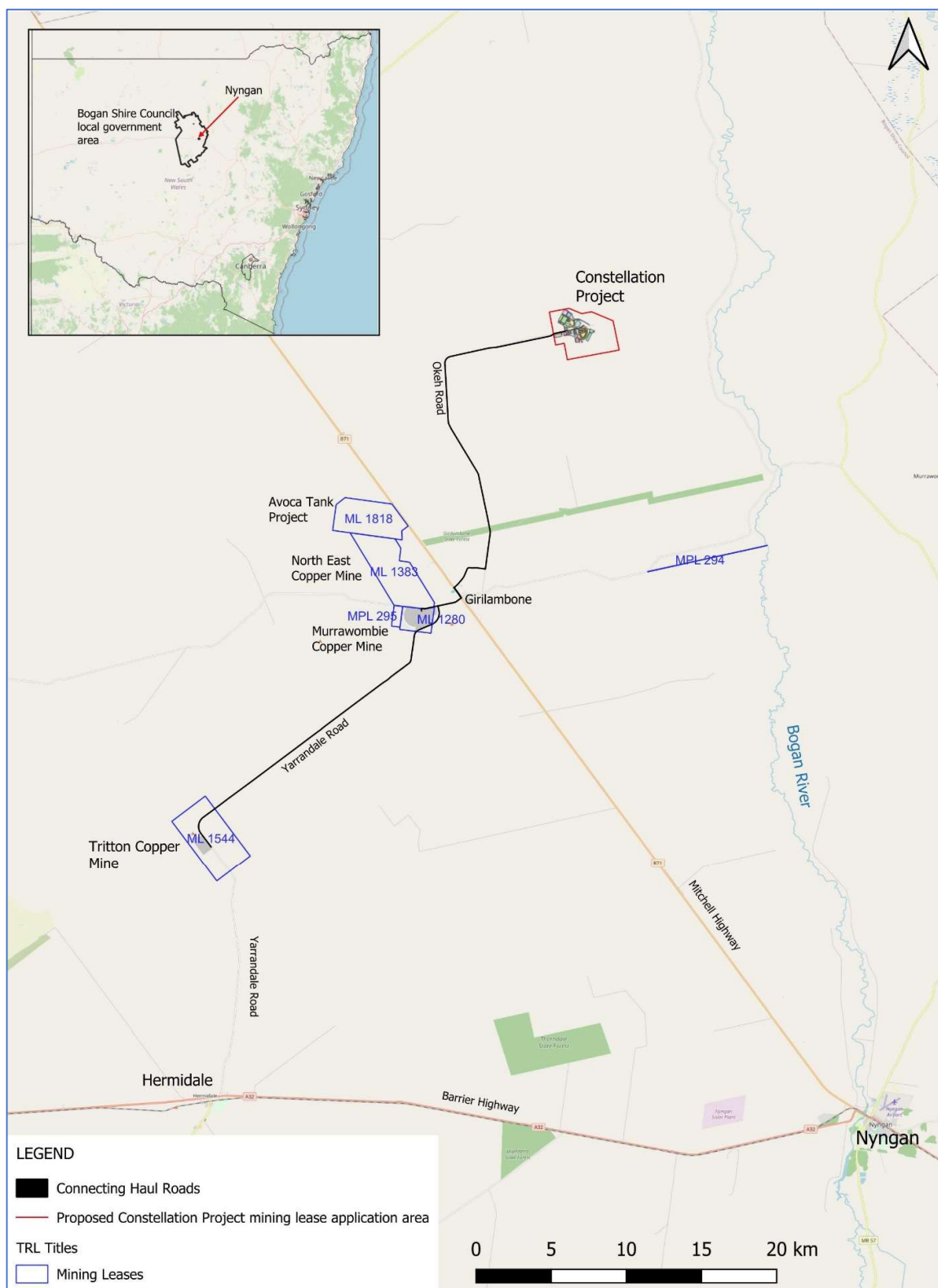
1.2. Relationship to Environmental Management System

The AQGGMP 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 (EMS) (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



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1.3. Scope

The scope of the AQGGMP includes the five 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)); and the
- Constellation Project (CP) (SSD-41579871).

1.3.1. Extent of this AQGGMP

This AQGGMP includes management measures to address regulatory requirements (consent conditions) commitments and risks related to the following aspects:

- generation of odour, fumes and dust; and
- greenhouse gas emissions.

This AQGGMP focusses on the management of odour, fume and dust emissions to minimise adverse changes to local and regional air quality and prevent impact on local residential receivers. Improvement measures are included in this plan to reduce greenhouse gas (Scope 1 and Scope 2) emissions from all operations.

Following Modification 9 to the TCM Development Consent (DA41/98), in accordance with Conditions 49A and 49B (respectively), TRL are required to:

- implement all reasonable and feasible measures to improve energy efficiency and minimise Scope 1 and Scope 2 greenhouse gas emissions generated from the site; and
- by 31 March 2026, unless otherwise agreed by the Secretary, the Applicant must prepare a Greenhouse Gas Mitigation Plan, in consultation with the EPA.

At the time of preparing this AQGGMP, the required Greenhouse Gas Mitigation Plan (GGMP) was under development. Once complete, the GGMP will be appended to this AQGGMP and supplement the general management measures contained in Section 7.3.

Several aspects that may be related to the management of air quality and greenhouse gas emissions have been excluded from this AQGGMP 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) are presented below in Table 1.

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Table 1 Aspects Excluded from this AQGGMP

Aspect	Management Plan (where addressed)
Dust generation and emissions arising from the transport of ore, tailings or waste rock between the various mine sites.	Traffic Management Strategy (TRL-HSEC-PLN-0043)
Sealing of portions of Okeh Road / Constellation Project haul road (Constellation Project only)	
Management of air quality emissions during decommissioning and closure activities.	Rehabilitation Management Plans: - TCM - TRL-HSEC-PLN-0034 - MCM - TRL-HSEC-PLN-0035 - NECM/ATP - TRL-HSEC-PLN-0036 - Constellation Project -TRL-HSET-PLN-0045
Air emissions related to bushfire smoke.	Natural Hazards Management Plan (TRL-HSEC-PLN-0028).

1.4. Objectives

The overarching aim of this AQGGMP is to ensure that TRL manage environmental and community risks related to air quality (odours, fumes, dust etc) and greenhouse gas emissions.

The objectives of the AQGGMP are to:

- identify the potential sources of air quality emissions;
- detail the controls to be implemented to minimise air quality impacts, including greenhouse gas emissions;
- plan for, and respond to adverse climatic conditions that may contribute to excessive air quality emissions;
- establish an air quality monitoring system to assess the potential air quality impacts of the mine development;
- provide a protocol to assess monitoring results against air quality performance criteria; and
- manage air quality-related community complaints in a timely and effective manner.

This AQGGMP meets the following requirements:

- Condition 6(v) of the TCM Development Consent (DA41-98) requiring the preparation of a Dust Management Strategy for the development, prepared in consultation with the EPA. The strategy must describe the air quality management system in detail and describe the measures that would be implemented to ensure compliance with Condition 48 of schedule 2 of the consent (Section 2.2).
- Condition C2 of the Constellation Project Development Consent (SSD-41579871) requiring the preparation of an Air Quality and Greenhouse Gas Management Plan.

2. STATUTORY REQUIREMENTS

2.1. Legislation

Regulatory requirements apply to the management of air quality emissions. The following sections describe key legislative instruments for the management of these aspects.

2.1.1. *Environmental Planning and Assessment Act 1997 (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).

The five TRL mining operations / project sites have been approved under Part 4 of the EP&A Act.

2.1.2. *Protection of the Environment Operations (POEO) Act 1997 (NSW)*

The objective of the POEO Act is to protect, restore and enhance the environment in NSW and to promote public access to information and involvement in environment protection.

The Protection of the Environment Operations Act 1997 is the primary legislation for environmental protection in New South Wales. The Act aims to protect and enhance the environment and human health and promote ecologically sustainable development.

The Act provides a framework for environmental regulation in NSW, including setting environmental standards, managing pollution and waste and regulating activities that may significantly impact the environment.

The POEO Act also establishes the Environment Protection Authority (EPA), which is responsible for enforcing the Act and ensuring compliance with its provisions.

The Act:

- provides a single licencing arrangement related to water pollution, noise pollution, air pollution and waste management.

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- establishes a system of Environment Protection Licences for the purposes of carrying out scheduled activities (e.g. mining for minerals, chemical production, waste processing, electricity generation, livestock intensive activities etc);
- requires the public reporting of information relative to the Environment Protection Licence;
- provides for the issue of environment protection notices (clean-up notices, prevention notices, and prohibition notices) - It is an offence under the Act not to comply with such notices;
- includes a duty to notify relevant authorities in case of any pollution incidents where material harm to the environment is threatened or caused.
- provides for voluntary and mandatory environmental audits and procedural matters for the conduct of investigations (including scope, associated notice requirements, powers of entry, and duty to provide information).

2.1.2.1. *Protection of the Environment Operations (Clean Air) Regulation 2022*

This Regulation

- provides for the certification of domestic solid fuel heaters.
- controls burning generally by imposing an obligation to prevent or minimise emissions, by prohibiting the burning of certain articles and requiring approval for certain fires/incinerators.
- requires the fitting of anti-pollution devices to certain motor vehicles and prescribes an offence of emitting excessive air impurities.
- imposes certain requirements and standards on the supply of petrol.
- prescribes standards for certain groups of plant and premises to regulate industry's air impurity emissions.
- imposes requirements on the control, storage and transport of volatile organic liquids.

2.1.2.2. *Protection of the Environment Operations (General) Regulation 2022*

National Pollutant Inventory (NPI) Reporting

NPI substances are those that, when emitted at certain levels, have the potential to be harmful to human health or the environment. Australian state and territory governments have legislated that industry will report these emissions on an annual basis. Reportable NPI substances are classified into six categories, each with their own reporting thresholds.

All facilities that use NPI substances at levels above certain thresholds must report any emissions of those NPI substances. The thresholds for the use of NPI substances are shown in the NPI Guide. The guide also contains information to help determine if a facility exceeds these thresholds.

Facilities that exceed the thresholds for a substance are legally required to report emissions of that substance to the NPI. In NSW the requirement to report emissions through the NPI is enforced through the Protection of the Environment Operations (General) Regulation 2022.

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2.1.3. National Greenhouse and Energy Reporting Act 2007 (Commonwealth)

The National Greenhouse and Energy Reporting (NGER) Scheme is a single national framework for reporting company information about:

- greenhouse gas emissions
- energy production
- energy consumption.

The objectives of the Act are to inform government policy and the Australian public, help meet Australia's international reporting obligation (Kyoto Protocol), assist government programmes and activities, and avoid duplication of similar requirements at lower government levels.

Companies that meet certain thresholds must:

- register under the framework
- report on their emissions, energy production and consumption each year.

There are 2 types of thresholds that determine a company's obligation under the NGER Act: facility thresholds and corporate group thresholds.

The facility thresholds are:

- 25,000 tonnes or more of carbon dioxide equivalence (CO₂-e) (scope 1 and scope 2 emissions)
- production of 100 terajoules (TJ) or more of energy, or
- consumption of 100 TJ or more of energy.

The corporate group thresholds are:

- 50,000 tonnes or more of CO₂-e (scope 1 and scope 2 emissions)
- production of 200 TJ or more of energy, or
- consumption of 200 TJ or more of energy.

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2.2. Conditions of Consent

The management of air quality and greenhouse gas emissions subject to this AQGGMP at the Tritton Copper Operations are regulated by the various TRL Development Consents (Section 1.3). Specific conditions, as they relate to the scope of this AQGGMP are replicated below (Table 2).

Table 2 Compliance Conditions of Consent

Condition No.	Condition	Section Where Addressed
DA 41/98 – Tritton Development Consent (Modification 9) (11 September 2025)		
1B	A maximum of 1.4 million tonnes of ore may be processed on site in any calendar year, unless condition 1C applies.	Noted
1C	The Applicant may process up to 1.8 million tonnes of ore on site in any calendar year once a Greenhouse Gas Mitigation Plan has been prepared in consultation with the EPA, in accordance with condition 49C.	Noted
6	The Applicant must prepare an Environmental Management Plan (EMP) for the mining operations, which must include, the preparation of the following: (v) a Dust Management Strategy for the development, prepared in consultation with the EPA. The strategy must describe the air quality management system in detail and describe the measures that would be implemented to ensure compliance with condition 48 of schedule 2 of this consent. The Plan must also include but not be limited to:	This AQGGMP
	vi) details of the mine infrastructure and facilities to be developed;	Section 3
	(vii) where relevant, monitoring procedures relating to water quality, groundwater flows, <u>air quality</u> , noise and vibration, and the tailings storage facility;	Section 8
	(ix) the recommendations of the Preliminary Hazard Analysis prepared by McCracken Consulting, dated December 1998.	Section 6.1
	The EMP must be prepared to the satisfaction of the Secretary in consultation with relevant agencies and must 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 5

Condition No.	Condition	Section Where Addressed
13B	Prior to commencing any works associated with Modification 6, unless the Secretary agrees otherwise, the Applicant must prepare a Tailings Extraction Management Plan for the development, to the satisfaction of the Secretary. This plan must: (b) include:	Not yet triggered
	iii) an overview of the water and air quality management systems at the tailings storage facility;	Section 7.2.8
	v) a trigger action response plan for dust management; and	Section 8.2.2
	vi) a program to monitor and report on the effectiveness of the implementation of the measures in this plan.	Section 10
	The applicant must implement the approved Tailings Extraction Management Plan.	
48	The Applicant must: i) take all reasonable steps to minimise the air quality impacts of the development, including during adverse meteorological conditions; ii) minimise any visible air pollution generated by the development; iii) minimise surface disturbance on the site; iv) ensure that trucks transporting tailings and drill cuttings cover their loads during transportation at all times; and v) define dust trigger levels and identify a plan to respond to any exceedances of the trigger levels.	Section 7 Section 8.2.2
49	Deposited dust sampling must occur at any nearby property as required by the EPA following the request of a resident and at any other locations determined by the EPA with the results submitted to the EPA.	Not yet triggered. Section 8.2
49A	Implement all reasonable and feasible measures to improve energy efficiency and minimise Scope 1 and Scope 2 greenhouse gas emissions generated from the site.	Section 7.3

Condition No.	Condition	Section Where Addressed
49B	By 31 March 2026, unless otherwise agreed by the Secretary, the Applicant must prepare a Greenhouse Gas Mitigation Plan, in consultation with the EPA. <i>Note: In accordance with its Climate Change Action Plan 2023-26, the NSW EPA is preparing guidance for the preparation and implementation of various climate change related guidelines (e.g., including but not limited to Climate Change Mitigation and Adaptation Plans). Preparation of a Climate Change Mitigation and Adaptation Plan (CCMAP) may be required under the EPA's regulatory framework, including conditions in the Environment Protection Licence.</i>	Not yet due
DA 2015/010/2 Murrawombie Development Consent (Modification 5) (4 July 2024)		
4	The applicant shall seek and comply with all approvals set by the State Pollution Control Commission under the Clean Air Act 1961, Clean Waters Act 1970, and Noise Control Act 1975.	Section 2.3.1
5	The applicant shall carry out all operating and monitoring measures as described and specified in the Environmental Impact Statement to prevent, minimise adverse environmental impact.	Section 7 Appendix A
11	Every effort is to be made to minimise noise, blasting and <u>dust nuisance</u> to residents in the locality. Emissions shall not exceed levels prescribed by the State Pollution Control Commission.	Section 7 Section 8
DA 6/95 North East Development Consent (including modifications)		
5	The proponent will be required to obtain the EPA's formal Pollution Control Approval for the proposal in respect of the Clean Air Act, Clean Waters and Noise Control Acts prior to commencing any works on the site.	Section 2.3.1
1.3(2) 2007 Mod	Dust minimisation on haul roads as per Statement of Environmental Effects	Section 7
DA 10/2015/004/003 Avoca Tank Development Consent (Modification 2) (15 May 2025)		
B1	The Applicant shall ensure the Development does not cause or permit the emission of any offensive odour (as defines in the POEO Act)	Section 7.1

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Condition No.	Condition	Section Where Addressed
Constellation Project Development Consent (SSD-41579871) (24 December 2025)		
C1	<u>Air Quality Operating Conditions</u> All reasonable and feasible mitigation and management measures must be implemented to minimise:	
	(a) odour, fume and particulate matter emissions from the development;	Section 7.1
	(b) any visible off-site air pollution generated by the development;	Section 7.2
	(c) the extent of potential dust generating surfaces exposed on the site through implementation of progressive rehabilitation, including use of interim stabilisation and temporary vegetation strategies;	Section 7.2
	(d) the air quality impacts of the development during adverse meteorological conditions; and	Section 7.2.11
	(e) the greenhouse gas emissions from the development.	Section 7.3
C2	<u>Air Quality and Greenhouse Gas Management Plan</u> An air quality and greenhouse gas management plan must be prepared for the development. This plan must:	This AQGGMP
	(a) describe the measures to be implemented to ensure compliance with the operating conditions of this consent;	Section 7
	(b) describe measures to demonstrate that best practice management is being employed to minimise the development's air quality impacts including the development's Scope 1 and 2 greenhouse gas emissions; and	Section 7.4
	(c) include an air quality monitoring program, undertaken in accordance with the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007), that uses monitors at representative locations upwind and downwind of operations to measure and to evaluate the performance of the development against the impact assessment criteria in the "Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales" and to guide day to day planning of mining operations.	Section 8

Condition No.	Condition	Section Where Addressed
	<i>Note: In accordance with its Climate Change Action Plan 2023-26, the NSW EPA is preparing guidance for the preparation and implementation of various climate change related guidelines (including but not limited to Climate Change Mitigation and Adaptation Plans or similar). If such a plan is required to be prepared and implemented under an EPL for the development then this could be used to satisfy the requirements of condition C2 in relation to greenhouse gas emissions.</i>	
C3	Development under this consent must not commence until the air quality and greenhouse gas management plan is approved by the Planning Secretary.	Section 5
C4	The air quality management plan must be implemented for the development.	Section 5

2.2.1. Management Plan Standard Requirements

Condition B4 of the Constellation Project Development Consent (SSD-41579871) specifies required content for management plans that are required under the consent. Throughout this plan, as related to the Constellation Project, content has been included to align with these requirements. Appendix A presents these requirements and indicates where each is addressed within this AQGGMP.

2.2.2. Commitments

Appendix B summarises commitments that relate to the management of air quality and greenhouse gas emissions arising from the various Environmental Assessments¹ for each of the Tritton Copper Operations. Appendix B includes reference to the relevant section of this AQGGMP where the commitment is addressed.

2.3. Licenses and Permits

2.3.1. Environment Protection Licences (EPL)

In addition 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).

In accordance with the POEO Act, TRL will obtain an Environmental Protection Licence for the Constellation Project, or include the project in an existing licence (i.e. EPL 4501) held by TRL (subject to consultation with the EPA). Future revisions of this AQGGMP will include any relevant EPL conditions and requirements for the Project.

¹ Including response to submissions, amendment reports and modifications

2.3.1.1. EPL 11254 (Version dated 8 June 2021)

EPL 11254 Applies to stated Lots and Deposited Plans (DP) associated with the TCM Mining Lease (ML 1544). There are specific conditions relating to the management of dust which have been replicated below in Table 3.

In addition, under Condition R2, TRL are expected to report any matters that may have resulted in the causing of environmental harm. Definitions and required responses are presented in the EMS (TRL-HSET-PLN-0023).

Table 3 Air Quality Related EPL 11254 Conditions

Condition No.	Condition	Section Where Addressed
O1 Activities must be carried out in a competent manner		
O1.1	Licensed activities must be carried out in a competent manner. This includes: a. the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Section 7
O2 Maintenance of plant and equipment		
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) b) must be operated in a proper and efficient manner.	Section 7
O3 Dust		
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Section 7

2.3.1.2. EPL 4501 (Version dated 16 December 2025)

EPL 4501 – Applies to Mining Leases associated with the MCM (ML 1280), NECM (ML 1383) and ATP (ML 1818) and includes Mining Purpose Lease (MPL) 295. There are specific conditions relating to the management of dust which have been replicated below in Table 4.

In addition, under Condition R2, TRL are expected to report any matters that may have resulted in the causing of environmental harm. Definitions and required responses are presented in the Environment Management Strategy (TRL-HSET-PLN-0023).

Table 4 Air Quality Related EPL 4501 Conditions

Condition No.	Condition	Section Where Addressed
O1 Activities must be carried out in a competent manner		
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Section 7
O2 Maintenance of plant and equipment		
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Section 7
O3 Dust		
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Section 7
O3.2	Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.	Section 7
O3.3	Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.	Section 7 Traffic Management Strategy (TRL-HSET-PLN-0043)

3. OPERATIONS DESCRIPTION

3.1. Site Overview

The Girilambone copper deposits were first discovered in 1879 with mining commencing in 1881. At the time of preparing this AQGGMP, 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.

3.2. Relevant Operations

3.2.1. Tritton Copper Mine

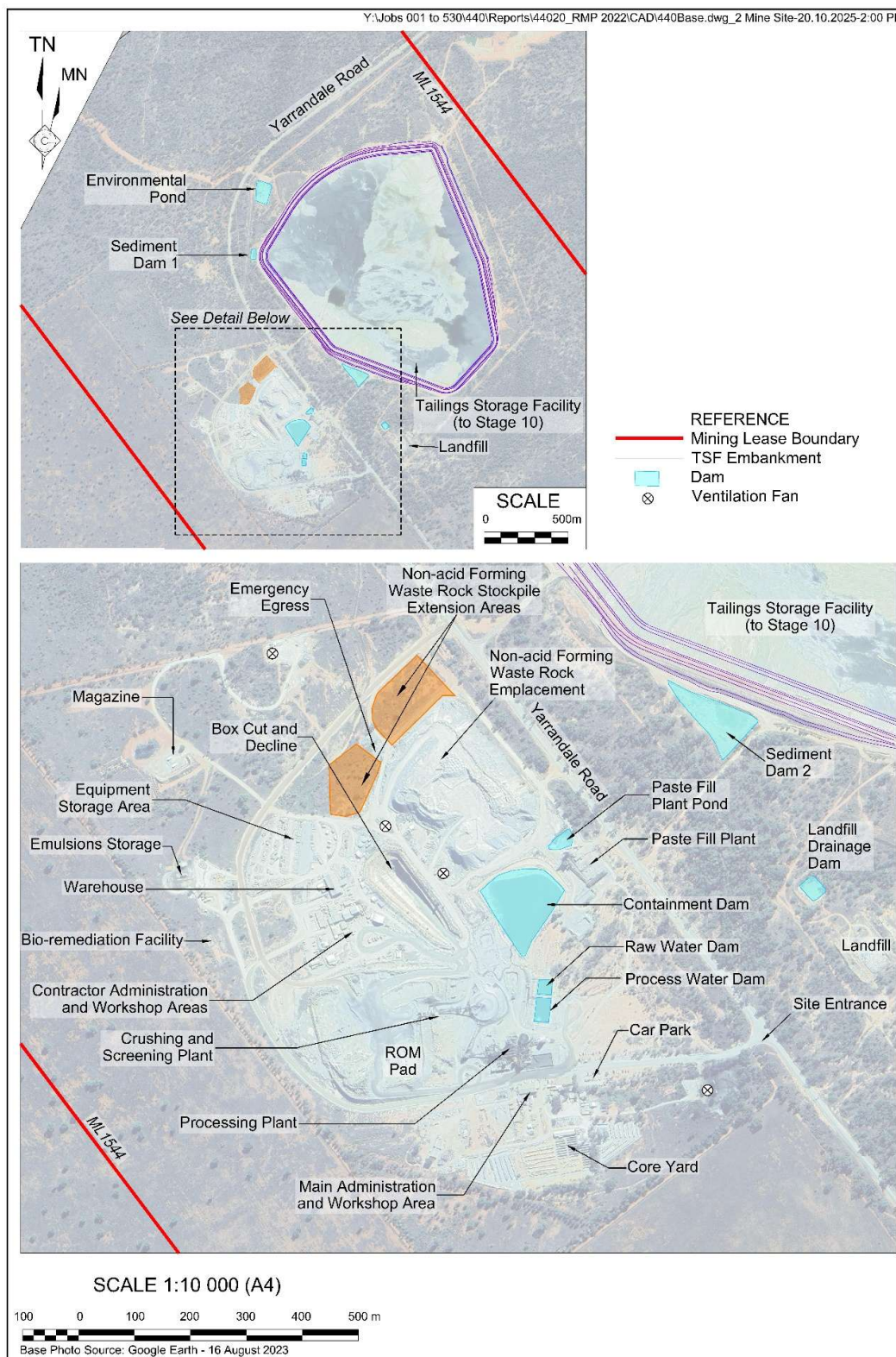
The mineralisation at the Tritton Copper Mine (TCM) was discovered in 1995 and following a series of preliminary assessments and preparation of an Environmental Impact Statement, Development Application (DA) 41/98 was approved on 1 September 1999 by the Minister for Planning and Urban Affairs. Mining 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 12.833Mt of copper ore using underground mining techniques.
- Importation of no more than 1.8Mt of mined material (ore and waste materials) 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.

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Figure 2 Tritton Copper Mine layout



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3.2.2. 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.

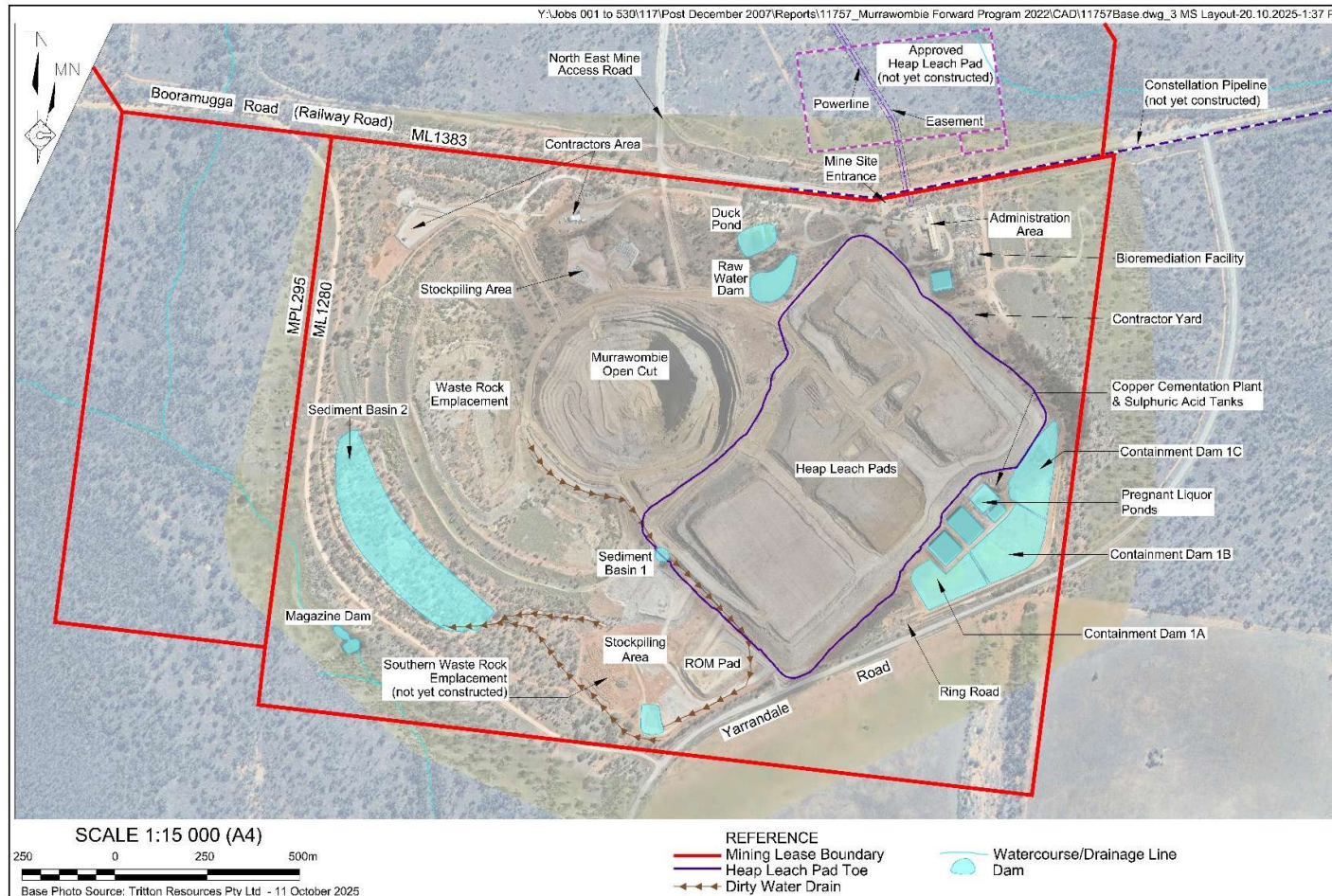
In summary, approved activities at the MCM include the following:

- 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.

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Air Quality and Greenhouse Gas Management Plan

Figure 3 Murrawombie Copper Mine layout



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3.2.3. 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.

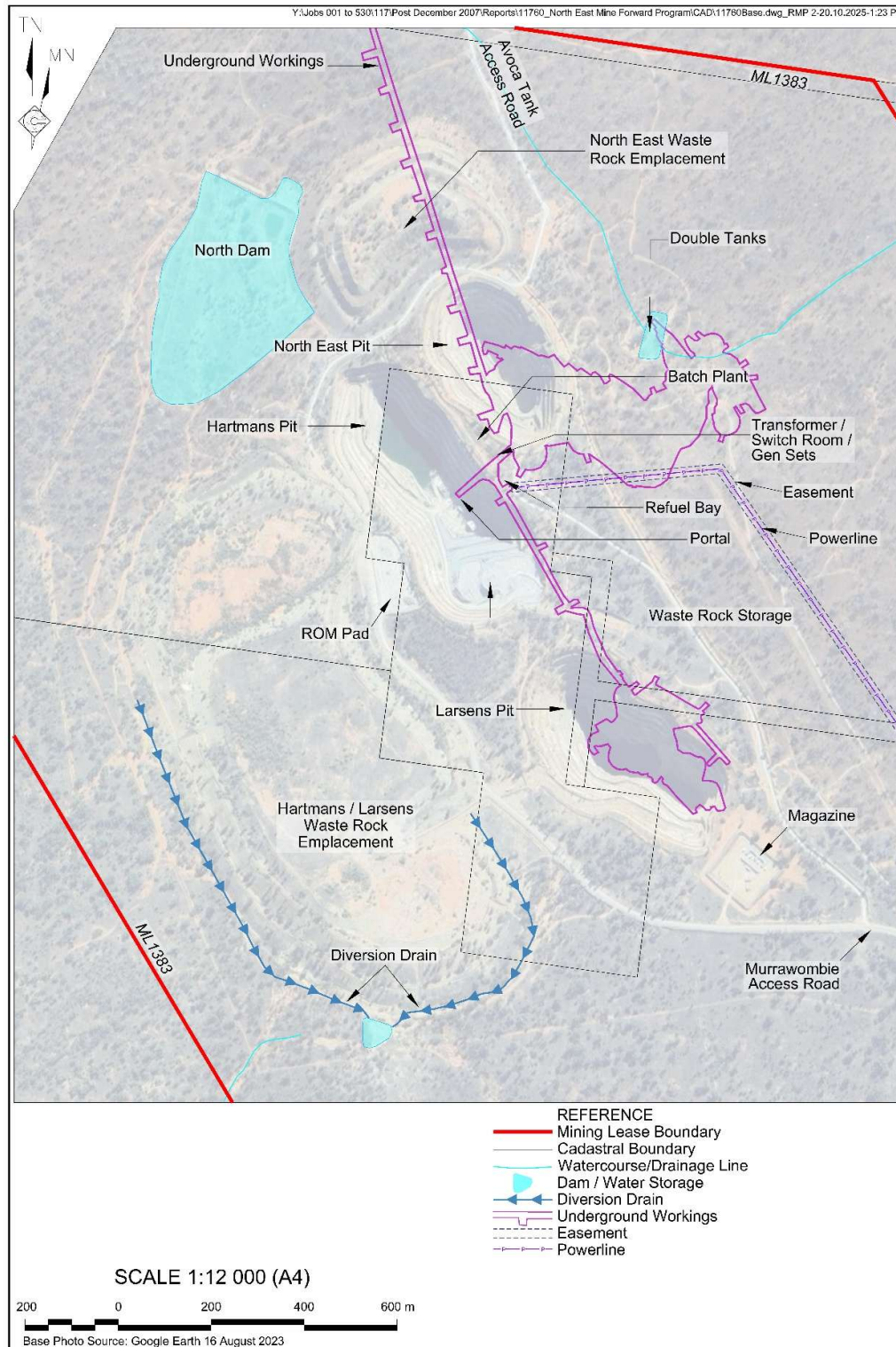
Open cut mining at the NECM ceased in 1997. During the extraction period, three open pits were mined (Larsen's pit, Northeast pit and Hartman's pit) until copper oxide ore were exhausted in the upper part of the ore body. To process the oxide ore, the extracted ore was transported to the nearby MCM, 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.

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Figure 4 North East Copper Mine layout



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3.2.4. 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 5 presents the approved ATP site layout.

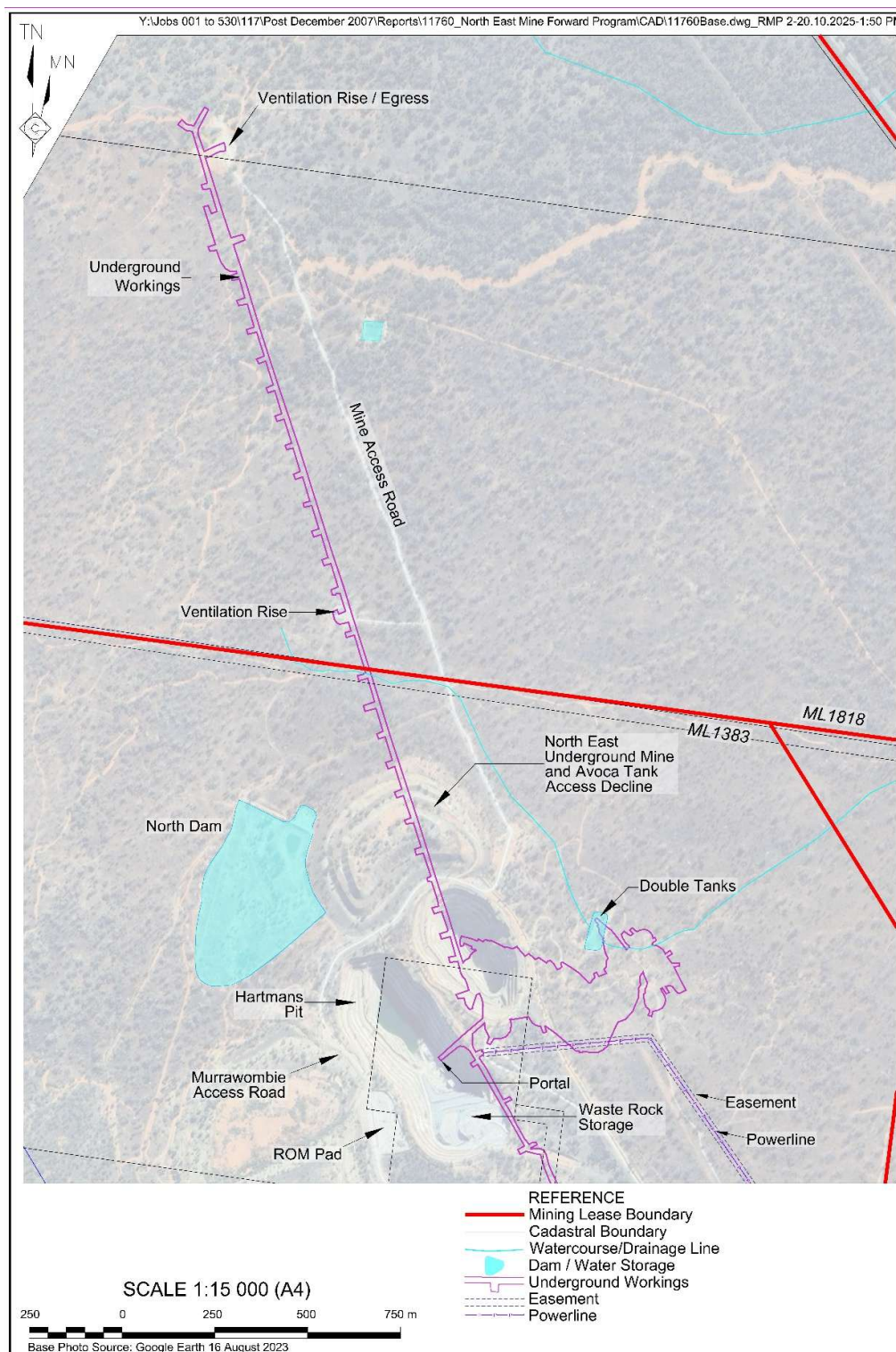
Collectively the North East Copper Mine and Avoca Tank Project are also referred to as North East Mine (NEM)

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.

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Figure 5 Avoca Tank Project Layout



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3.2.5. Constellation Project

The Constellation Project is located in the 'Bogan Shire' local government area (LGA) of central-western New South Wales. The Project site is located approximately 20 km north-east of the township of Girilambone and approximately 55 km north-west of Nyngan. The Project was approved via State Significant Development Consent (SSD-41579871) on 24 December 2025.

The Project includes the mining of copper ore, through the development of an open cut pit and underground mine. Mined ore is transported via road to the Tritton processing plant for processing, with lower grade oxide ore processed by heap leaching at the Project site. Transport of dewatered tailings material from Tritton Mine (back to the Project site for use in cemented paste fill) will support the underground mining activities.

The Project mines an average of 500,000 tonnes of copper ore per annum with peak production volumes of up to 1Mtpa. The mine life is approximately 16 years, inclusive of a Project construction period and rehabilitation/closure period. There is potential for mine life extensions as the deposit is developed down plunge.

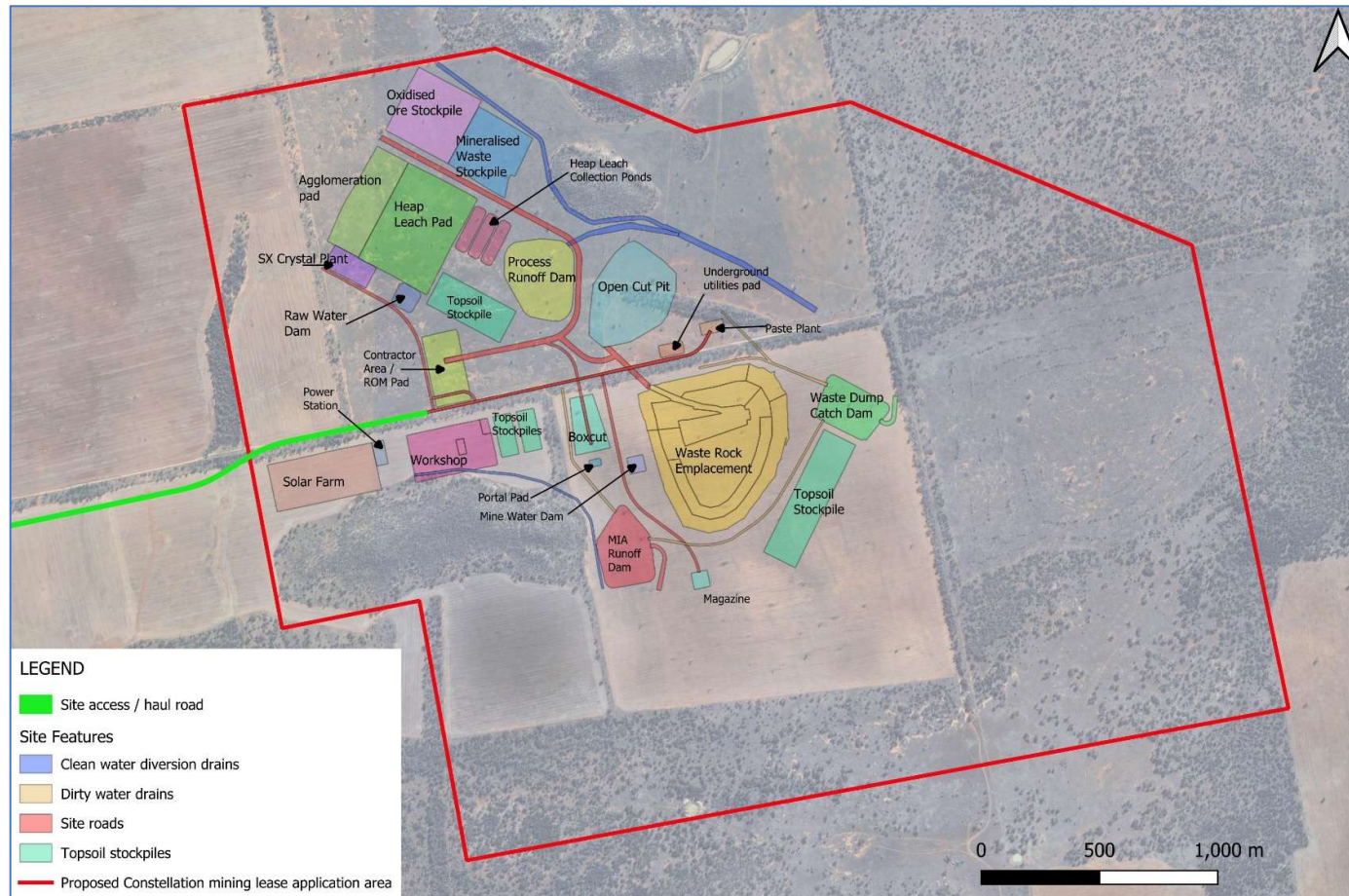
Supporting infrastructure for the proposed Project includes:

- a road upgrade between the Project site and the Mitchell Highway (to support haulage activity);
- a new T intersection to link the proposed haul road with the eastern side of the Mitchell Hwy (north of Girilambone);
- an upgrade to the intersection of the Mitchell Highway with Railway Road (west of Girilambone);
- a waste rock emplacement at the Project site;
- a run of mine stockpile to support the handling of mined ore;
- a mine laydown area and workshop;
- a heap leach pad and associated processing facility;
- a paste plant, emulsion storage and shotcrete batch plant;
- topsoil stockpiles;
- a solar farm and on-site power station;
- water management and storage infrastructure, including a bi-directional water pipeline between the Project site and Murrawombie Copper Mine; and
- administrative facilities including offices, amenities, and car park.

Figure 6 presents the approved Constellation Project site layout and Figure 7 shows the approved haul road route / infrastructure corridor from the project site to Murrawombie and Tritton Copper Mines.

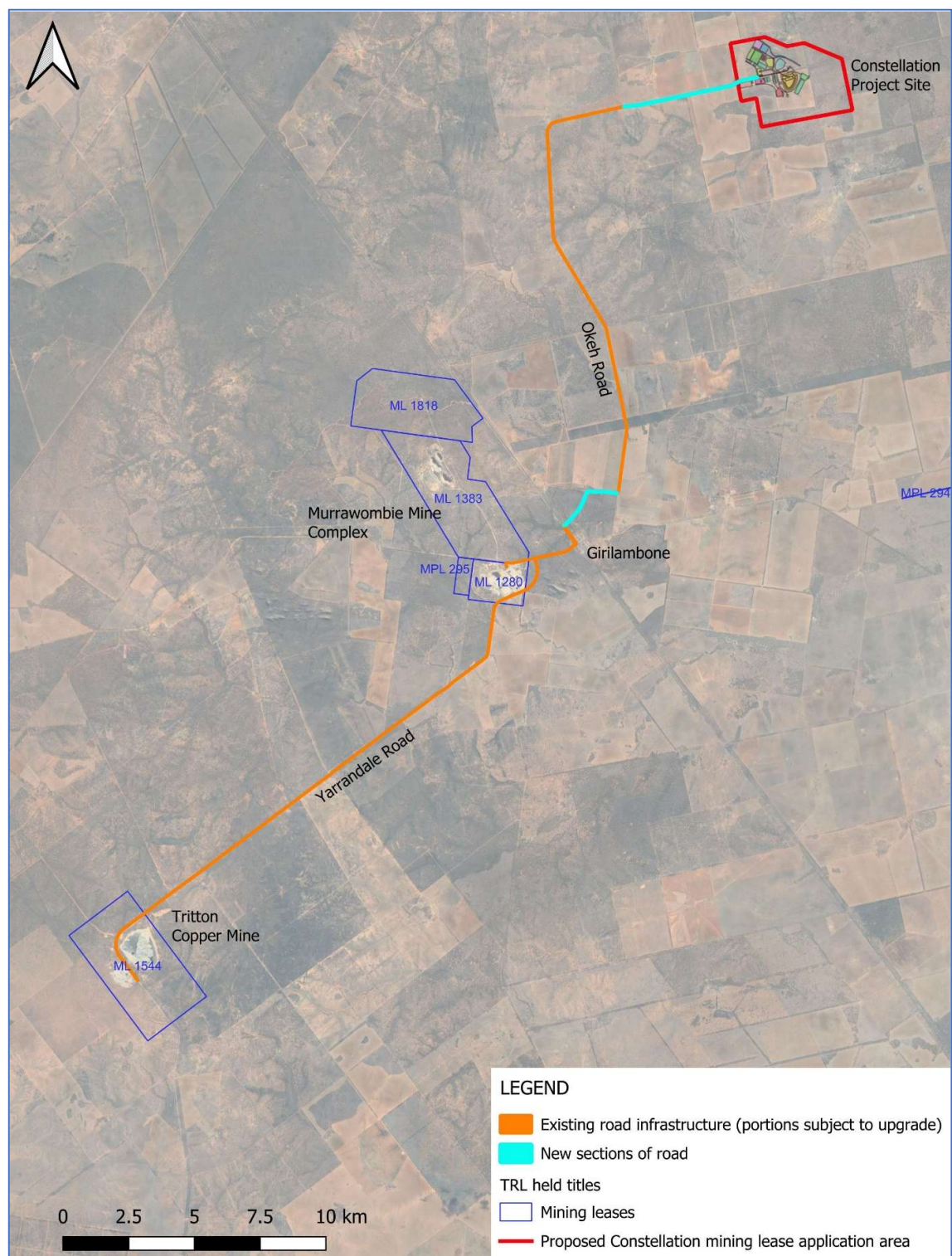
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Figure 6 Constellation Project site layout



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Figure 7 Constellation Project haul road route



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3.3. Baseline Information

Baseline information is provided below and describes the operating environment of the Tritton Copper Operations.

3.3.1. Topography and Land Use

The Tritton Copper Operations are located 45 to 55 km north / northwest of the township of Nyngan in the Bogan Local Government Area (LGA) of NSW as presented in Figure 1.

The topography in the vicinity of the Tritton Copper Operations is generally flat with gentle undulating rises and depressions with elevations generally from approximately 250 m AHD to 290 m Australian Height Datum (AHD). In general, slopes in the vicinity of mining operations rarely exceed 5%, and slope to the east toward the Bogan River.

Land uses surrounding the mine sites include:

- Agriculture - low intensity sheep and cattle grazing and seasonal cropping (mainly cereals) including a number of sparse rural residences.
- Nature conservation - substantial areas of native vegetation (though subject to grazing) exist in the vicinity of the mine sites.
- Native vegetation – forestry. The Girilambone State Forest occupies an area to the east of the mine sites (east of the Mitchell Highway).
- Transportation - a range of State and local roads exist in the vicinity of the mine sites, including the Mitchell Highway, the Barrier Highway, Booramugga Road, Yarrandale Road and Okeh Road. The disused Main Western Railway is located to the east of (and runs parallel with) the Mitchell Highway.

3.3.2. Climate

The climate of the Tritton Copper Operations area is semi-arid, with very hot summers and cool winters. Rainfall at Nyngan Airport (Station Number 051039) and Okeh (Station Number 051164) weather stations (Bureau of Meteorology (BoM) 2025) is characterised by a discernible annual cycle distribution, with higher rainfall trends in the October to March period and decreasing during the April to September period. Average monthly rainfall calculated between 1884 and 2025 varies between 27 mm in September and August to 50 mm in January. The average annual rainfall between 1884 and 2025 is 444.5 mm. Maximum daily rainfall can be more than double the average monthly rainfall, particularly in late summer and autumn, indicating that intense storms can occur.

The average annual evaporation total was obtained from the BoM Nyngan Airport weather station and had an average annual evaporation of 2,397 mm. This corresponds to an average annual moisture deficit (the difference between average annual rainfall and average annual evaporation) of 1,952 mm.

Average monthly pan evaporation is compared to average monthly rainfall calculated from the historical rainfall record in Figure 8, which shows a strong seasonal variation in evaporation. The site has an average monthly net rainfall deficit throughout the year.

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The monthly rainfall dataset was used to generate a Cumulative Rainfall Departure (CRD) curve. CRD is the monthly accumulation of the difference between the observed monthly rainfall and the long-term average monthly rainfall. Any increase in the CRD reflects above average rainfall while a decrease in CRD reflects below average rainfall. A constant or steady CRD curve represents average rainfall. The CRD curve only deviates from zero due to atypical (above and below average) rainfall. The CRD over the period 2015 to 2025 is shown in Figure 9.

As shown in Figure 9, the CRD curve was generally decreasing between mid-2016 and early 2020 indicating below average rainfall conditions and reflecting the severe drought conditions in western NSW. The CRD curve increased in early 2020 reflecting a period of above average rainfall.

Extreme storm events have occurred on several occasions throughout the recorded data. The 100-year ARI, 72-hour storm event equates to 2.87 mm/hr or a total rainfall of 207 mm. An analysis of rainfall data for Nyngan between 1896 and 2016 shows that the design storm event was exceeded three times (Table 4).

Figure 8 Monthly rainfall and evaporation at Nyngan Airport and Okeh Weather Stations

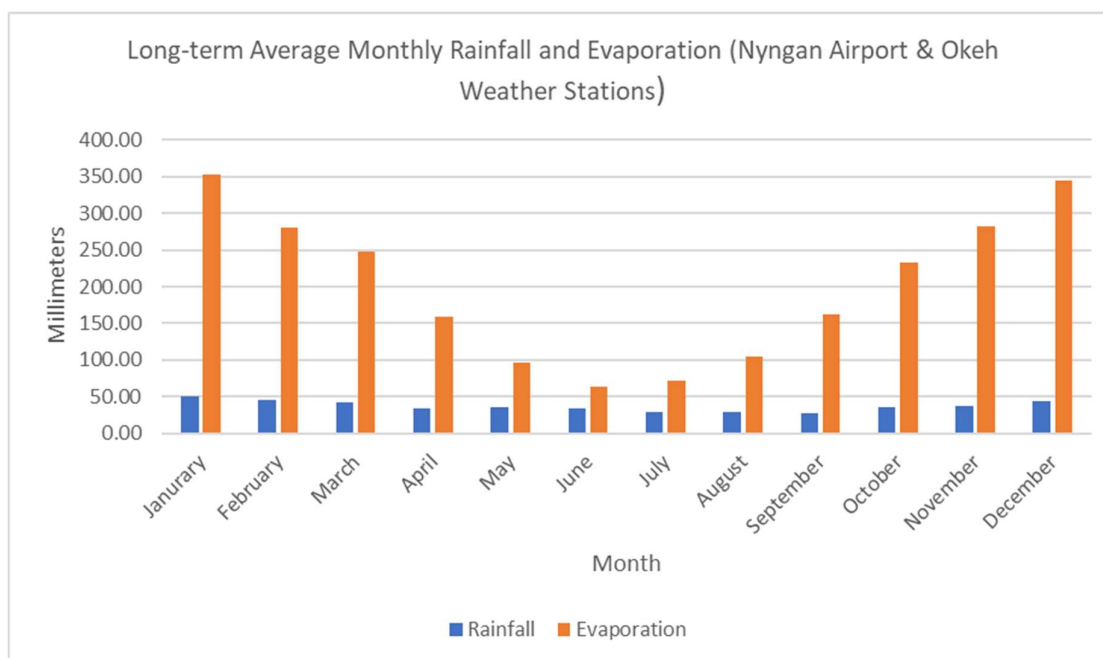


Figure 9 Cumulative Rainfall Departure

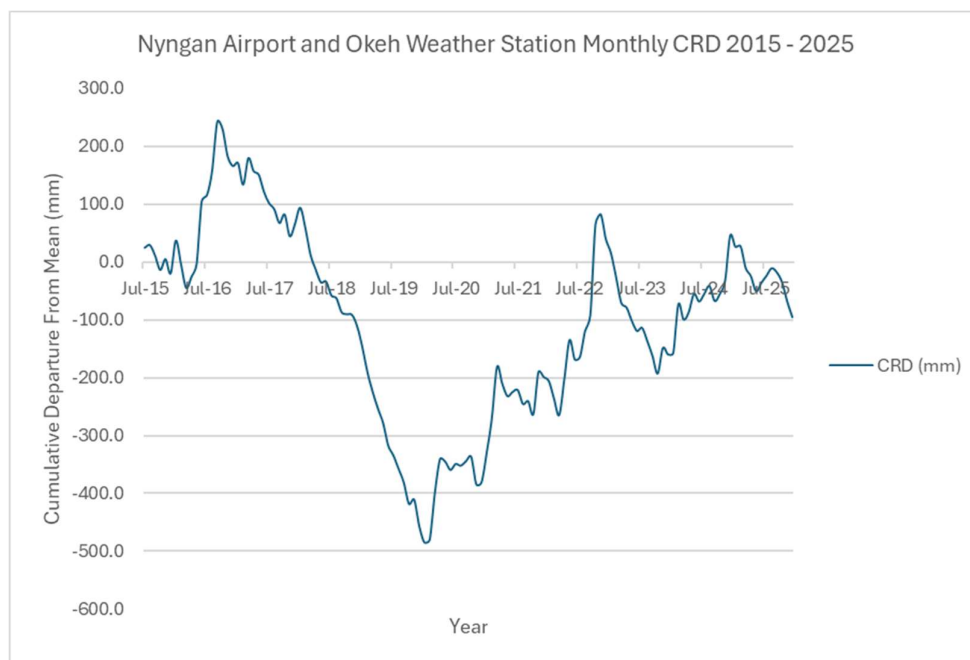


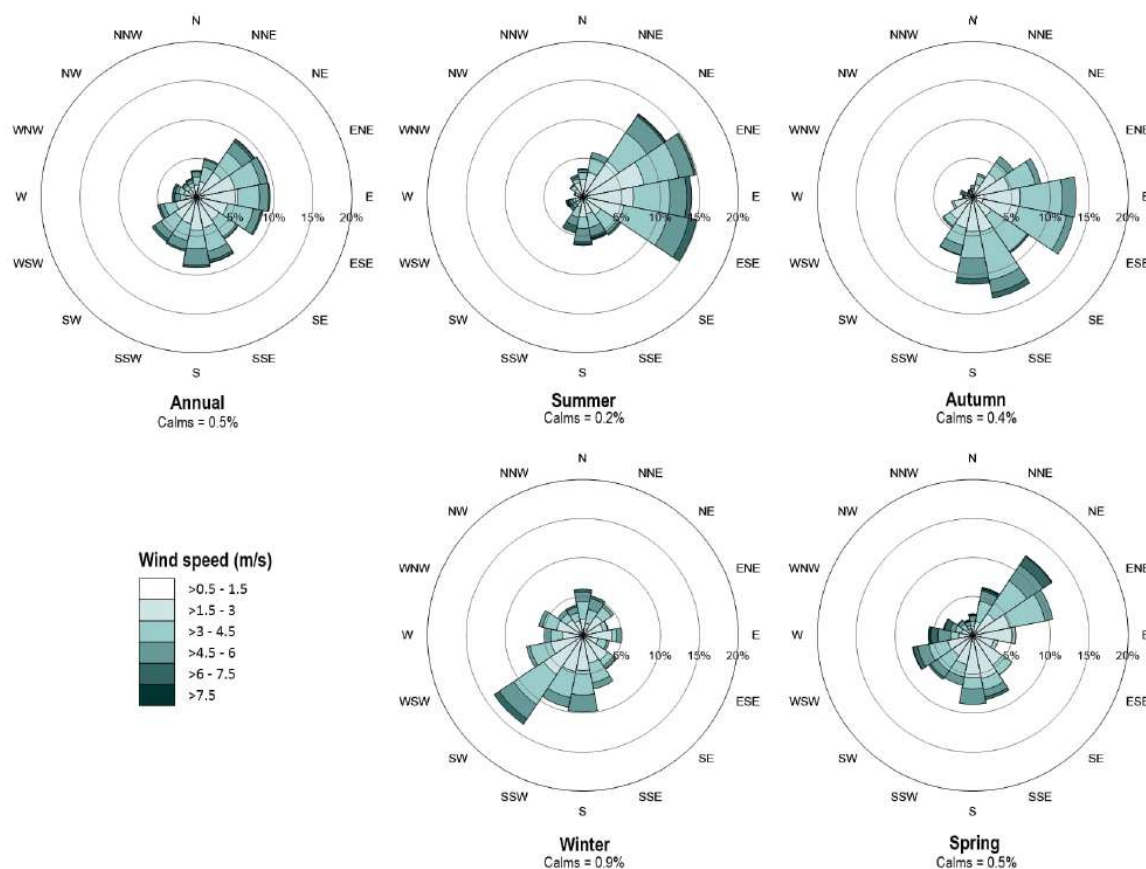
Table 5 Storm events in excess of 3 mm/hr intensity, at Nyngan

Period	Total (mm)	Intensity (mm/hr)
28.02.1906 – 02.03.1906	251.3	3.49
23.02.1955 – 25.02.1955	232.4	3.23
31.03.1989 – 02.04.1989	222.2	3.09

3.3.2.1. Wind Speed and Direction

Figure 10 shows the annual and seasonal wind patterns (for 2022) in the region based on hourly wind speed and wind direction (sourced from Airen 2022). These 'wind-roses' show that the most common winds are from the east or south to southwest, depending on the season. Summer winds are most commonly from the east while winter winds are generally from the southwest, with autumn and spring winds exhibiting a combination of these patterns. These conditions mean that any emissions from the Tritton Copper Operations would most likely be transported to the west or northeast. However, the wind-roses also show that there can be winds from any directions, but at lower frequencies.

Figure 10 Wind Speed and Direction (Airen 2022)



3.3.3. Baseline Air Quality

Background air quality (pre-mining) in the rural landscape surrounding the Tritton Copper Operations is influenced by:

- agricultural activities:
 - cultivation / cropping / harvesting;
 - livestock movements; and
 - grazing / removal of vegetation cover.
- climatic conditions including prolonged dry periods, periods of extreme drought and strong gusty winds (including periodic regional dust storm events); and
- vehicle movements on unsealed roads / across paddocks.

TRL collects deposited dust data from a range of locations within and adjacent to the Tritton Copper Operations and in the vicinity of Girilambone and Hermidale. The locations of the monitoring points are presented in Section 8.

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- Depending on prevailing wind directions, sample locations that are primarily 'upwind' of the mine sites can be used to represent background conditions, where the potential influence from mining operations is considered minimal.
- Average background deposited dust results vary between 0.4g/m²/month and 2.7g/m²/month. This is in line with background deposited dust results within rural communities throughout western NSW.

As part of the Constellation Project Environmental Assessment, an Air Quality Impact Assessment was conducted by Todoroski Air Sciences (Todoroski Air Sciences 2024). As part of their assessment, Todoroski (2024) provided estimates of background air quality (dust) levels (for use in air quality models). Estimated are provided below in table

Table 6 Background air quality levels (Todoroski 2024)

Pollutant	Background Level	Units
*24-hour average PM ₁₀	Daily varying	µg/m ³
*Annual Average PM ₁₀	7.0	µg/m ³
*24-hour average PM _{2.5}	Daily varying	µg/m ³
*Annual Average PM _{2.5}	3.1	µg/m ³
**Annual Average Total Suspended Particulates (TSP)	25.1	µg/m ³
***Annual Average Deposited Dust	1.4	g/m ² /month
*derived from the DPE's Narrabri air quality monitors. **calculated from PM₁₀ data (Narrabri station) assuming that annual average PM₁₀ concentration of 25µg/m³ corresponds to a TSP concentration of 90µg/m³ ***derived from TRL BG1 Dust gauge (Section 8).		

3.3.4. Potential Emission Sources

Tritton Copper Operations are situated in a semi-arid environment where yearly evaporation rates greatly exceed annual rainfall by an approximate factor of five. High evaporation rates cause bare, disturbed ground to be susceptible to wind erosion and the associated formation of dust.

Operational activities at the Tritton Copper Operations have the potential to produce airborne pollutants including particulates. Air quality impacts associated with mining activities generally occur as a result of the disturbance of fine particles derived from soil or rock as dust, or through gaseous emissions from processing plants. TRL activities are located in proximity to the villages of Hermidale and Girilambone and the potential exists for mining activities to impact upon the air quality in these villages as well as nearby local residences.

Potential sources of particulate emissions from the Tritton Copper Operations includes:

- vegetation clearing, soil stripping and transportation of soil materials;
- construction of the various surface infrastructure components;
- drill and blasting activities in open cut pits;
- dust emissions associated with the unloading and loading of waste rock and ore material;
- emission from crushing, grinding and ore handling systems;
- wind-generated dust from exposed areas (i.e. open cut pits, waste rock emplacements, soil stockpiles, haul roads, tailings storage facility);
- maintenance of unsealed roads;
- dust generation related to vehicle movements on internal roads;
- dust generation related to mine related vehicle movements on external (public) un-sealed roads;
- rehabilitation activities, including landform shaping, earthworks and application of topsoil; and
- diesel fuel combustion by on-site plant and equipment.

Potential odour and fume sources include:

- odour and fumes from reagents used in the ore processing plant;
- fumes from surface blasting; and
- odour from septic (sewage treatment) systems.

Potential impacts relating to air quality emissions may include:

- amenity impacts on residents and other sensitive receivers;
- health impacts on mine workers, residential and other sensitive receivers; and
- increased dust load on homes and infrastructure, crops, pastures and on surrounding agricultural land.

3.3.5. Greenhouse Gas Emissions

The greenhouse gas (GHG) emissions from the Tritton Copper Operations are principally associated with on-site energy consumption, specifically diesel combustion by on-site plant and equipment (Scope 1 emissions) and consumption of purchased electricity (Scope 2 emissions). Tritton Copper Operations utilises drill, blast, load and haul techniques, which are largely dependent on the use of diesel powered equipment. The processing plant is primarily powered by purchased electricity.

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The Constellation Project will use a combination of solar-generated power from a 6 mega-Watt (MW) solar farm, supplemented by diesel generator (Scope 1 emission).

Aeris will calculate and report Scope 1 and 2 greenhouse gas emissions annually in accordance with the requirements of the *National Greenhouse and Energy Reporting Act 2007* (NGER) where Scope 1 and 2 GHG emissions are above the reporting threshold.

4. RESPONSIBILITIES

Personnel, contractors and visitors at TRL all have responsibility for the management of air quality emissions and the reporting of visible / uncontrolled dust sources. Specific roles (Table 7) at TRL have key responsibilities in the approval, maintenance and implementation of this AQGGMP.

Table 7 AQGGMP Roles and Responsibilities

TRL Role	Responsibility
Site General Manager.	Overall accountability for the environmental performance of the Tritton Copper Operations. Ensure adequate resources are available for the implementation of the AQGGMP. Approve continuous improvement initiatives. Chair the TRL Senior Leadership Team (SLT) meetings (which functions as 'Management Review' of the EMS). Promote a culture of environmental stewardship across the site.
Health, Safety Environment & Training (HSET) Manager.	Overall accountability for the development and implementation of this AQGGMP and the environmental performance of the Tritton Copper Operations. Responsible for the site safety management system, emergency response and environmental performance of the TRL (including implementation of the EMS). Ensure compliance with legal and other requirements. Provides relevant information to the TRL SLT Meeting regarding environmental performance and facilitates 'Management Review' of the EMS.

TRL Role	Responsibility
Department Managers Construction Managers	Responsible for the implementation of environmental risk controls, as they apply to their specific area(s) of responsibility. Ensure staff are trained in relevant environmental and emergency procedures. Incorporate environmental and emergency considerations into operational planning. Report environmental incidents, emergencies and non-conformances immediately.
Mining manager	Ensure surface blasts are planned with consideration of meteorological factors, and designed to minimise fume and dust emissions.
Environmental Superintendent.	Develop, approve, implement, and maintain this AQGGMP. Ensure compliance with legal and other requirements. Responsible for the identification of environmental risks and tracking the implementation of risk controls. Undertake consultation as it relates to the content of the AQGGMP as required by development consents and other commitments. Responsible for the identification, reporting, investigation and corrective actions associated with environmental incidents and non-compliances. Identify opportunities for continuous improvement. Overall accountability for implementing monitoring programs and associated reporting. Provide environmental training and advice to all departments. Liaise with regulatory authorities on environmental matters. Prepare internal and external environmental reports.
Senior Environmental Advisors / Environmental Advisors / Environmental Technicians.	Responsible for implementing: • environmental monitoring programs; • undertaking environmental inspections; • implementing environmental awareness programs; • implementing other environmental programs; and • other tasks as directed by the Environmental Superintendent.
Community Relations Officer.	Responsible for the development, coordination and dissemination of information to community stakeholders.

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5. COMMUNITY AND STAKEHOLDER ENGAGEMENT

TRL maintains an open-door policy regarding complaints, questions and feedback from 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 (and is also required as per Condition C6 of the Avoca Tank Project Development Consent (DA 10/2015/004/003)). Invitees consist of representatives from local business, farmers, Bogan Shire Council, the Ngemba Ngilyampaa, Wangaaypuwan and Wayilwan (NNWW) people, the Bogan Aboriginal Corporation (BAC) and the Nyngan Local Aboriginal Land Council (NLALC). The CCC meets on a quarterly basis to discuss issues related to the company's operation and the community.

Condition 6(v) of the TCM Development Consent (DA 41/98), requires that a Dust Management Strategy is prepared in consultation with the NSW Environmental Protection Authority (EPA) and to the satisfaction of the DPHI Secretary.

Condition C3 of the Constellation Project Development Consent (SSD-41579871) requires that the Air Quality and Greenhouse Gas Management Plan is approved by the Planning Secretary.

The draft AQGGMP (version 0.1) was referred to EPA for consultation when uploaded to the NSW Major Projects Portal. The EPA declined to review the AQGGMP (letter dated 12 June 2025). A subsequent version (Version 1.0) of the AQGGMP was again referred to the EPA for consultation; no feedback or correspondence was received during the consultation period.

Following consultation with the EPA, a revised version of the AQGGMP was submitted to DPHI for review and approval. Following their review, DPHI requested further information (letter dated 29/04/2026) and clarification of a number of points related to alignment with the TCM Development Consent (DA41/98) and Constellation Project Development Consent (SSD-41579871). A table of comments received, and actions taken to address the comments has been provided to the DPHI. The AQGGMP was subsequently approved by a nominee of the Planning Secretary (letter dated 01/05/2026).

As related to the Constellation Project:

- in accordance with Condition C3 of the Constellation Project Development Consent (SSD-41579871), TRL will not commence the development of the Constellation Project until the AQGGMP is approved by the Planning Secretary; and
- in accordance with Condition C4 of the Constellation Project Development Consent (SSD-41579871), TRL will implement the AQGGMP as approved by the Planning Secretary.

6. 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 AQGGMP, the risk register was used to identify key risks as they relate to air quality emissions. Section 7 includes management measures to control and mitigate these risks.

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6.1. Preliminary Hazard Analysis

As per Condition 6 of the TCM Development Consent (DA41/98) the Dust Management Strategy (ie this AQGGMP) must consider recommendations from the Preliminary Hazard Analysis prepared by McCracken Consulting, dated December 1998.

The Preliminary Hazard Analysis does not identify any specific hazards associated with air quality impacts including odour, fumes or dust. The Preliminary Hazard Analysis does however identify general risks associated with the storage and use of chemicals and explosives (i.e. that may result in the emission of fumes / odours). The management measures contained in Section 7 of this AQGGMP, and in the Hydrocarbon and Chemical Management Plan (TRL-HSET-PLN-0027) are considered to adequately manage identified hazards.

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7. MANAGEMENT MEASURES

The following subsections describe the management measures and controls that will be implemented to manage and control potential air quality emissions, including odour, dust and greenhouse gasses.

7.1. Odour / Fumes

TRL will ensure that no offensive odours or fumes will be emitted from the mining sites, as defined under the POEO Act, unless otherwise authorised by an EPL. Key management measures include:

- Fumes liberated by blasting from either open pit or underground blasting would be dispersed into the atmosphere without any hazardous levels extending beyond the mine boundary.
- All blasts will be designed by a qualified and competent person, designs will consider the minimising of potential blast fume emissions.
- Open pit blasting practices include a pre-blast meteorological assessment and restrictions placed on blasting when there is increased risk of blast plumes being transported towards sensitive receivers.
- Blasting during strong temperature inversion conditions would be avoided where practicable (generally indicated by the presence of fog, smoke or dust remaining suspended in the air).
- Blast fumes will be further kept to a minimum by adopting best practice measures including the use of suitable stemming material, the selection of appropriate blast hole burdens, the minimisation of powder factors and appropriate blast hole sequencing.
- To minimise potential odours from the TCM ore processing plant, TRL will apply strict storage, handling and use protocols for all reagents involved in ore processing activities (refer to the Hydrocarbon and Chemical Management Plan (TRL-HSET-PLN-0027)).
- Septic wastes are managed in accordance with Bogan Shire Council requirements (approved under Section 68 of the Local Government Act).

7.2. Dust

7.2.1. General Measures

The following general measures are implemented by TRL to manage dust emissions:

- Site inductions will include air quality management and reporting requirements to increase employee and contractor awareness of potential dust impacts and their responsibilities to control and / or notify supervisors of unacceptable (visible dust) emissions (Section 13).
- All disturbed land will be progressively rehabilitated as soon as practicable in accordance with each mine's respective Rehabilitation Management Plan, required under standard mining lease conditions.

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- Rehabilitation earthworks will be undertaken (where practicable) when topsoil and subsoil stockpiles are moist and/or wind speed is below 10 m/s to minimise dust generation. Materials will be otherwise moisture conditioned to minimise dust emissions as far as reasonably practicable.
- Activities will be visually monitored to identify potential sources of dust generation and initiate a management response where required (Refer to TARPS – Section 7.2.6).
- Exploration drill rigs will be fitted with a functional dust collection apparatus or other control measures to limit dust emissions during drilling activities.
- Water trucks will be employed as required to moisture condition or wet-down materials, stockpiles and active work areas that may be prone to dust generation. For example, including the various stages of construction of the TSF, ore / waste rock handling areas, stockpiles and other exposed areas.
- Planned maintenance of dust suppression machinery/equipment will be flexible to ensure high availability during adverse weather conditions (Section 7.2.11).
- No waste is to be burnt on site.
- In the event of extremely windy periods, where applied dust control methods are ineffective, dust generating activities would be relocated, modified or suspended (Refer to TARP Section 7.2.6 and Section 7.2.11).
- TRL will respond promptly to any air quality-related community complaints. Complaint management protocols are contained in the EMS (TRL-HSET-PLN-0023) and briefly described in Section 8.2.2.

7.2.2. Land Disturbance

All vegetation clearance activities, soil stripping and stockpiling will be managed according to the TRL Biodiversity and Land Management Plan (TRL-HSET-PLN-0025), Constellation Project Biodiversity and Land Management Plan (TRL-HSET-PLN-0048) and respective Rehabilitation Management Plan (for each mine).

Disturbance will be limited to the minimum area necessary for mining and associated activities.

Topsoil stripping will be timed, where practicable, to avoid periods of excessive rain or prolonged dry periods.

Where practical, watering would be undertaken prior to, and during soil and overburden removal to control dust emissions.

Where (topsoil) stockpiles are not re-used for a significant period of time, the surface will be covered or stabilised using vegetation or other suitable means to prevent dust lift off.

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7.2.3. Waste Rock and Ore Handling

The handling of waste rock and ore will be conducted in a manner that minimises the production of dust. The following management measures will be implemented by TRL:

- Limit, where practicable, excavation and handling of materials during adverse weather conditions (Section 7.2.11).
- Where required, moisture condition waste rock, ore and other transported materials to minimise dust generation during handling (loading, transporting and placement).
- Maintain stockpiles in a moist condition by applying water (via water carts) where required.
- Minimise drop heights when loading material for transportation.
- Operate the largest practical truck size to reduce the number of movements necessary to transport ore and waste rock.
- Trucks transporting ore, tailings, waste rock or drill cuttings between the various TRL mine sites will be covered at all times except during loading and unloading.
- Production of crushed waste rock at the TCM would be limited to 30 000 tonne per annum and would occur within the existing Road Base Preparation Area.
- Concrete and hardstand areas will be swept or cleaned to minimise the lift-off of site generated / deposited dust.

7.2.4. Ore Processing (TCM)

Ore processing will occur in ways that attempts to minimise dust, including:

- watering at the primary crusher will be carried out to minimise dust that is produced when ore is being crushed and when the ore is transported from the primary crusher to the Core Ore Stockpile (COS).
- Crushers and (dry) ore handling systems (including conveyors) would incorporate a dust extraction, suppression or abatement system; noting that after crushed rock enters the milling section it would remain wet throughout the remaining process.
- Driveways, concrete and hardstand areas within the Ore Processing facility will be swept or cleaned to minimise particulate generation (including copper concentrate particulates and / or site generated deposited dust).

7.2.5. Roads and Vehicle Generated Dust

Management measures relating to roads and vehicle generated dust are as followed:

- Access roads would be kept to a minimum and well defined.
- All TRL traffic will use designated routes and maintain set speed limits to minimise dust generation both on and off site.
- Haul roads will be inspected and maintained on a regular basis to ensure they remain in good operational condition.

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- Vehicles and plant will be fitted with pollution reduction devices, such as diesel particulate filters where practicable (and consistent with the Original Equipment Manufacturers (OEM) design) to limit the generation of particulates.
- All on-site plant and equipment will be maintained and operated in a proper and efficient manner in order to minimise emissions and dust generation.
- Where consistent with OEM design, the exhausts of all earthmoving vehicles would be directed upwards or sideways so as to not impinge on the ground and generate dust.
- All external loads of ore, waste rock, and tailings accessing the public road network will be suitably covered to prevent dust lift off. Further detail is provided in the TRL Traffic Management Strategy (TRL-HSET-PLN-0043).
- Water carts are employed full-time to continually maintain (internal) unsealed roads in a satisfactory condition and to reduce dust from the Tritton Copper Operations. Roads are to be sufficiently moist to minimise on-road dust generation but not cause track washout.

7.2.5.1. Constellation Project Specific Measures

The Constellation Project (as approved) allows the transport of ore and tailings material between the project site and the TCM using portions of unsealed public roads. In addition to the above measures as relevant to the Constellation Project:

- Unsealed haul road sections from the Project site to the Mitchell Highway, will be watered using water carts. Roads are to be sufficiently moist to minimise on-road dust generation but not cause track washout. Two water trucks will operate during the haulage period on the unsealed surface sections of the haul road to minimise dust generated and provide safe traffic conditions during daytime and night time.
- Haul roads will be inspected on a regular basis to ensure they remain in good operational condition.
- TRL will seal two sections of Okeh Road:
 - in front of the Karingal Homestead, at least 1km in each direction (of the homestead); and
 - the section of new haul road at Mitchell Highway Intersection, near Girilambone Town and the council dam to mitigate dust.

Further detail, (including maps) is provided in the Traffic Management Strategy (TRL-HSET-PLN-0043)

- Speed limitations will also be considered near residences and other sensitive receivers.
- TRL will further assess the associated costs, risks and overall economics of sealing additional sections of the haul road including the option for a full-length seal. Assessments will be conducted either during the Construction and/or later Operational phases (progressive) of the project.

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7.2.6. Visible Dust Trigger Action Response Plan

TRL have developed the following Visible Dust Trigger Action Response Plan (TARP) for the management of visible dust emissions that may arise from the various mining related activities conducted by TRL. The *NSW EPA Dust Assessment Handbook* (EPA, 2019) provides guidance for the ongoing assessment of visible dust emissions from mining operations, an excerpt is provided in Appendix C. The TARP presented in Table 8 presents the actions to be taken if excessive visible dust is observed.

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Table 8 Visible Dust Trigger Action Response Plan

Trigger Action Response Plan (TARP)				
No:	Title:	Department:		Date of Review:
AQ-01	Visible Dust TARP	HSET		1/12/2025
Scope of TARP (What does the TARP apply to? What is the intent?):				
Control visible dust emissions				
LEVEL 1 SITUATION (Normal Conditions)	Trigger	Action	Response	Responsible Person
	No excessive visible dust generation observed.	No action Required	Continue to monitor weather conditions and emissions.	All operational supervisors and Superintendents
LEVEL 2 SITUATION (Minor /Major Risk Potential)	Trigger	Action	Response	Responsible Person
	Visible dust generated during any activity at the mine development and at risk of affecting sensitive receivers.	- Any personnel observing the event is to report it to their supervisor. - Escalated to operational supervisors and Superintendents.	Operational supervisor must implement additional dust controls including (but not limited to): - Undertake additional wetting of roads, stockpiles or emissions source areas. - Increase wetting of ore treatment, crushing and handling systems. - Consider the relocation or temporary suspension of dust emitting activities. - Correct operational aspects such as reduce drop height during loading operations. - monitor emissions and implement additional measures as required. - Record identified source and actions taken.	All operational supervisors and Superintendents

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Trigger Action Response Plan (TARP)				
No:	Title:		Department:	Date of Review:
AQ-01	Visible Dust TARP		HSET	1/12/2025
Scope of TARP (What does the TARP apply to? What is the intent?):				
Control visible dust emissions				
LEVEL 3 SITUATION (Major / Critical Risk Potential)	Trigger	Action	Response	Responsible Person
	Level 2 above and a community complaint has been received	- Escalated to operational Superintendents and Managers. - Inspect the site at the time of complaint and identify dust emission sources. - Enter the complaint into INX as an event.	In addition to Level 2 Responses, Project supervisors, Superintendents and managers must: - consider the relocation or temporarily suspend major dust emitting activities. - Only re-commence activities when conditions have eased, or additional wetting / dust controls have been implemented and are effective. - Investigate the community complaint as per the EMS (TRL-HSET-PLN-0023). - Notify complainant of investigation outcomes. - Implement corrective measures. - Report in Annual Review.	All operational superintendents and managers. Community Relations Officer

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7.2.7. Copper Concentrate / Product

Measures relating to copper concentrate include:

- Copper concentrate produced would contain approximately 8% moisture.
- The transportation of copper concentrate to the rail facility at Hermidale will occur in sealed shipping containers.
- Containers will be inspected and if required, cleaned of any spilt or residual copper concentrate (within a contained area) prior to leaving the TCM.
- The product from the copper cementation process is placed in bulk bags whilst moist and will not generate dust.

7.2.8. Tailings Management

Throughout the life of the project, the surface of the TSF would be regularly moist through the deposition of tailings material. Should the surface dry, attempts will be made to target the re-wetting of dry areas through deposition of additional tailings material.

Modification 6 of the TCM Development Consent (DA41/98) approved the excavation and off site transportation of tailings from the TCM Tailings Storage Facility to MCM for the backfill of underground stopes. Modification 9 of the TCM Development Consent (DA41/98) approved the excavation and off site transportation of tailings to any other Tritton Copper Operations' mines. At the time of preparing this AQGGMP, TRL had not commenced this activity.

Upon commencement, management measures for the control of dust emissions will include:

- Maintain tailings moisture via routine tailings deposition.
- Dry tailings in stockpile area to nominally 12% moisture to ensure sufficient moisture is remaining to minimise dust lift-off.
- Visually inspect the excavation area of the TSF on a weekly basis, and during adverse weather conditions to ensure that no visible dust is emitted from the area.
- Apply water from a water cart to the excavation area, TSF embankment, access ramp, haul route, and drying stockpiles during dry and/or windy conditions to suppress dust lift-off.
- Ensure the drying stockpiles have slopes of no more than 1:3 (V:H), in order to improve stability.
- Limit operations where practicable during periods of high winds.
- Ensure that all trucks transporting dried tailings material from the TSF have their loads covered prior to exiting the stockpile area.
- Immediately cease any operations that are resulting in visible dust emissions beyond the TSF boundary.

The above measures, including a TARP will be included in the required Tailings Extraction Management Plan in accordance with Condition 13B of the TCM Development Consent (DA41/98).

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7.2.9. **Underground mine ventilation**

Modification 7 of the TCM Development Consent (DA41/98) approved the construction of additional underground ventilation shafts for exploration and mining activities. The following additional management and mitigation measures will be employed (at all relevant TRL mine sites where underground ventilation shafts are present), to minimise operational air quality impacts from ventilation shafts:

- Minimise the area of surface disturbance and rehabilitate areas surrounding the vent rises once constructed and operating.
- Undertake underground ventilation at the minimum rate required for safe operation of the exploration and mining activities.
- Visually monitor any dust emissions from underground ventilation systems and implement corrective measures, such as moisture conditioning underground work areas / active stopes as required.

7.2.10. **Blasting**

Where surface blasting is undertaken:

- Drill rigs must be fitted with appropriate dust collector or dust suppression system.
- Dust would be kept to a minimum during blasting through the use of suitable stemming material, the selection of appropriate blast hole burdens, the minimisation of powder factors and appropriate blast hole sequencing.

7.2.11. **Adverse Weather Conditions**

Adverse weather conditions have the potential to increase the severity of dust emissions from the TRL mining sites. TRL will monitor weather forecasts on the day prior to undertaking any significant activities that pose a high risk of generating dust. The potential presence of adverse weather conditions is monitored on a daily basis by assessing local recent rainfall, forecast rainfall and forecast winds for the upcoming 24 hour period.

Adverse weather conditions are considered likely where:

- There has been little or no rainfall in the past 48 hours;

AND

- There is no forecast rain in the next 24 hours;

AND

- Forecast wind speeds (including gusts) in excess of 8 m/s (29 km/hr) are forecast.

When adverse weather conditions are identified as likely, mining managers, superintendents and supervisors (where their role relates to potential dust emissions) are notified and required to implement the following TARP. Notifications are undertaken via daily pre-start meetings, email alert or other suitable means.

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Table 9 Adverse Weather TARP

Trigger Action Response Plan (TARP)				
No:	Title:	Department:	Date of Review:	
AQ-02	Adverse Weather TARP	HSET	1/12/2025	
Scope of TARP (What does the TARP apply to? What is the intent?):				
Plan for / respond to adverse weather conditions to control dust emissions				
LEVEL 1 SITUATION (Normal Conditions)	Trigger	Action	Response	Responsible Person
	Rain within previous 48 hours and / or forecast rain in the next 24 hours and / or forecast winds < 8 m/s (29 km/hr)	No action Required	Continue to monitor conditions and apply routine dust management measures.	All operational supervisors and Superintendents
LEVEL 2 SITUATION (Minor /Major Risk Potential)	Trigger	Action	Response	Responsible Person
	No Rain within previous 48 hours and no forecast rain in the next 24 hours and forecast winds > 8 m/s (29 km/hr).	Notify mining managers, superintendents and supervisors (and any other roles responsible for surface activities that may generate dust) of adverse weather conditions.	- Consider the surface activities planned for the upcoming 24-hour period and the risk of excessive dust emissions. - Ensure all dust management equipment is operable and available. - Undertake additional preparation for adverse conditions, such as road or stockpile watering during the previous nightshift and increased applications during dayshift. - Consider scheduling additional water carts where possible. - Defer / reschedule any non-critical activities. - Increase inspection regimes.	All operational supervisors and Superintendents

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Trigger Action Response Plan (TARP)				
No:	Title:		Department:	Date of Review:
AQ-02	Adverse Weather TARP		HSET	1/12/2025
Scope of TARP (What does the TARP apply to? What is the intent?):				
Plan for / respond to adverse weather conditions to control dust emissions				
LEVEL 3 SITUATION (Major / Critical Risk Potential)	Trigger	Action	Response	Responsible Person
	The above preparations are ineffective.	Notify responsible mining managers, superintendents and supervisors of excessive dust emissions.	Consider the relocation, modification or temporary suspension of major emitting activities until more favourable conditions return.	All operational supervisors and Superintendents

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7.3. Greenhouse Gasses

TRL will continue to track and report on greenhouse gas emissions as per legislative requirements. In addition, the following measures will be undertaken to reduce emissions where practicable:

At the Constellation Project, a 6 MW solar farm will be constructed to provide site based energy requirements and will be supplemented by a diesel generator.

7.3.1. General Measures

The following general measures will be implemented by TRL where practicable:

- Energy efficiency will be considered as a criterion when selecting mining tools, heavy mining equipment, diesel and electric-powered motors and other equipment for purchase.
- Recycled water (i.e. captured rainwater, runoff, and mine-affected water) will be prioritised for re-use for processing and other suitable uses (based on water quality) to reduce off-site pumping requirements and associated energy use.
- Operator training will be provided on techniques to minimising fuel or energy consumption. This will include, for example minimising unnecessary idle time, machinery operation and dumping techniques.
- Materials will be sourced locally, where feasible, to minimise emissions generated from upstream transport activities.
- Current and future technologies will be reviewed to improve efficiencies and reduce greenhouse gas contributions from heavy mining equipment and ancillary equipment.
- Solar energy and other clean energy sources will be used to extend battery life at workshops, diesel lighting plants and remote monitoring and control stations.
- Blasting design practices and technology will ensure blasting energies are optimised and can be best utilised for material movement.
- Effective stock holding, management and logistic processes for 'critical insurance' stock, freight consolidation and minimising ad-hoc freight transport will be undertaken to reduce energy consumption.
- Internal energy audits and annual reporting of energy use will be reviewed to identify where greenhouse gas emissions can be reduced (CP only).
- Investigate the feasibility of including a battery (or batteries) with the to 6 MW solar array to further reduce the use of diesel powered generators (CP only).

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7.3.2. Mobile equipment

The following measures relating to mobile diesel powered equipment will be considered and implemented by TRL where practicable:

- All mining equipment will be selected with consideration of fuel consumption and efficiency.
- All mining equipment and other on-site vehicles would be fitted with appropriate exhaust controls, such as diesel particulate filters (where specified in OEM design).
- Equipment used on site would be properly maintained and operated to ensure that no unacceptable exhausts are emitted.
- Fuel products that promote and deliver efficiency in consumption (i.e. premium fuels, Low sulphur fuels, additives etc.) will be used when practicable for mining and associated equipment.
- Optimising the design and maintenance of roads to minimise the distance travelled by equipment, the gradient of in-pit ramps, reduced tyre rolling resistance etc.
- On-site vehicles will be switched off when not in use for extended periods.
- Production monitoring systems will be utilised to minimise fuel consumption and reduce idle time.
- Options will be identified for multi-functional mining tools and heavy mining equipment for day-to-day operations that can be used to lower fuel consumption.

7.3.3. Electrical equipment

The following measures relating to fixed plant electrical equipment will be considered and implemented by TRL where practicable:

- TRL will reduce the use of electricity at the mine development by implementing energy efficient electrical equipment (e.g. lighting) and will consider the use of alternative energy sources (e.g. solar energy, purchase of green energy etc) where practicable.
- On-site plant engines and lighting will be switched off when not in use for extended periods and safe to do so.
- Electrical equipment will be maintained to retain energy efficiency.
- Energy-efficient lighting and controls will be installed where practicable.

7.4. Best Practice Management Review (Constellation Project)

In accordance with Condition C2(b) of the Constellation Project Development Consent (SSD-41579871) Aeris Resources have undertaken a review of best practice management for the management of dust and Scope 1 / Scope 2 greenhouse gas emissions. The review concluded that management measures included in this AQGGMP align with best practice management, this conclusion is based on:

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- Searches of current industry based guideline materials including:
 - NSW EPA *Dust Assessment Handbook* (2019)
 - Katestone Environmental (2011) *NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining*.
 - Office of Environment and Heritage (2011) *Coal Mine Particulate Matter Control Best Practice Site-specific determination guideline*.
 - NSW EPA (2024) *Local Government Air Quality Toolkit Construction sites guidance note Information on mitigation and management measures to reduce air emissions from construction*
 - NSW EPA (2025) *NSW Guide for Large Emitters Guidance on how to prepare a greenhouse gas assessment as part of NSW environmental planning processes*
 - NSW Climate and Energy Action Website (<https://www.energy.nsw.gov.au>)

Management measures contained in the AQGGMP generally align with the principles and practices described in these reference documents / website.

- Incorporation of all recommendations made by consultants from the Constellation Project Environmental Impact Assessment:
 - air quality assessment (Todoroski 2024).
 - Constellation Amendment Report Air Quality and Noise Assessment (Todoroski 2025).
 - Greenhouse Gas Assessment (AARC 2024).
- Implementation of an adaptive management framework:
 - TARPS to guide the timely response to adverse weather, visible dust and increasing dust levels.
 - Internal audits of Scope 1 and Scope 2 emissions and the development of improvement measures.
- An air quality monitoring network.
- Annual report of Scope 1 and Scope 2 emissions.
- A community complaints protocol (contained in the EMS (TRL-HSET-PLN-0023)).
- Continuous improvement processes as described in the EMS (TRL-HSET-PLN-0023).

7.5. Management Measures Summary

Table 10 below provides a summary of 'active' management and mitigation measures from the previous sections and includes detail as to which Tritton Copper Operations sites, the action is applicable to, and the role accountable for completion of the measure.

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Table 10 Summary – Management and Mitigation Measures

Management / Mitigation Measure		Applicable Site					Accountability
Ref	Description	TCM	MCM	NECM	ATP	CP	
AQ01	Where surface blasting is conducted, conduct a pre-blast meteorological assessment and restrict blasting where there is a risk of fumes impacting the village of Girilambone.		✓			✓	Mining Manager
AQ02	Undertake daily assessment for 'adverse weather conditions'. In the event of extremely dry and windy periods, where applied dust control methods are ineffective, dust generating activities will be relocated, modified or suspended.			✓			Mining Manager
AQ03	Respond promptly to any air quality-related community complaints.			✓			Mining Manager
AQ04	Undertake daily visible assessment of potential dust sources and dust generation. Implement control measures as required.			✓			Mining Manager
AQ05	Use water trucks as required to wet down roads, stockpiles, work areas, TSF etc to control dust emissions.			✓			Relevant Area Managers
AQ06	Trucks transporting ore, waste rock or tailings between the various TRL mine sites will be covered at all times except during loading and unloading.			✓			Mining Manager
AQ07	Roads will be regularly maintained in suitable condition with gravel to minimise dust generation.			✓			Mining Manager
AQ08	Should the excavation and recovery of tailings from the TSF commence, prepare the required Tailings Extraction Management Plan and implement dust control measures as contained in Section 7.2.8.	✓					Ore Processing Manager
AQ09	Continue to monitor and report on dust deposition results and continuous improvement initiatives.			✓			HSET Manager
AQ10	Seal portions of the Constellation Project haul road including; Okeh Road in front of the Karingal Residence and adjacent to the Mitchell Highway / Girilambone water storage dam.					✓	Constellation Project Constriction Manager
AQ11	Assess the associated costs, risks and overall economics of sealing additional sections of the haul road including the option for a full-length seal.					✓	HSET Manager
AQ12	All disturbed land will be progressively rehabilitated as soon as practicable in accordance with each mine's respective Rehabilitation Management Plan			✓			HSET Manager

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Management / Mitigation Measure		Applicable Site					Accountability
Ref	Description	TCM	MCM	NECM	ATP	CP	
AQ13	All on-site plant and equipment will be maintained and operated in a proper and efficient manner in order to minimise emissions and dust generation			✓			Mining Manager
GHG01	Energy efficiency will be considered as a criterion when selecting mining tools, heavy mining equipment, diesel and electric-powered motors and other equipment for purchase.			✓			Relevant Area Managers
GHG02	Equipment used on site would be properly maintained and operated to ensure that no unacceptable exhausts are emitted.			✓			Maintenance & Engineering Manager
GHG03	Undertake annual reporting of greenhouse gas emissions in accordance with legislative requirements.			✓			HSET Manager
GHG04	By 31 March 2026, prepare a Greenhouse Gas Mitigation Plan, in consultation with the EPA.	✓					HSET Manager
GHG05	Undertake internal energy audits and review annual energy to identify where greenhouse gas emissions can be reduced					✓	HSET Manager

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8. MONITORING PROGRAM

TRL implements an air quality monitoring program in the vicinity of the Tritton Copper Operations which includes deposited dust and metals. With the exception of tracking energy use and fuel consumption (for reporting purposes), there are no other formal monitoring programs associated with greenhouse gas emissions.

8.1. Meteorological Monitoring

TRL operate two meteorological stations, located at the TCM (Figure 11) and MCM (Figure 12). In accordance with Condition C12 of the Constellation project Development Consent (SSD-41579871), and additional meteorological station will be installed at the Constellation Project site (approximate location shown on Figure 14).

Installed meteorological stations comply with the requirements of the:

- *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales* (EPA, 2022);
- *EPA's Ambient Air Monitoring Guidance Note* (EPA 2022)

and are capable of measuring meteorological conditions in accordance with the *NSW Noise Policy for Industry* (EPA, 2017).

TRL will operate the meteorological monitoring system to assist in the interpretation of noise and air quality monitoring data, guide the day-to-day planning of mining operations and the management of potential adverse weather conditions.

8.2. Deposited Dust

Monitoring is conducted on a monthly basis in accordance with:

- *AS NZS 3580.10.1:2016 Methods for sampling and analysis of ambient air - Determination of particulate matter*; and in consideration of
- *Approved Methods for Sampling and Analysis of Air Pollutants* (EPA 2022).

A total of 22 dust gauges are placed in the vicinity of the various TRL mining operations as shown below in Table 11 and in Figure 11 (Tritton Copper Mine), Figure 12 (Murrawombie Mine Complex), Figure 13 (Hermidale Rail Siding) and Figure 14 (Constellation Project).

The location of gauges was reviewed in the preparation of this AQGGMP and considered the location of potential emission sources, prevailing wind directions and strength (Section 3.3.2.1) and the location of sensitive receivers. All gauges are used for the annual reporting of TRLs performance in managing air quality emissions.

On a monthly basis, depending on the prevailing wind direction, gauges that represent background conditions are identified and used in determining potential mine contributions; noting that these gauges would be subject to local air quality emissions from agriculture and other non-mining sources.

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Should TRL receive a request from the EPA to undertake additional deposited dust sampling following for example a request from a resident, TRL will implement the monitoring program and submit monitoring results to the EPA.

8.2.1. Performance Criteria

While there are no specific consent limits imposed for air quality in the vicinity of the Tritton Copper Operations, TRL have adopted the following performance criteria which are consistent with *The Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (EPA, 2022):

- Annual average of monthly dust deposition levels (from all sources (background plus mining contribution)) < 4g/m²/month (insoluble solids fraction).
- Incremental annual average of monthly dust deposition levels deposition levels, due to mining operations alone < 2g/m²/month (insoluble solids fraction).

Results are calculated and presented in annual reports as stated in Section 11.3 and as per the EMS (TRL-HSET-PLN-0023).

8.2.2. TRL Air Quality Monitoring Program

Table 11 provides the TRL air quality monitoring program. Table 12 includes a number of depositional dust triggers that are used to identify where dust emissions from mining related activities may be elevated, and the emission source and / or the effectiveness of controls may require investigation and the implementation of corrective measures.

Depositional dust triggers are based on the TRL adopted 'mine contribution' performance criteria (Section 8.2) and require the monthly assessment of dust deposition gauge monitoring results.

The actions outlined in Table 12 will be implemented in response to the exceedance of any performance measures to manage environmental and community risk relating to air quality (dust) emissions. Any identified corrective actions will be entered into the site's compliance management system to ensure completion. Where relevant corrective actions will also be incorporated into future revisions of this AQGGMP.

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Table 11 TRL Air Quality Monitoring Program

Parameter	Units	Location	Monitoring Point Identification	Easting	Northing	Frequency	Assessment
				GDA Zone 55			
Insoluble Solids	g/m ² /month	Tritton Copper Mine (Figure 11)	TD1	473785	6528648	Monthly	Total (all sources) deposited dust results are obtained for each of the gauges; rolling annual averages are calculated and compared against performance criteria (4g/m ² /month). Monthly mine contributions for TCM, MCM, NECM / ATP and CP are estimated by subtracting background levels from total readings; rolling annual averages are calculated and compared against performance criteria (2g/m ² /month). Background levels are determined based on prevailing (up-wind) wind directions for each month.
			TD3	472722	6526921		
			TD23	473485	6525872		
			TD31*	475377	6524893		
			TD32*	474715	6527892		
		Hermidale copper concentrate loading facility (Figure 13)	BO2	469309	6511532		
			TD11	474914	6509701		
			TD33*	474960	6511734		
			TD34*	474279	6509599		
		Murrawombie Mine (Figure 12)	BG2	490865	6544061		
			TD12	487590	6538557		
			TD22	488809	6542228		
			TD28*	487225	6540814		
			TD29*	483818	6542971		
			TD30*	487956	6544156		
		North East Copper Mine / Avoca Tank Project (Figure 12)	AVT1	485872	6547793		
			ATV4*	483291	6547286		
			ATV5*	486566	6545843		
			TD15	484388	6544946		
		Constellation Project (Figure 14)	CPDD1*	493611	6560489		
			CPDD2*	501195	6562698		
			CPDD3*	493611	6560489		
*New dust gauge location. Upon approval of this AQGGMP, dust gauges will be placed in new locations and may be micro-sited to allow for local conditions and access. If required, coordinates will be updated in future revisions of this plan.							

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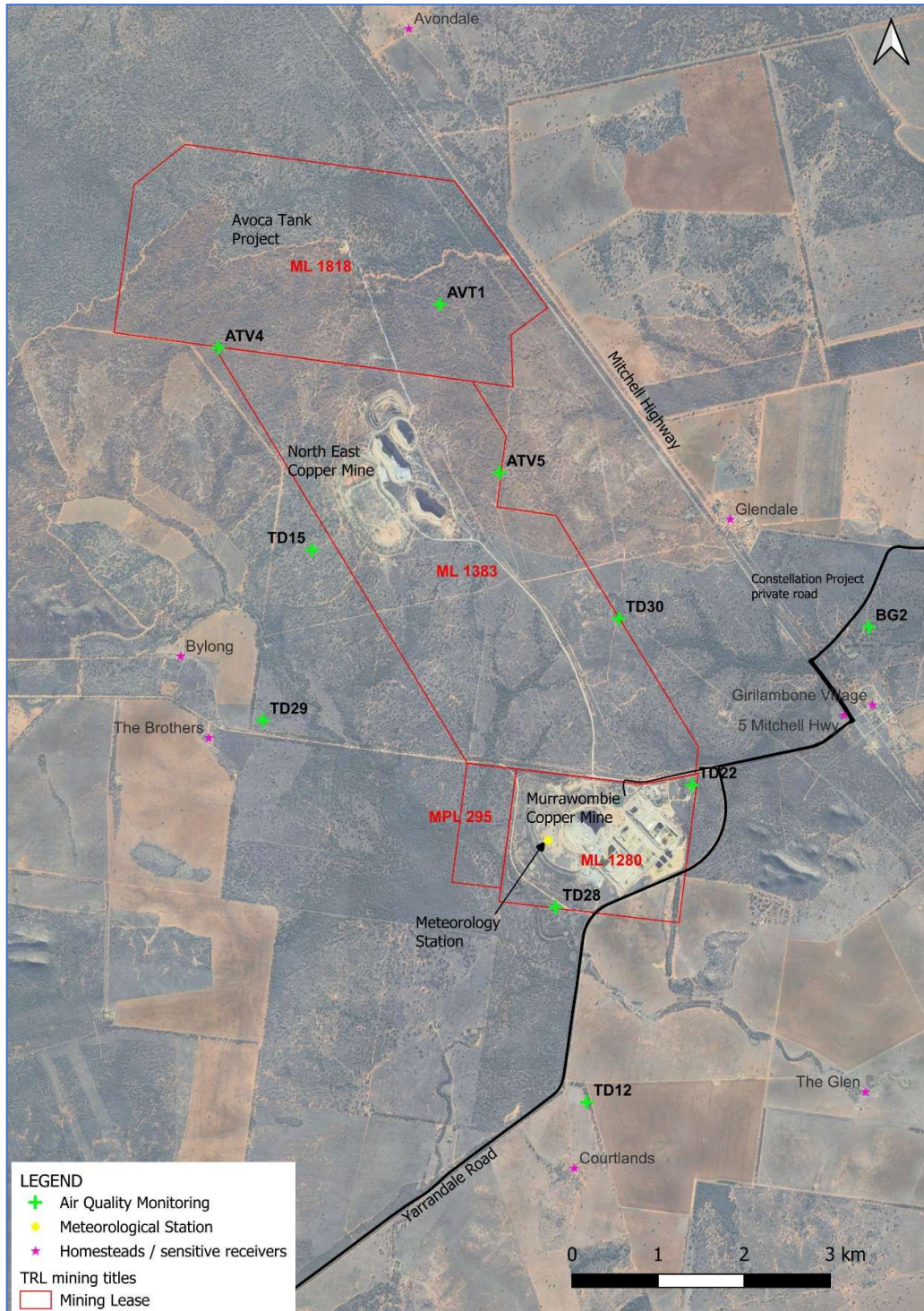
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Figure 11 TCM Air Quality Monitoring



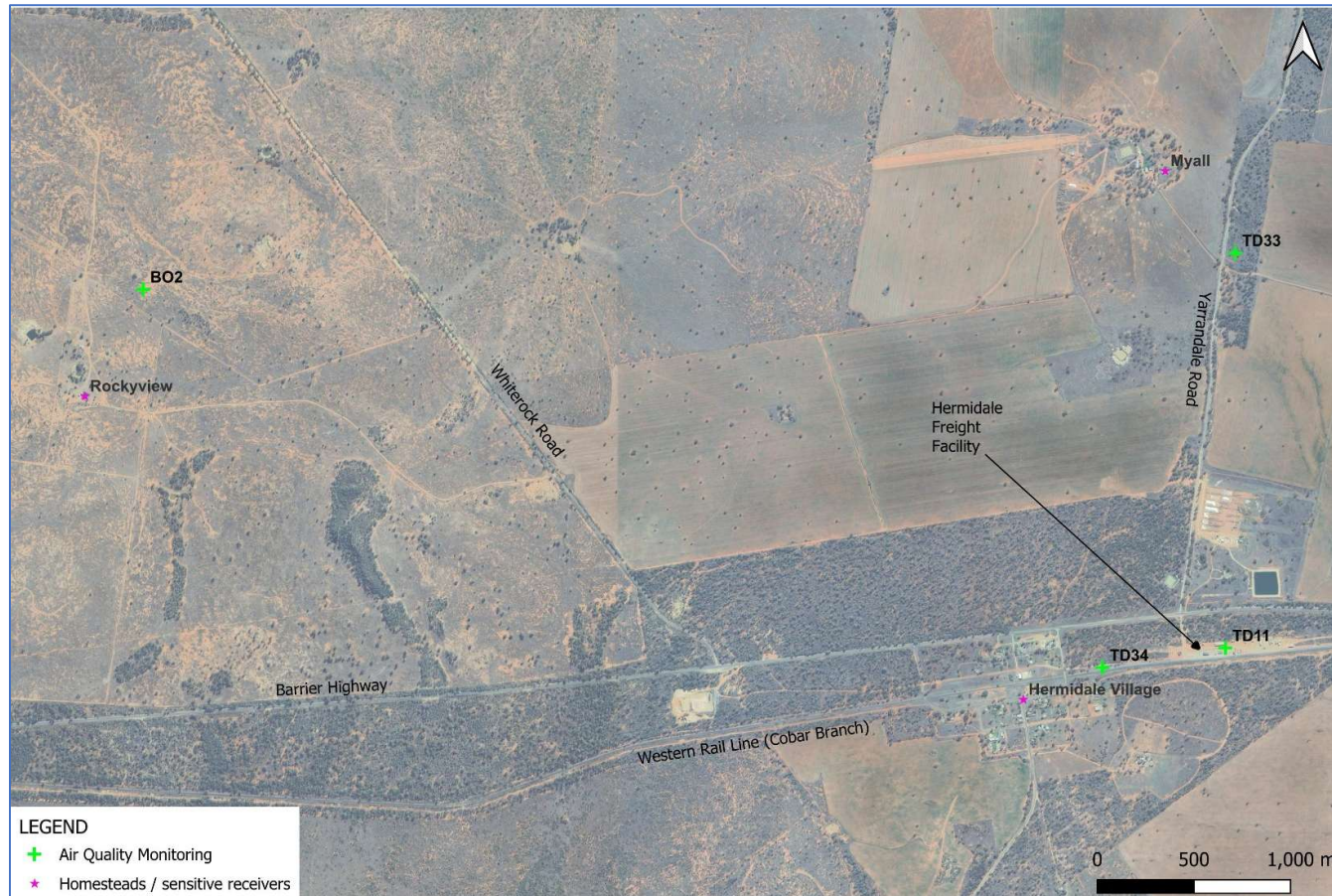
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Figure 12 Murrawombie Mine Complex Air Quality Monitoring



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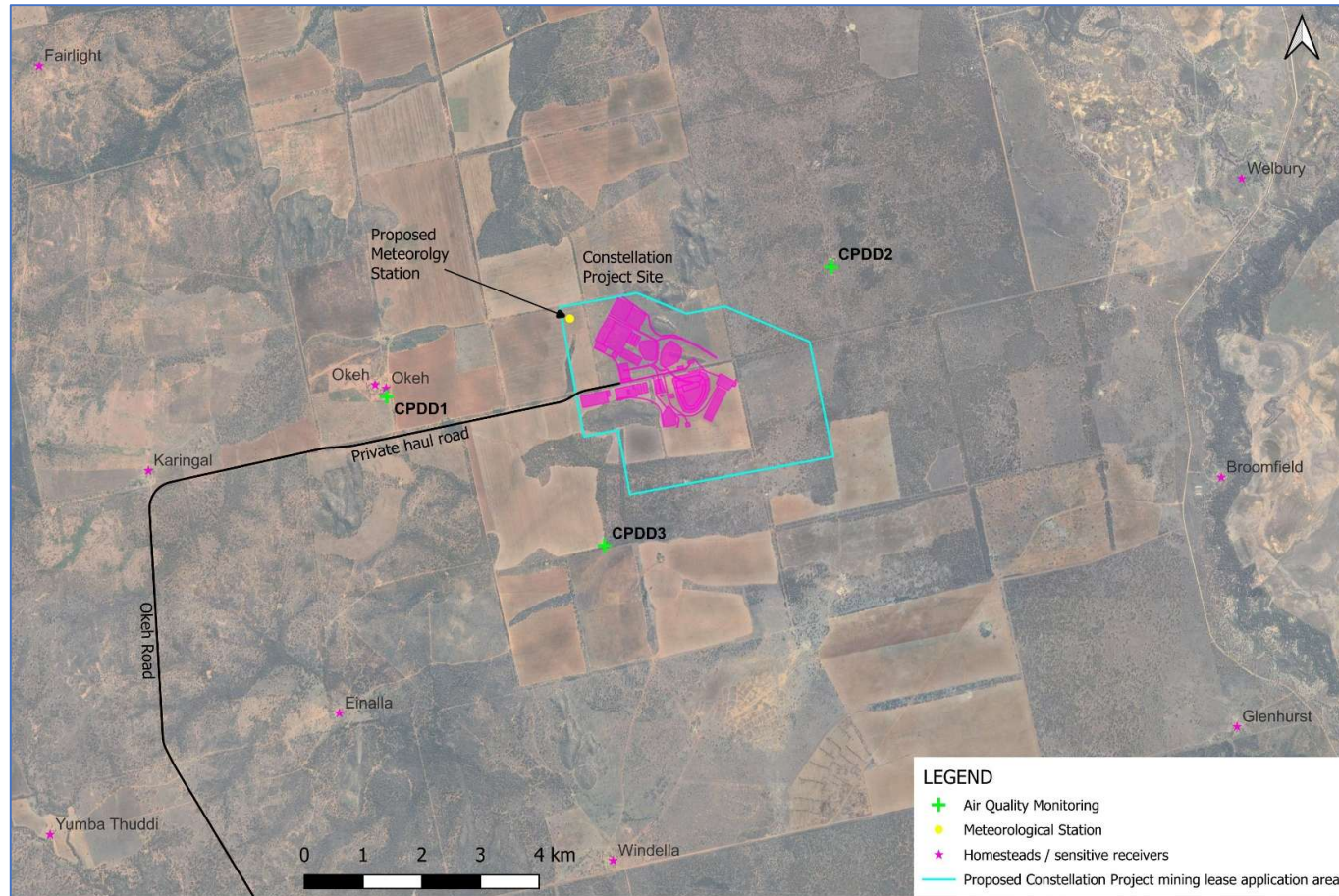
Figure 13 Hermidale Rail Siding Air Quality Monitoring



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Figure 14 Constellation Project air quality monitoring



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Table 12 Dust Investigation Trigger Levels and Response

Trigger Action Response Plan (TARP)				
No:	Title:		Department:	Date of Review:
AQ-03	Dust Exceedance / Community Complaint TARP		HSET	1/12/2025
Scope of TARP (What does the TARP apply to? What is the intent?):				
Response to increasing dust emissions and / or community complaints				
LEVEL 1 SITUATION (Normal Conditions)	Trigger	Action	Response	Responsible Person
	^Mine Contribution (Insoluble Solids) <1.0* g/m²/month	No action Required	Continue to monitor conditions and apply routine dust management measures.	All operational supervisors and Superintendents
	No Community Complaints			
LEVEL 2 SITUATION (Minor /Major Risk Potential)	Trigger	Action	Response	Responsible Person
	^Mine Contribution (Insoluble Solids) 1-2* g/m²/month	- Notify operational supervisors and Superintendents of increasing dust emission trends. - Reinforce the need for pro-active and reactionary management measures.	- Ensure all dust management equipment is operable and available. - Undertake additional pro-active and reactionary management measures. - Schedule additional water carts where possible. - Defer / reschedule any non-critical high risk (dust emission) activities. - Increase inspection regimes.	All operational supervisors and Superintendents
	1 Community Complaint	- Notify responsible managers that a complaint has been received. - Enter into INX as an event. - Inspect the site at the time of the complaint and identify dust emission sources.	- Investigate the community complaint as per the EMS (TRL-HSET-PLN-0023). - Notify complainant of investigation outcomes. - Implement corrective measures. - Report in Annual Review.	Community Relations Officer Responsible operational manager.

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Trigger Action Response Plan (TARP)				
No:	Title:	Department:	Date of Review:	
AQ-03	Dust Exceedance / Community Complaint TARP	HSET	1/12/2025	
Scope of TARP (What does the TARP apply to? What is the intent?):				
Response to increasing dust emissions and / or community complaints				
LEVEL 3 SITUATION (Major / Critical Risk Potential)	Trigger	Action	Response	Responsible Person
	^Mine Contribution (Insoluble Solids) >2* g/m²/month	- Notify operational superintendents and managers that an air quality exceedance has likely occurred. - Enter into INX as an event.	- Conduct investigation into likely exceedance of performance criteria. - Where exceedance has been confirmed, notify relevant agencies of an exceedance / non-compliance of performance criteria.	Environmental Superintendent.
	> 1 Community Complaint	- Notify responsible managers that multiple complaints have been received. - Inspect the site at the time of the complaint and identify dust emission sources. - Enter into INX as an event.	- Investigate the community complaint as per the EMS (TRL-HSET-PLN-0023). - Notify complainant of investigation outcomes. - Implement corrective measures. - Report in Annual Review.	Community Relations Officer Responsible operational manager
^ mine contribution is calculated by subtracting background data (from what are considered background gauges / upwind locations) from those that may have been impacted by mine contributions (based on prevailing wind directions for each month). *Calculated as rolling annual average increase.				

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8.3. Metals Monitoring

Samples collected for dust deposition are also analysed for metals content, namely Copper, Iron, Lead and Zinc. The purpose of this analysis is to identify any elevated levels that may potentially impact the health of mine workers. Collected data is periodically reviewed by the TRL Safety Superintendent and assessed as part of the TRL Safety Management System.

9. ENVIRONMENTAL INSPECTIONS

Environmental inspections are conducted to identify and manage risks, determine compliance status (with consent requirements and management plan commitments) and to identify opportunities for improvement. Inspection regimes associated with air quality (dust) are presented below in Table 13. There are no proposed inspection programs for greenhouse gas emissions.

Items identified as requiring correction are listed as action items on the inspection checklists and entered in INX as an outstanding action for completion. Action items are discussed with relevant department managers. Where required, follow up meetings with respective department heads occur to ensure completion of the action items.

Completed checklists are kept on file in the Environmental Department and uploaded into INX.

Table 13 TRL Air Quality (Dust) Inspection Programs

Inspection Type	Frequency	Reporting of Results
The general workforce are instructed to monitor and report excessive dust that may be generated from surface activities including load and haul operations, ore processing, general earthmoving, vehicle movements etc.	Daily / ongoing	Immediately reported to the responsible Superintendent or Manager.
<u>General Environmental Inspection.</u> Dust emissions from surface operations are considered in the monthly general environmental inspection.	Monthly	Recorded on approved form to the Processing Manager. Corrective actions assigned and managed as per TRL internal procedures.
<u>Tailings Extraction</u> Upon commencement of tailing extraction from the TSF, a visually inspection is undertaken to ensure that no visible dust is emitted from the area v	Weekly AND During adverse weather conditions	Immediately reported to the Ore Processing Manager.

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10. TRACKING OF ACTIONS AND ACTIVITIES

The EMS (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 HSE Manager for tabling at the TRL Senior Leadership Team (SLT) Meeting.

11. COMPLIANCE, AUDITING AND REPORTING

11.1. Assessing Compliance

Compliance requirements and any key obligations or commitments as they relate to air quality and greenhouse gas 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 AQGGMP and will undertake periodic assessments of compliance against the requirements of the TRL Legal and Other Obligations Register and this AQGGMP. 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.

Non-compliances are reported as per the various TRL approvals, including:

- Condition 7A of the TCM Development Consent (DA41/98). As relevant to the TCM, within seven days of becoming aware of a non-compliance, TRL will notify DPHI of the non-compliance. The notification will 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.
- Condition D1 of the Constellation Project Development Consent (SSD-41579871). As relevant to the CP, within seven days of becoming aware of a non-compliance, TRL will notify DPHI of the non-compliance. The notification will:
 - be in writing;
 - be submitted via the NSW planning portal (Major Projects);
 - identify the development (including the development application number and name);
 - set out the condition of this consent that the development is non-compliant with;
 - describe why it does not comply;
 - describe the reasons for the non-compliance (if known); and
 - describe what actions have been undertaken, or will be undertaken and when, to address the non-compliance.

Further detail regarding the reporting of non-compliances is contained in the EMS (TRL-HSET-PLN-0023).

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11.2. Independent Environmental Audits

TRL are required to undertake independent environmental audits in accordance with the following conditions:

- Condition 8 of the TCM Development Consent (DA41/98).
- Condition C8 of the ATP Development Consent (DA 10/2015/004/003)
- Condition D5 of the Constellation Project Development Consent (SSD-41579871)

The above audits will assess the Company's environmental performance against compliance conditions and the implementation of this AQGGMP.

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

11.3. Reporting

11.3.1. TRL Development Consents

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:

- Condition 6A of the TCM Development Consent (DA41/98);
- Condition C4 of the ATP Development Consent (DA 10/2015/004/003); and
- Condition D4 of the Constellation Project Development Consent (SSD-41579871)

As relevant to the AQGGMP, each annual review report produced, the report will include a summary of :

- air quality monitoring results;
- reported greenhouse gas emissions for the prior reporting period;
- any community complaints relating to dust emissions and how the complaint was resolved;
- any significant incidents, non-compliances or exceedances of performance measures related to air quality emissions; and
- any key findings from inspections and any significant improvements either implemented or planned related to air quality and greenhouse gas management.

The external reporting of any 'reportable incidents' and non-compliances to regulatory authorities and relevant stakeholders will be undertaken as presented in Section 12 and as stated in the EMS (TRL-HSET-PLN-0023).

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11.3.2. Environment Protection Licence

The two EPLs held by Tritton Resources Limited require the completion of an annual return. The annual return will be submitted, via the EPA's 'EConnect' portal in accordance with conditions and within 60 days after the licence anniversary date. The completion of the EPL annual return is included in the TRL Legal and Other Obligations Register (TRL-HSET-REG-0002) to ensure completion.

11.3.3. Greenhouse Gas Emissions

Where triggered (i.e. above reporting thresholds) TRL / Aeris Resources will calculate and report Scope 1 and 2 greenhouse gas emissions annually in accordance with the requirements of the *National Greenhouse and Energy Reporting Act 2007* (NGER).

12. ENVIRONMENTAL INCIDENT AND EMERGENCY PLANNING, PREPAREDNESS AND RESPONSE

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). As applicable to the TCM, TRL will immediately notify 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; and
 - Condition D2 of the Constellation Project Development Consent (SSD-41579871) As applicable to the Constellation Project, TRL will notify the DPHI within 24 hours of becoming aware of an incident. The notification will be made via the NSW planning portal (Major Projects) and include details about the incident including:
 - the date, time and location;
 - a brief description of what occurred and why it has been classified as an incident;
 - a description of what immediate steps were taken in relation to the incident; and
 - identifying a contact person for further communication regarding the incident.
- NSW EPA (Condition R2 of EPL 4501 and EPL 11254).
- Other agencies depending on the location and nature of the incident, such as Bogan Shire Council.

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Any incident reported will require an investigation to be conducted as soon as practicable, in consideration of any required reporting requirements (below). The investigation will be undertaken to determine the root cause(s) of the incident and to devise corrective and preventative measures.

As applicable to the Constellation Project, in accordance with Condition D3 and Appendix 7 of the Constellation Project Development Consent (SSD-41579871), a written report will be provided to the DPHI within seven days (or otherwise agreed by the Secretary) of the initial incident notification. The report will include all required information as per Appendix 7 of the consent.

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. A summary of complaints received is published on a monthly basis on the Aeris Resources website.

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 AQGGMP.

12.1. Pollution Incident Response Management Plan

TRL have established and maintain a Pollution Incident Response Management Plan (PIRMP) (TRL-HSET-MP-ENV-006) which is a requirement of the *Protection of the Environment Operations Act 1997*.

The purpose of the PIRMP is to ensure that in the event of a reportable pollution event; TRL employees manage the situation quickly and effectively, limiting the impact on employees, the environment, landholders, reputation and assets.

The PIRMP:

- defines the types of incidents that may be managed as per the plan;
- defines key responsibilities;
- defines potential hazards (risk register);
- provides an inventory of potential pollutants;
- outlines training requirements;
- describes the testing of the PIRMP to ensure it remains effective; and
- includes a pollution incident notification procedure (TRL-ENV-PRO-003).

Incidents relating to air quality emissions may result in the initiation of the PIRMP and are documented in the PIRMP Risk Register and include (for example):

- Emission of excessive dust from mining operations. Resulting in complaints from neighbours.

Events covered by the PIRMP may also be considered 'emergencies' and addressed as per the TRL Emergency Management Plan (TRL-HSET-MP-004). In these circumstances, the 'highest level' of response (and notification) will be applied by TRL.

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13. TRAINING AND AWARENESS

TRL will ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of the various TRL consents relevant to activities they carry out.

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

- legal requirements relating to the management of air quality emissions, including relevant conditions of consent;
- the identification and reporting / escalation of excessive dust emissions;
- general measures to reduce air quality (dust) emissions;
- measures to reduce greenhouse gas emissions;
- incident reporting and when to escalate as an emergency; and
- the general contents and location of this AQGGMP.

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

Additional instruction will be provided to key personnel whose role requires the implementation of specific management / mitigation measures, such as those persons responsible for:

- the procurement of equipment;
- surface activities with the potential to generate air quality emissions including load and haul, blasting, general earthworks, road maintenance, water truck operation etc;
- tracking diesel and electricity use : and
- responding to emergencies.

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, such as managing / reducing air quality and greenhouse gas emissions 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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15. REVIEW AND IMPROVEMENT

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

15.1. Tritton Copper Mine

Condition 6B of the TCM Development Consent (DA 41/98) requires that:

'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) or Bogan Shire Council (ATP development consent).

The TCM development consent requires that the revisions are completed, and the revised document is submitted to the Secretary within six weeks of the complete review. The six week timeframe is interpreted by TRL to be the date that the revised plan is submitted via the Major Projects Portal for consultation and / or approval.

15.2. Constellation Project

Condition B12 of the Constellation Project Development Consent (SSD-41579871) requires that:

within three months of:

- *the submission of an incident report under condition s D2 or D3;*
- *the submission of an Independent Environmental Audit under condition D5;*
- *the approval of any modification of the conditions of this consent (unless the conditions require otherwise); and / or*
- *notification of a change in the development phase under condition A11.*

the Applicant must review and, if necessary, revise the strategies, plans and programs required under this approval to the satisfaction of the Planning Secretary. Where this review leads to revisions in any such document, the revised document must be submitted to the Planning Secretary for approval within four weeks of the review.

The four week timeframe is interpreted by TRL to be the date that the revised plan is submitted via the Major Projects Portal for consultation and / or approval.

TRL will review and if required revise applicable management plans and strategies as per these requirements; where TRL management plans are combined into a single document, such as this AQGGMP, the most conservative trigger (i.e most frequent) will be applied, and the required review commenced.

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).

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Revised management plans are internally approved as per the TRL delegation of authority and the EMS 'Management Review' process as described in the EMS (TRL-HSET-PLN-0023) and where required, submitted to DPHI for approval.

In accordance with Condition 8A of the TCM Development Consent (DA 41/98) and Condition D9 of the Constellation Project Development Consent (SSD-41579871), the approved AQGGMP will be made available on the Aeris Resources website, which will be kept up to date with the most current and approved version of the plan.

16. RELATED DOCUMENTS

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

Table 14 Internal Documents Relevant to this AQGGMP

Doc No.	Document Name	Author
TRL-HSET-PLN-0023	Environmental Management Strategy	TRL
TRL-HSET-RAS-0006	Environmental Risk Register	TRL
TRL-HSET-PLN-0031	Waste Management Plan	TRL
TRL-HSET-PLN-0025	Biodiversity and Land Management Plan	TRL
TRL-HSET-REG-0002	TRL Legal and Other Obligations Register	TRL
TRL-HSET-MP-004	TRL Emergency Management Plan.	TRL
TRL-HSET-MP-ENV-006	Pollution Incident Response Management Plan (PIRMP)	TRL
TRL-HSET-PLN-0043	Traffic Management Strategy	TRL
TRL-HSEC-PLN-0034	TCM - Rehabilitation Management Plan	TRL
TRL-HSEC-PLN-0035	MCM - Rehabilitation Management Plan	TRL
TRL-HSEC-PLN-0036	NECM/ATP- Rehabilitation Management Plan	TRL
TRL-HSET-PLN-0045	Constellation Project Rehabilitation Management Plan	TRL
TRL-HSEC-PLN-0028	Natural Hazards Management Plan	TRL
TRL-HSET-PLN-0048	Constellation Project Biodiversity and Land Management Plan	TRL

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17. REFERENCES

AARC. (2021) Statement of Environmental Effects – Avoca Tank Project, Modification 1 (MOD1).

AARC (2024). Constellation Project EIS

AARC (2025). Constellation Project response to submissions

AARC (2025a) Constellation Project Amendment report (and associated responses)Airen (2022). Review of the air quality network for Tritton and Murrawombie Mines.

AS NZS 3580 10 1-2016 Methods for sampling and analysis of ambient air - Determination of particulate matter.

DEC. (2005) Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales

Environment Protection Authority (EPA) (2019). Dust Assessment Handbook.

Environment Protection Authority (EPA) (2022). Approved Methods for the Modelling and Assessment of Air Pollutants in NSW.

Environment Protection Authority (EPA) (2022). Approved Methods for Sampling and Analysis of Air Pollutants.

Environment Protection Authority (EPA) (2022). Ambient Air Monitoring Guidance Note.

Environment Protection Authority (EPA) (2024). Local Government Air Quality Toolkit Construction sites guidance note Information on mitigation and management measures to reduce air emissions from construction.

Environment Protection Authority (EPA) (2025). NSW Guide for Large Emitters Guidance on how to prepare a greenhouse gas assessment as part of NSW environmental planning processes.

Katestone Environmental (2011). NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining.

McCracken Consulting (1998) Preliminary Hazard Analysis prepared for the Tritton EIS.

Office of Environment and Heritage (2011). *Coal Mine Particulate Matter Control Best Practice Site-specific determination guideline.*

RWC. (1990) Girilambone Copper Project Environmental Impact Statement. *A report prepared by R.W Corkery & Co. Pty Limited for Nord Australex Nominees Pty Ltd.*

RWC. (1995) Environmental Impact Statement for the development of the Girilambone North Copper Mines. *A report prepared by R.W Corkery & Co. Pty Limited for Girilambone Copper Company Pty Ltd.*

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.*

Todoroski Air Sciences (2024). Air Quality Impact Assessment Constellation Project. Appendix 8A to the Coinstellation project EIS.

Todoroski Air Sciences (2025). Constellation Project EIS Amendment Report Air Quality and Noise Impact Assessment (letter dated 13 August 2025). Appendix D5 to the Constellation project Amendment Report.

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TRL. (2010) Mining Operations Plan for ML1544: Tritton Mine Site January 2011 - December 2015. *Tritton Resources Limited*.

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18. APPENDIX A – STANDARD MANAGEMENT PLAN REQUIREMENTS – CONSTELLATION PROJECT

Condition B4, of the Constellation Project Development Consent (SSD-41579871)	Relevant Section	TMS
<i>B4 Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:</i>	-	
<i>(a) quality control information including document version control details and the management plan author(s);</i>	Title Page	
<i>(b) summary of the environmental management context, including:</i> <i>(i) a brief project description, including visual representation of any project staging; and</i> <i>(ii) the purpose and scope of the management plan.</i>	Section 3.2 Sections 1.1 and 1.3	
<i>(c) The relationship of the management plan with other environmental management documents or systems;</i>	Section 1.2	
<i>(d) a site location plan identifying the project boundary, disturbance area and related environmental aspects;</i>	Section 3.2.5	
<i>(e) a brief summary of background or baseline data, where relevant;</i> <i>Note: If detailed baseline data must be included in a management plan, it must be appended and summarised in the main text of the management plan.</i>	Section 3.3	
<i>(f) a summary of consultation undertaken during the preparation of the management plan that includes when and how consultation was undertaken and the outcomes of the consultation;</i>	Section 5	
<i>(g) details of the statutory requirements, limits or performance measures and any specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</i>	Section 2 Section 8.2.1	
<i>(h) a description of the measures to be implemented to comply with statutory requirements, and the limits, performance measures, criteria and operational requirements of conditions of this consent;</i>	Section 7	
<i>(i) a program to monitor and report on the:</i> <i>(i) impacts and environmental performance of the development; and</i> <i>(ii) effectiveness of the management measures implemented for the development;</i>	Section 8	
<i>(j) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; and</i>	Section 8.2.2	

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Condition B4, of the Constellation Project Development Consent (SSD-41579871)	Relevant Section	TMS
(k) a protocol for periodic review of the plan. <i>Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</i>	Section 15.2	

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19. APPENDIX B COMMITMENTS ARISING FROM ENVIRONMENTAL ASSESSMENTS

Section	Commitment	Section Where Addressed
Tritton Environmental Assessments		
Initial EIS Sn 4.1.3	During construction, all on-site roads used by trucks and other earthmoving equipment would be watered as required. Access roads would be kept to a minimum and well defined. In the event of extremely windy periods, dust generating activities would be suspended.	Section 7
	Dust generated by vehicles travelling around the site and trucks transporting ore or waste rock would be controlled by the appropriate maintenance of road surfaces with watering as required	Section 7.2.5
	The exhausts of all earthmoving vehicles would be directed upwards or sideways so as to not impinge on the ground and generate dust.	Section 7.2.5
	Drill rigs would be fitted with appropriate dust collector.	Section 7.2.1
	Dust would be kept to a minimum during blasting through the use of suitable stemming material, the selection of appropriate blast hole burdens, the minimisation of powder factors and appropriate blast hole sequencing	Section 7.2.10
	Surface crushers would incorporate a dust suppression and / or abatement system. After rock enters the milling section it would remain wet throughout the remaining process. Concentrate produced would contain 8% moisture	Section 7.2.4
	Exposed surfaces on stockpiles etc that are traversed by vehicles would also be watered as required.	Section 7.2.3
	Throughout the life of the project, the surface of the TSF would be regularly moist. When dry, the tailings would cement together forming a crust that would resist displacement that could otherwise be caused by the prevailing winds.	Section 7.2.8
4.1.3.2	All mining equipment and other on-site vehicles would be fitted with appropriate exhaust controls. Equipment used on site would be properly maintained to ensure that no unacceptable exhausts are emitted.	Section 7.2.5

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Section	Commitment	Section Where Addressed
	Fumes liberated by blasting from either the box cut or underground mine would be dispersed into the atmosphere without any hazardous levels extending beyond the immediate area.	Section 7.1
	Copper concentrate would be transported in bulk covered highway trucks along the public road network. The contractors quality assurance program would involve procedures to ensure all trucks and trailers are covered prior to leaving the site.	Section 7.2.7
Mod 4		
6.5.2	In order to minimise [greenhouse gas emissions] the emissions, regular plant and vehicle maintenance will be conducted to ensure equipment is operating efficiently.	Section 7.3
Mod 5		
Sn 4.3.4	Grading and watering of all on-site roads, as needed, to maintain the surface of the road and reduce dust lift off. This would include the surface of the waste rock emplacement as this is constructed.	Section 7.2.5
	All crushing and screening equipment would continue to be fitted with suitable dust collecting devices and dust suppression systems where appropriate.	Section 7.2.4
	Copper concentrate would continue to be transported in sealed shipping containers.	Section 7.2.7
Mod 6		
Sn 4.3.5	The tailings material stored in the TSF has a moisture content of approximately 15%. As a result, there have been no issues with dust emissions from the TSF during its operating history. The moisture content of the tailings material would be high enough to limit dust emissions during excavation, loading, hauling and unloading of the tailings material onto the drying stockpile area within the TSF footprint. The following management and mitigation measures would be implemented to further limit air quality impacts from the Proposed Modification.	7.2.8
	Visually inspect the excavation area of the TSF on a weekly basis to ensure that no visible dust is emitted from the area	

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Section	Commitment	Section Where Addressed
	Apply water from a water cart to the excavation area, TSF embankment, access ramp, haul route, and drying stockpiles during dry and/or windy conditions to suppress dust lift-off.	
	Ensure the drying stockpiles have slopes of no more than 1:3 (V:H), in order to improve stability.	
	Limit operations where practicable during periods of high winds.	
	Ensure that all trucks transporting dried tailings material from the Mine Site have their loads covered prior to exiting the stockpile area.	
	Immediately cease any operations that are resulting in visible dust emissions beyond the TSF boundary.	
	Respond promptly to any air quality-related complaints, including modifying on-site operations in the event that dust emissions from those operations are not acceptable.	
Mod 7	No additional management measures or commitments	
Mod 8	No additional management measures or commitments	
Mod 9	No additional management measures or commitments	
Murrawombie Environmental Assessments		
Initial EIS Sn 4.1.	Dust during construction activities is attributable to topsoil stripping and earthworks. To reduce dust generation all access roads would be watered as required and access roads would be kept to a minimum and well defined.	Section 7.2.2
	Dust generated by vehicles travelling around the site and trucks transporting ore or waste rock would be controlled by the appropriate maintenance of the road surface with gravel. On site haul roads and the treatment plant area would be regularly watered to ensure dust levels are minimised.	Section 7.2.5
	The air track drill rigs would be fitted with dust collectors and/or water injection systems.	Section 7.2.10
	All earthmoving vehicles exhausts would be directed upwards or sideways so as to not impinge on the ground and generate dust.	Section 7.2.5

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Section	Commitment	Section Where Addressed
	Soil stripping would be undertaken progressively ahead of the construction of all major components of the project. Only the minimum required areas for each activity would be stripped of its soil at any one time. Where practical, watering would be undertaken prior to soil removal.	Section 7.2.2
	The crushers would incorporate a dust suppression system. After the rock enters the ball mill, it would remain wet throughout the process.	Section 7.2.4
Sn 4.1.3	The earthmoving equipment and other on-site vehicles would be fitted with appropriate exhaust controls. The Company would ensure that equipment used on site would be properly maintained to ensure that no unacceptable exhausts are emitted.	Section 7.2.5
	Fumes liberated by blasting would be dispersed into the atmosphere without any hazardous levels extending beyond the immediate area.	Section 7.1
	Copper concentrate would be transported in bulk covered highway trucks along sealed roads for the full route to either a rail loading facility or to market on the east coast.	Section 7.2.7
Mod 1 (1995)*		
Table 4.1	A water truck would be used to water the actively used sections of haul road and access roads around the open cut and waste rock emplacements.	Section 7.2.5
	Ore would be hauled to the ROM pad in campaigns over a few days to maximise the benefit of road watering. Haulage of ore would be avoided on very hot windy days.	Section 7.2.3
	The area exposed by activities would be limited by both progressive clearing and rehabilitation.	Section 7.2.1
	Topsoil would be moistened prior to stripping if required.	Section 7.2.2
Stage 3 Mod (2007)		
Sn 6.3.1.2	Dust suppression techniques will be employed for exposed areas such as access roads, the haul road and the ROM pad. It is envisaged that a water cart will be utilised full-time for this purpose, although investigations are continuing for alternative dust suppression techniques that are less water intensive.	Section 7.2

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Section	Commitment	Section Where Addressed
	Haulage of ore will be undertaken on a sealed road between the Girilambone Mine site and the TCM. Ore will be moistened when necessary to prevent excessive dust generation during transport.	Section 7.2.3
	The product from the Copper Cementation process is placed in bulky bags whilst moist and will not generate dust.	Section 7.2.7
Mod 3 (2015)		
Sn 4.5	Disturbed areas would be progressively rehabilitated to limit potential dust lift-off	Section 7.2.1
	All mining equipment would continue to be fitted with suitable dust collecting devices and dust suppression systems where appropriate and these would be serviced on a regular basis.	Section 7.2.5
	The Applicant would also continue to monitor deposited dust at the Mine Site at monthly intervals.	Section 8
Mod 4 (2023)		-
Sn 4.4.4	Promptly respond to any complaint relating to air quality.	Section 8
Mod 5 (2024)	No additional management measures or commitments	-
North East Environmental Assessments		
Initial EIS*		
Table 4.1	A water truck would be used to water the actively used sections of haul road and access roads around the open cut and waste rock emplacements.	Section 7.2.5
	Ore would be hauled to the ROM pad in campaigns over a few days to maximise the benefit of road watering. Haulage of ore would be avoided on very hot windy days.	Section 7.2.3
	The area exposed by activities would be limited by both progressive clearing and rehabilitation.	Section 7.2.2
	All drilling rigs would be fitted with appropriate dust collection equipment.	Section 7.2.1 Section 7.2.10
	All trucks and earthmoving equipment would be fitted with exhausts directed away from the ground.	Section 7.2.5
	Topsoil would be moistened prior to stripping if required.	Section 7.2.2

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Section	Commitment	Section Where Addressed
Stage 1 Mod (2007)		
Sn 6.2.1.2	Dust suppression techniques will be employed from the ROM pad at Larsens to the ROM pad at Tritton to minimise dust generation during the haulage of ore. It is envisaged that a water cart will be utilised full-time for this purpose, although investigations are continuing for alternative dust suppression techniques that are less water intensive.	Section 7.2.3
Sn 6.2.2.2	In order to minimize the [greenhouse gas] emissions, regular vehicle and plant maintenance will be conducted to ensure equipment is operating efficiently and road maintenance will be undertaken to ensure fuel is not unnecessarily burnt as a result of poor road conditions.	Section 7.3
*Note: 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 Booramugga Road at the Murrawombie Mine. The EIS was titled the 'Girilambone North Copper Mines'		
Avoca Tank Environmental Assessments		
Initial EIS (2014)		
Sn 4.8.5	Limit, where practicable, excavation of material during periods of high winds.	Section 7.2.11
	Limit disturbance to the minimum area necessary for mining and associated activities.	Section 7.2.2
	Operate the largest practical truck size to reduce the number of movements necessary to transport the ore and waste rock.	Section 7.2.5
	Adhere to all vehicle speed limits.	Section 7.2.5
	Profile all surfaces to reduce velocity of overland winds.	Section 7.2.3
	Apply vegetative cover to non-operational exposed surfaces such as water management structures and soil stockpiles as soon as practical after disturbance.	Section 7.2.2
	Maintain ore handling areas / stockpiles in a moist condition by using water carts to water down areas likely to generate wind-blown and traffic-generated dust.	Section 7.2.3

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Section	Commitment	Section Where Addressed
	Apply water to all roads and trafficked areas using water trucks to minimise the generation of dust.	Section 7.2.5
	Water stockpiles to maintain moisture content and minimise the generation of dust.	Section 7.2.3
	Minimise drop heights when loading ore material for transportation to the Tritton Copper Mine.	Section 7.2.3
	Clearly define all haul roads edges with marker posts or equivalent to control their locations, especially when crossing large areas of non-descript disturbance.	Section 7.2.5
	Close, rip and revegetate all obsolete roads.	Section 7.2.5
	Reshape, topsoil and rehabilitate all completed areas as soon as practicable after the completion of mining operations.	Section 7.2.2
Mod 1 (2021)	No additional management measures or commitments	
Mod 2	No additional management measures or commitments	
Constellation Project Environmental Assessment		
LM3	Topsoil stripping will be timed, when practicable, to avoid periods of excessive rain or prolonged dry periods.	Section 7.2.2
LM4	Stockpiles will be stabilised, establishing appropriate sediment controls and suppressing dust as required.	Section 7.2.2
AQ1	During adverse weather conditions, the Project activities' impacts on air quality will be assessed and modified as required (e.g. activity will cease when reasonable levels of dust cannot be maintained using the available means).	Section 7.2.11
AQ2	Weather forecasts will be checked prior to undertaking any material handling or processing that poses a high risk of generating dust.	Section 7.2.11
AQ3	On-site vehicles and plant engines will be switched off when not in use for extended periods.	Section 7.3.2
AQ4	Vehicles will be maintained and serviced to minimise emissions.	Section 7.3.2
AQ5	Vehicles and plant will be fitted with pollution reduction devices, such as diesel particulate filters when practicable to limit the generation of particulates.	Section 7.3.2

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Section	Commitment	Section Where Addressed
AQ6	Activities will be visually monitored to identify potential sources of dust generation.	Section 7.2.6
AQ7	The extent of exposed surfaces and stockpiles will be kept to a minimum to limit the generation of particulates.	Section 7.2.2
AQ8	Exposed areas and stockpiles will be watered or covered to reduce dust emissions when practicable.	Section 7.2.3
AQ9	Rehabilitation earthworks will be undertaken when practicable (i.e. when topsoil and subsoil stockpiles are moist and/or wind speed is below 10 m/s to minimise dust generation).	Section 7.2.1
AQ10	Drop heights will be reduced from loading and handling equipment when practicable to lower dust generation.	Section 7.2.3
AQ11	During handling, material will be dampened when excessive dust is likely to be generated.	Section 7.2.3
AQ12	Unsealed haul roads, including the haul route from the Project site to the Mitchell Highway, will be watered using water carts. Roads are to be sufficiently moist to minimise on-road dust generation but not cause track washout.	Section 7.2.5.1
AQ13	Haul roads will be inspected on a regular basis to ensure they remain in good operational condition.	Section 7.2.5 and 7.2.5.1
AQ14	Driveways and hardstand areas will be swept or cleaned to minimise particulate generation.	Section 7.2.3
AQ15	Vehicle traffic will be restricted to designated routes and speed limits will be enforced.	Section 7.2.5
AQ16	Vehicle loads will be covered when travelling off-site.	Section 7.2.3
AQ17	A site Air Quality Management Plan will be developed with procedures that require dust levels to remain below the relevant criteria for incremental and cumulative dust metrics at sensitive receptor locations.	This AQGGMP
GG1	Energy efficiency will be considered as a criterion when selecting mining tools, heavy mining equipment, diesel and electric-powered motors and other equipment for purchase.	Section 7.3
GG2	Options will be identified for multi-functional mining tools and heavy mining equipment for day-to-day operations that can be used to lower fuel consumption.	Section 7.3.2

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Section	Commitment	Section Where Addressed
GG3	Energy-efficient lighting and controls will be installed where practicable.	Section 7.3.3
GG4	Mine planning management measures will include minimising the vegetation clearing.	Section 7.2.2
GG5	Progressive rehabilitation will be undertaken to rehabilitate the land as soon as practicable.	Section 7.2.1
GG6	Fuel products that promote and deliver efficiency in consumption (i.e. premium fuels, additives etc.) will be used when practicable for mining and associated processes.	Section 7.3.2
GG7	Production monitoring systems will be utilised to minimise fuel consumption and reduce idle time.	Section 7.3.2
GG8	Heavy mining equipment will be maintained and used to design criteria and maximise efficiency.	Section 7.3.2
GG9	Electrical equipment will be maintained to retain energy efficiency.	Section 7.3.3
GG10	Haul roads will be constructed and maintained to minimise rolling resistance.	Section 7.3.2
GG11	Blasting design practices and technology will ensure blasting energies are optimised and can be best utilised for material movement.	Section 7.2.10
GG12	Rainwater capture and reuse, along with recycling and reuse of mine-affected water for mining operations, will minimise water requirements.	Section 7.3.1
GG13	Recycled water will be utilised for processing operations to reduce off-site pumping requirements	Section 7.3.1
GG14	Operator training will be provided on techniques to minimising fuel or energy consumption. This will include minimising unnecessary idle time and dumping techniques.	Section 7.3.1
GG15	Effective stock holding, management and logistic processes for 'critical insurance' stock, freight consolidation and minimising ad hoc freight transport will be undertaken to reduce energy consumption.	Section
GG16	When suitable, local personnel will be engaged to operate the mine to reduce fuel consumption associated with extended worker commutes.	Section 7.3.1

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Section	Commitment	Section Where Addressed
GG17	Current and future technologies will be reviewed to improve efficiencies and reduce greenhouse gas contributions from heavy mining equipment and ancillary equipment.	Section 7.3.2
GG18	Solar energy and other clean energy sources will be used to extend battery life at workshops, diesel lighting plants and remote monitoring and control stations.	Section 7.3.1
GG19	Internal energy audits and annual reporting of energy mass balances will be reviewed to identify where greenhouse gas emissions can be reduced.	Section 7.3.1
S4	A road maintenance program will be implemented to ensure the haul road is kept in a trafficable condition.	Section 7.2.5
S5	The haul road will be sealed where possible to mitigate noise and dust from vehicles. Watering of sections of unsealed road will be carried out to minimise dust impacts.	Section 7.2.5.1
S7	Aeris will work with affected landowners to address concerns in relation to property impacts.	Section 8.2.2
T7	Loaded vehicles entering or leaving the site will have their loads covered or contained.	Section 7.2.5
Constellation Project – Amendment Report Additional Information (Aeris Response)		
Aeris commits to sealing the section of Okeh Road in front of Karingal Homestead (R1) and the section of new haul road at Mitchell Highway Intersection, near Girilambone Town and the council dam to mitigate dust. Speed limitations will also be considered near residences.		Section 7.2.5.1
Watering of sections of unsealed road will be carried out to minimise dust. Two water trucks will operate during the haulage period on the unsealed surface sections of the haul road to minimise dust generated and provide safe traffic conditions during daytime and night time. The standard practice would be similar to managing public road construction, and using a road registered water truck.		Section 7.2.5.1
Aeris will further design and assess (as part of the current Feasibility Study), the associated costs, risks and overall economics of sealing additional sections of the haul road including the option for a full-length seal. This will inform the Project's Financial Investment Decision (FID) and be conducted either during the Construction and/or later Operational phases (progressive).		Section 7.2.5.1

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20. APPENDIX C

(Excerpt from the NSW EPA *Dust Assessment Handbook* (EPA, 2019)).

	Dust levels are being managed.
	Dust levels are increasing and operators should consider if further action to reduce dust is required.
	Dust levels require operators to take action to control dust, including potential to make operational changes.

Air Quality and Greenhouse Gas Management Plan

VEHICLES ON HAUL ROADS	
	
	
	

Air Quality and Greenhouse Gas Management Plan

DRILLING RIGS



Air Quality and Greenhouse Gas Management Plan

EXCAVATOR LOADING



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