



**NSW
Resources
Regulator**

FWP0001458

TRITTON COPPER MINE FORWARD PROGRAM

Monday 1 July 2024 to Wednesday 30 June 2027

Summary

DETAIL

Mine	Tritton Copper Mine
Reference	FWP0001458
Forward program commencement date	Monday 1 July 2024
Forward program end date	Wednesday 30 June 2027
Forward program revision (if applicable)	
Contact	Mike Fake
Mining leases	ML 1544 (1992)
Project location	TRITTON RESOURCES PTY LTD
Date of submission	Friday 30 August 2024

Important

The department may make the information in your program and any supporting information available for inspection by members of the public, including by publication on its website or by displaying the information at any of its offices. If you consider any part of your program to be confidential, please communicate this to the department via the message function on this submission within the NSW Resources Regulator Portal.

Three-year forecast – surface disturbance activities

Project description

The Tritton Copper Mine (the “Mine”) is located approximately 22km southwest of the village of Girilambone within the Bogan Local Government Area (LGA) in central west NSW. The Mine is owned and operated by Tritton Resources Pty Ltd (the “Company”), a wholly owned subsidiary of Aeris Resources Limited. Operations at the Mine commenced under Development Application (DA) 41/98 and Mining Lease (ML) 1544. DA 41/98 was approved on 1 September 1999 by the Minister for Planning and Urban Affairs and is approved to operate until 21 December 2028. For the purpose of this document, the area covered by ML 1544 is referred to as the “Mine Site”. The Mine Site covers an area of approximately 1 400ha, only a small portion of which is used for active mining. The Mine Site comprises both freehold land and Crown land and is bisected by Yarrandale Road, the principal road between Girilambone and Hermidale. The processing plant at the Mine is a key part of the hub and spoke model for the Company.

Description of surface disturbance activities

Exploration activities

No surface exploration. Underground exploration will continue for Tritton and Budgerygar deposits.

Construction activities

A modification application is currently being prepared which would include construction of an extension to the NAF WRE and three additional stages to the TSF. All surface disturbance is anticipated to be restricted to land previously disturbed by mining activities.

Mining schedule

Mining development method and sequencing and general mine features.

Ore is mined from the existing underground operations through top down long hole open stoping methods at depths of up to 1.5km. During the reporting period, underground mining of ore from the Tritton underground deposit and the Budgerygar deposit. Mining is expected to continue at Budgerygar for a period of approximately six years.

Areas identified for emplacements, the sequencing of emplacements, construction, and management.

Waste rock (both PAF and NAF) is used to backfill underground workings. Any excess NAF waste rock generated during underground operations will continue to be stored temporarily in the NAF waste rock emplacement until it is required for capping of the Tailings Storage Facility at closure.

Processing infrastructure activities and the location of tailings facilities and schedule for emplacement.

Ore is processed using flotation, with tailings discharged to the Tailings Storage Facility or used to produce paste fill that is pumped underground to support mining operations. Approximately 50% of tailings is used in paste fill production, reducing the space required in the Tailings Storage Facility. Underground mining and processing operations are undertaken 24-hours per day, 7 days per week. As previously discussed, a modification application is currently in preparation which would include a increase in the total capacity of the TSF. Proposed construction of the additional stages for the TSF would be consistent with current practices.

Waste disposal and materials handling operations.

General wastes are stored on site in suitable receptacles and either collected for off-site recycling or disposal at licenced facilities, or disposed of within the approved landfill. Hydrocarbons are stored in specified bunded areas until collected by licenced contractors. Wastewater is treated through approved on-site facilities, or collected by licenced contractor as required. Contaminated materials are treated at the on-site bioremediation facility.

Key production milestones

MATERIAL	UNIT	YEAR 1	YEAR 2	YEAR 3
Stripped topsoil (if applicable)	(m ³)	0	0	0
Rock/overburden	(m ³)	87,600	65,500	21,600
Ore	(Mt)	0.64	0.45	0.59
Reject material¹	(Mt)	0.6	0.42	0.55
Product	(Mt)	0.01	0.01	0

¹ This includes coarse rejects, tailings and any other wastes resulting from beneficiation.

Three-year rehabilitation forecast

Rehabilitation planning schedule

Rehabilitation planning schedule

- Post Closure Water Management Study (Aim complete 25/26) - relies on current Site Wide Water Balance Model. Anticipated that the results will inform post closure water management / licencing requirements. - TSF Closure Materials Balance (Aim complete 25/26) - relies on TCM Materials Characterisation. Anticipated that results will inform closure planning to allow for early identification of surplus/deficit. - Development of program for seed collection/storage and investigation into propagation methods (e.g. on-site nursery or contractor) (Aim complete 25/26)

Stakeholder consultation

Consultation as part of Modification 9. Ongoing CCC. Consultation as part of proposed Constellation Project.

Rehabilitation studies, risk assessments and/or design work

Year 1 - LEM (complete 24/25) currently in preparation for MCM and NECM WREs. Investigation into additional data (e.g. LiDAR) for refinement of models. Once model parameters are further developed then will be applied to TCM. - TSF Closure Planning - Detailed design (Complete 24/25) - Site Wide Water Balance Model (all sites) (Complete 24/25) - Post Closure Water Management Study (Aim complete 25/26) - relies on current Site Wide Water Balance Model - TCM Materials Characterisation (Complete 24/25) - TSF Closure Materials Balance (Aim complete 25/26) - relies on TCM Materials Characterisation - Hydromulch Trials (Site to be confirmed - may not be at TCM) (Ongoing) Year 2 - Biennial Rehabilitation Monitoring Campaign (25/26) - Post Closure Water Management Study (Complete 25/26) - relies on current Site Wide Water Balance Model

Rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS
RRT0001127	TSF Northern Embankment Rock Mulch Trial	Effect of rock mulch on long-term stability of TSF embankments. Results will be used to guide rehab planning regarding use of rock mulch in place of or in addition to topsoil.	15,000m2 area of the northern embankment of the TSF shaped to final grade and mulched with approximate minimum of 100mm NAF waste rock. Photo monitoring will be used to assess performance of material.	31 Dec 2027	Ongoing

Rehabilitation maintenance and corrective actions

No significant rehabilitation has been undertaken at the Mine to date. General site maintenance activities such as weed control and maintenance/monitoring of site water management infrastructure will continue.

Rehabilitation schedule

As shown on Plans 2A to 2C, no areas of the Mine Site are expected to be available for rehabilitation during the Forward Plan Period, with the exception of small sections of the TSF embankment that have been revegetated and will be subject to maintenance and in-fill revegetation work. If approved, construction of the extension to the NAF WRE may require the following. Inspection of surface water management infrastructure / use of temporary controls; clearing of vegetation / stripping of topsoils; placement of materials. Proposed construction of TSF lifts are not anticipated to require disturbance of non-mining affected lands.

Subsidence remediation for underground operations

An assessment of the potential impact of subsidence on the TSF is currently being prepared.

Progressive mining and rehabilitation statistics

Three-yearly forecast cumulative disturbance and rehabilitation progression

FORECAST	UNIT	YEAR 1	YEAR 2	YEAR 3
A Total surface disturbance footprint	(ha)	219.61	219.61	219.61
B Total active disturbance	(ha)	219.61	219.61	219.61
P Total new area of land proposed for active rehabilitation	(ha)	0	0	0

Rehabilitation key performance indicators (KPIs)

FORECAST	UNIT	YEAR 1	YEAR 2	YEAR 3
O Total new active disturbance area	(ha)			
P Total new area of land proposed for active rehabilitation during the reporting period	(ha)			
Q Annual rehabilitation to disturbance ratio				

Attachment 1 – Reporting Definitions

REPORTING CATEGORY	DEFINITION
<p>A Total disturbance footprint – surface disturbance</p>	<p>All areas within a mining lease that either have at some point in time or continue to pose a rehabilitation liability due to surface disturbance activities.</p> <p>The total disturbance footprint is the sum of the total active disturbance, decommissioning, landform establishment, growth medium development, ecosystem and land use establishment, ecosystem and land use development and rehabilitation completion (see definitions below).</p> <p>Underground mining operations should not include the footprint of underground mining areas/subsidence management areas in the total disturbance footprint.</p>
<p>B Total active disturbance</p>	<p>Includes on-lease exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste rock emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped) and temporary stabilised areas (e.g. areas sown with temporary cover crops for dust mitigation and temporary rehabilitation).</p>
<p>C Rehabilitation – land preparation</p>	<p>Includes the sum of all disturbed land within a mining lease that have commenced any, or all, of the following phases of rehabilitation – decommissioning, landform establishment and growth medium development.</p> <p>Refer to the glossary of terms in this document for the definition of these phases of rehabilitation.</p>
<p>D Ecosystem and land use establishment</p>	<p>Includes the area which has been seeded/planted with the target vegetation species for the intended final land use. However, vegetation has not matured to a stage where it can be demonstrated that it will be sustainable for the long term and or require only a maintenance regime consistent with target reference/analogue sites.</p> <p>Typically, rehabilitation areas would be in this phase for at least two years (and usually more) before rehabilitation can be classified as being in the ecosystem and land use development phase. This phase does not apply to infrastructure areas that are being retained as part of final land use for the site.</p>

REPORTING CATEGORY	DEFINITION
O	The area of any new active disturbance that will be created during the next three years, as defined under definition A1 (definition A1 Table 5).
P	The sum of any new rehabilitation to be commenced in the next three years. These areas may be in the phases “Rehabilitation - Land Preparation” or the “Ecosystem & Land Use Establishment” (definitions C & D in Table 5).
Q	The rehabilitation to disturbance ratio (S / R) indicates how many hectares of new rehabilitation are undertaken for each hectare of land disturbed during the three years. A ratio of 1/1 indicates that the area of new rehabilitation and disturbance in that period are the same.

Attachment 2 – Definitions

WORD	DEFINITION
Active	In the context of rehabilitation, land associated with mining domains is considered 'active' for the period following disturbance until the commencement of rehabilitation.
Active mining phase of rehabilitation	In the context of rehabilitation, the active mining phase of rehabilitation constitutes the rehabilitation activities undertaken during mining operations such as salvaging and managing soil resources, salvaging habitat resources, and native seed collection. This phase also includes management actions taken during operations to manage risks to rehabilitation and enhance rehabilitation outcomes such as selective handling of waste rock and management of tailings emplacements.
Analogue site	In the context of rehabilitation, an analogue site is a 'reference site' that represents an example of the defining characteristics (such as vegetation composition and structure or agricultural productivity) of the final land use. Characteristics of analogue sites can be assessed to develop the rehabilitation objectives and completion criteria for final land use domains.
Annual rehabilitation report and forward program	As described in the Mining Regulation 2016.
Annual reporting period	As defined in the Mining Regulation 2016.
Closure	A whole-of-mine-life process, which typically culminates in the relinquishment of the mining lease. It includes decommissioning and rehabilitation to achieve the approved final land use(s).
Decommissioning	The process of removing mining infrastructure and removing contaminants and hazardous materials.
Decommissioning Phase of Rehabilitation	Activities associated with the removal of mining infrastructure and removal and/or remediation of contaminants and hazardous materials. In the context of the rehabilitation management plan this phase of rehabilitation may also include studies and assessments associated with decommissioning and demolition of infrastructure or works carried out to make safe or 'fit for purpose' built infrastructure to be retained for future use(s) following lease relinquishment.

WORD	DEFINITION
Department	The Department of Regional NSW.
Disturbance	See Surface Disturbance.
Disturbance area	<p>An area that has been disturbed and that requires rehabilitation.</p> <p>This may include areas such as on-licence exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped), and areas requiring rehabilitation that are temporarily stabilised (i.e. managed to minimise dust generation and/or erosion).</p>
Domain	<p>An area (or areas) of the land that has been disturbed by mining and has a specific operational use (mining domain) or specific final land use (final land use domain). Land within a domain typically has similar geochemical and/or geophysical characteristics and therefore requires specific rehabilitation activities to achieve the associated final land use.</p>
Ecosystem and Land Use Development	<p>This phase of rehabilitation consists of the activities to manage maturing rehabilitation areas on a trajectory to achieving the approved rehabilitation objectives and completion criteria.</p> <p>For vegetated land uses this phase may include processes to develop characteristics of functional self-sustaining ecosystems, such as nutrient recycling, vegetation flowering and reproduction, and increasing habitat complexity, and development of a productive, self-sustaining soil profile.</p> <p>This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management.</p>
Ecosystem and Land Use Establishment	<p>This phase of rehabilitation consists of the processes to establish the approved final land use following construction of the final landform.</p> <p>For vegetated land uses this rehabilitation phase includes establishing the desired vegetation community and implementing land management activities such as weed control. This phase of rehabilitation may also include habitat augmentation such as installation of nest boxes.</p>
Exploration	Has the same meaning as that term under the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

WORD	DEFINITION
Final landform and rehabilitation plan	As defined in the Mining Regulation 2016.
Final land use	As defined in the Mining Regulation 2016.
Form and way	Means the form and way approved by the Secretary. Approved form and way documents are available on the Department’s website.
Growth Medium Development	<p>This phase of rehabilitation consists of activities required to establish the physical, chemical and biological components of the substrate required to establish the desired vegetation community (including short lived pioneer species).</p> <p>This phase may include spreading the prepared landform with topsoil and/or subsoil and/or soil substitutes, applying soil ameliorants to enhance the physical, chemical and biological characteristics of the growth media, and actions to minimise loss of growth media due to erosion.</p>
Habitat	Has the same meaning as that term under the <i>Biodiversity Conservation Act 2016</i> and the <i>Fisheries Management Act 1994</i> (as relevant).
Indicator	An attribute of the biophysical environment (e.g. pH, topsoil depth, biomass) that can be used to approximate the progression of a biophysical process. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion (i.e. defined end point). It may be aligned to an established protocol and used to evaluate changes in a system.
Land	As defined in the <i>Mining Act 1992</i> .
Landform Establishment	<p>This phase of rehabilitation consists of the processes and activities required to construct the final landform.</p> <p>In addition to profiling the surface of rehabilitation areas to the approved final landform profile this phase may include works to construct surface water drainage features, encapsulate problematic materials such as tailings, and prepare a substrate with the desired physical and chemical characteristics (e.g. rock raking or ameliorating sodic materials).</p>
Large mine	As defined in the Mining Regulation 2016.
Lease holder	The holder of a mining lease.

WORD	DEFINITION
Life of mine	The timeframe of how long a mine is approved to mine, from commencement to closure.
Mine rehabilitation portal	<p>Means the NSW Resources Regulator’s online portal that lease holders must use (via a registered account) to:</p> <ul style="list-style-type: none"> ■ upload rehabilitation geographical information system (GIS) spatial data ■ develop rehabilitation GIS spatial data (using online tracing functions) ■ generate rehabilitation plans and rehabilitation statistics using the map viewer and Rehabilitation Key Performance Indicator functionalities. <p>Data submitted to the mine rehabilitation portal is collated in a centralised geodatabase for use by the NSW Resources Regulator to regulate rehabilitation performance of lease holders.</p>
Mining area	As defined in the <i>Mining Act 1992</i> .
Mining domain	A land management unit with a discrete operational function (e.g. overburden emplacement), and therefore similar geophysical characteristics, that will require specific rehabilitation treatments to achieve the final land use(s).
Mining land	As defined in the <i>Mining Act 1992</i> .
Native vegetation	Has the same meaning as that term under section 60B of the <i>Local Land Services Act 2013</i> .
Overburden	Material overlying coal or a mineral deposit.
Performance indicator	An attribute of the biophysical environment (for example pH, slope, topsoil depth, biomass) that can be used to demonstrate achievement of a rehabilitation objective. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion, that is, a defined end point. It may be aligned to an established protocol and used to evaluate changes in a system.

WORD	DEFINITION
Phases of rehabilitation	<p>The stages and sequences of actions required to rehabilitate disturbed land to achieve the final land use. The phases of rehabilitation are:</p> <ul style="list-style-type: none"> ■ active mining ■ decommissioning ■ landform Establishment ■ growth medium development ■ ecosystem and land use establishment ■ ecosystem and land use development.
Progressive rehabilitation	<p>The progress of rehabilitation towards achieving the approved rehabilitation completion criteria. This may be described in terms of domains, phases, performance indicators and rehabilitation completion criteria.</p>
Rehabilitation Completion	<p>The final phase of rehabilitation when a rehabilitation area has achieved the approved rehabilitation objectives and rehabilitation completion criteria for the final land use. Rehabilitation areas may be classified as complete when the NSW Resources Regulator has determined in writing that the relevant rehabilitation obligations have been fulfilled following submission of <i>Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate</i> application by the lease holder.</p>
Rehabilitation Completion criteria	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation cost estimate	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation management plan	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation objectives	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation risk assessment	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation schedule	<p>The defined timeframes for progressive rehabilitation set out in the forward program.</p>

WORD	DEFINITION
Relevant stakeholders	<p>Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes:</p> <ul style="list-style-type: none"> ■ the relevant development consent authority ■ the local council ■ the relevant landholder(s) ■ community consultative committee (if required under the development consent) or equivalent consultative group ■ affected land holder(s) ■ government agencies relevant to the final land use ■ affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities) ■ local Aboriginal communities, and ■ any other person or body determined by the Minister to be a relevant stakeholder in relation to a mining lease.
Risk	The effect of uncertainty on objectives. It is measured in terms of consequences and likelihood (AS/NZS ISO 31000:2009).
Secretary	The Secretary of the Department.
Security deposit	An amount that a mining lease holder is required to provide and maintain under a mining lease condition, to secure funding for the fulfilment of obligations under the lease (including obligations that may arise in the future).
Surface disturbance	Includes activities that disturb the surface of the mining area, including mining operations, ancillary mining activities and exploration.
Tailings	A combination of the fine-grained solid material remaining after the recoverable metals and minerals have been extracted from the mined ore, and any process water ² .
Waste	Has the same meaning as that term under the <i>Protection of the Environment Operations Act 1997</i> .

² Commonwealth of Australia (DITR), 2007. *Tailings Management*.

Attachment 3 – Plans

Plan 2A.pdf

Plan 2B.pdf

Plan 2C.pdf

Forward Program (LARGE MINE) v2.1





ML1544



REFERENCE

-  Project Approval Boundary / ML1544
-  Mineral Authority Boundary

Rehabilitation Forecast

-  Forecast Disturbance
-  Forecast Land Prepared for Rehabilitation

Mine Name	Tritton Copper Mine
Plan Name	Plan 2A Mining and Rehabilitation
Anticipated Year of Relinquishment	- Year 1
Date Plan Created	2039
Data Theme Submission ID Numbers	27 August 2024
	8433

SCALE 1:11 000 (A3)







Source: Google Earth - 16 August 2023



ML1544

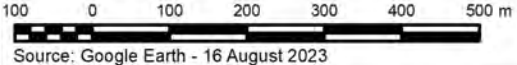


REFERENCE

-  Project Approval Boundary / ML1544
-  Mineral Authority Boundary
- Rehabilitation Forecast**
-  Forecast Disturbance
-  Forecast Land Prepared for Rehabilitation

Mine Name	Tritton Copper Mine
Plan Name	Plan 2B Mining and Rehabilitation
Anticipated Year of Relinquishment	- Year 2
Date Plan Created	2039
Data Theme Submission ID Numbers	27 August 2024
	8434

SCALE 1:11 000 (A3)



Source: Google Earth - 16 August 2023



ML1544



REFERENCE

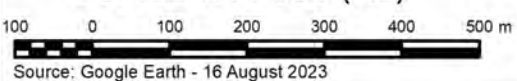
- Project Approval Boundary / ML1544
- Mineral Authority Boundary

Rehabilitation Forecast

- Forecast Disturbance
- Forecast Land Prepared for Rehabilitation

Mine Name	Tritton Copper Mine
Plan Name	Plan 2C Mining and Rehabilitation
Anticipated Year of Relinquishment	- Year 3
Date Plan Created	27 August 2024
Data Theme Submission ID Numbers	8435

SCALE 1:11 000 (A3)



Source: Google Earth - 16 August 2023