D25/142654

4 November 2025

Chris Ritchie
A/Executive Director Energy and Resource Assessments
Department of Planning, Housing and Infrastructure
4 Parramatta Square, 12 Darcy Street
Parramatta NSW 2124

ADVICE RESPONSE: Taronga Tin Project

Stage: Environmental Impact Statement

Development Application: SSD- 74389710

Dear Mr Ritchie,

I refer to the Department of Planning, Housing and Infrastructure's correspondence dated 2 October 2025 inviting the Department of Primary Industries and Regional Development (NSW Resources) to review the Environmental Impact Statement and provide comments on Taronga Tin Project (the Project) submitted by Taronga Mines Pty Ltd (the Proponent).

NSW Resources' Resource and Economic Assessment review advice is provided in Attachment A, addressing resource utilisation, recovery and economic benefits. The Resources Regulator branch's advice is provided in Attachment B.

Requirement for a mining authority and royalty liability

The requirement for a mining lease

As tin is a scheduled mineral under the Mining Regulation 2016, the Proponent is required to hold appropriate mining titles allowing for mineral extraction, such as a mining lease, to undertake mining. Based on current authority information, NSW Resources advises that the Proponent holds the appropriate authorities as required for mining operations for the project.

Royalty liability

The holder of a mining lease is also liable to pay a royalty for both publicly and privately-owned minerals (sections 282-285 of the *Mining Act 1992*).

Application of section 65 of the *Mining Act 1992* – development consents under the *Environmental Planning and Assessment Act 1979*

A development application under the *Environmental Planning and Assessment Act 1979* must be approved before a mining lease can be granted. A mining lease will only be granted for activities specified in the development consent.

Section 65 of the Mining Act states:

> *The Minister must not grant a mining lease over land if development consent is required for activities to be carried out under the lease unless an appropriate development consent is in force in respect of the carrying out of those activities on the land.*

Biodiversity offset assessment

NSW Resources requests that the Proponent consider potential resource sterilisation should any future biodiversity offset areas be considered. The Proponent must consult with NSW Resources and any holders of existing mining or exploration authorities that could be potentially affected by the proposed creation of any such biodiversity offsets, prior to creation occurring.

NSW Resources requests that it be provided with an opportunity to review the draft conditions of approval before finalisation and any granting of development consent.

For further information, contact Giselle Carney, Senior Advisory Officer, on 02 4063 6860 or mining.concierge@dpird.nsw.gov.au

Yours sincerely,

Tony Linnane
Executive Director Strategy, Performance and Industry Development
NSW Resources

Encl. – Attachment A - Taronga Tin Project - Resource & Economic Assessment (D25/128889)

Attachment B – Taronga Tin Project - Resource Regulator advice (D25/138841)

Attachment A

NSW Resources

Taronga Tin Project - SSD-74389710

Resource and Economic Assessment Review

November 2025

Published by the Department of Primary Industries and Regional Development – NSW Resources

resources.nsw.gov.au

Title: Taronga Tin Project - SSD-74389710

Subtitle: Resource and Economic Assessment Review

File reference: D25/128889

More information

Industry Advisory and Mining Concierge Unit, Industry Development – NSW Resources

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Executive summary

Agency Advice

The Department of Primary Industries and Regional Development NSW - NSW Resources has reviewed the Taronga Tin Project - SSD-74389710 (the Project). This Resource and Economic Assessment (REA) review has been informed by the NSW Resources Mine Development Panel Guideline, Secretary Environmental Assessment Requirements (SEARs), *TPG23-08 NSW Government Guide to Cost-Benefit Analysis (NSW Treasury 2023)* Guidelines for the economic assessment of mining and coal seam gas proposals (DPE 2015) and the REA Guideline and engagement prior to the submission of the Environmental Impact Statement (EIS).

Introduction

State significant development (SSD) is regulated under the *Environmental Planning and Assessment Act 1979*, which requires a proponent to apply to the Department of Planning, Housing and Infrastructure (DPHI) for development consent, supported by an Environmental Impact Statement (EIS).

Exploration for mineral resources in NSW are regulated under the *Mining Act 1992* and the Mining Regulation 2016. The Mining Act provides an integrated framework for the effective regulation of authorisation for prospecting and mining operations, while recognising the social and economic benefits to NSW from efficient development of mineral resources. NSW Resources is involved where a project seeks to extract a mineral as defined in Schedule 1 of the Mining Regulation which will also require a Mining Lease under the Mining Act and are subject to royalty payments.

NSW Resources will assess the assumptions and accuracy of the geological, mineral resource, mining and economic parameters of the proposed mining project as presented in the EIS as submitted by a Proponent to consider:

- the significant social and economic benefits to New South Wales that result from the efficient development of mineral resources,
- to ensure an appropriate return to the State from mineral resources, and
- to ensure mineral resources are identified and developed in ways that minimise impacts on the environment.

The relevant section of the State Environmental Planning Policy (Resources and Energy) 2021 (Resources SEPP) for this REA is Part 2.3, Clause 2.21 which requires advice addressing if the proposed resource recovery project is efficient, optimised and minimises waste.

This REA reviews and verifies the project's capital requirements, project economics including employment, royalty calculations, the mine plan and schedule, market commentary, and the resource itself, as assessed by a 'Competent Person' as defined in the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore reserves or JORC Code.

Resource and Economic Assessment review outline

This Resource and Economic Assessment (REA) review conducted for the Taronga Tin Project - SSD-74389710 (the Project) by NSW Resources assessed:

- the social and economic benefits to NSW including royalties, capital investment, revenues and jobs
- the resource/reserve estimates stated in the proponent's EIS
- if the Proposal is an efficient development of the resource, that resource recovery is optimised and waste minimised
- if the Proposal will provide an appropriate return to NSW.

Project overview

Taronga Mines Pty Ltd (the Proponent) is proposing to develop and operate the Taronga Tin Project (the Project), a mining and processing operation located in the New England Region of New South Wales. The Project will include the construction and operation of mining and primary processing facilities, as well as the development of mine worker accommodation. The proposed site is approximately 7.5 kilometres northwest of Emmaville and will involve the extraction, processing, and progressive rehabilitation of the Taronga tin deposit.

Major components include:

- development of two separate open cut pits (Northern and Southern) using conventional drill, blast, load and haul mining methods
- extraction of up to approximately 10 million tonnes per annum (Mtpa) of ore and waste rock material
- on-site processing of up to 5Mtpa of run-of-mine ore to produce up to 7,300 tonnes per annum (tpa) of tin concentrate
- mine-life of approximately 12-year period comprising the site establishment and construction stage (approximately 2 years) and the mining and processing operations stage (approximately 10 years) to the end of tin concentrate production

- a mine worker camp located adjacent to Glen Innes Airport and approximately 10km northwest of Glen Innes
- a Concentrate Transport Route for the transportation of produced tin concentrate in 22t containers from the mine site to the Port of Brisbane
- establishment of a range of ancillary infrastructure, including:
  - internal and external roads, including upgrades to Grampians, Schroders and Gulf Roads
  - an offices and administration area
  - magazine and ammonium nitrate storage
  - workshops, stores and laydown areas
  - a 10 megawatt (MW) Solar Farm with inverter and 2MWh battery energy storage system
  - four 2MW capacity gas generators supported by three 30t capacity gas storage tanks
  - one 2MW capacity diesel generator for back-up power supply
  - water storage and pollution control dams.

Size and quality of the resource

The Proponent has completed resource and reserve estimation for the Project in accordance with the JORC Code which is an industry-standard professional code of practice that sets minimum standards for public reporting of mineral exploration results, mineral resources, and ore reserves.

Following acquisition of the Project in 2022, the Proponent completed further reverse circulation drilling (approximately 4,700 m in45 drillholes) and diamond drilling (1,658 m in 13 drillholes) bulk sampling, geotechnical drilling and other investigations which inform a feasibility study that forms the basis for this development application. The bulk sampling was completed, partly to address the nugget effects associated with this deposit.

The Project has a JORC (2012) compliant, measured, indicated and inferred Mineral Resource estimate of 133 Mt at 0.10% tin (133 Kt contained Sn) (September 2023). The deposit includes two separate tin mineralised zones which are up to 260 m wide with a total strike length of about 2.6 km.

The Proved and Probable JORC (2012)-compliant Ore Reserve estimate as of September 2023 (announced March 2024) includes:

- Northern Pit - 28 Mt @ 0.13% Sn (total 36 Kt contained Sn)
- Southern Pit - 12 Mt @ 0.13% (16 Kt contained Sn)
- a total Reserve of 40 million tonnes (Mt) at 0.13% Sn (52 Kt contained Sn).

It should be noted that these grades are lower than many comparable deposits. Extensions to this mineralisation are also known to occur but are beyond the scope of this assessment.

Resource recovery

The Proponent assessed several mine designs and determined the mine design as submitted is the most appropriate. Many factors constrain a mine plan and extraction methodology and therefore the resource recovery at the Project.

The Project will produce a total of up to 39.7 Mt of ore and 40.5 Mt of waste rock (this represents a strip ratio near 1:1) comprising up to 10 Mtpa of ore, including:

- up to 5.0 Mtpa of ore in Years 2 to 7
- about 5.1 Mt (maximum 5.8 Mtpa) of waste rock in Years 2 to 7.

Mining is to comprise two separate open pits. Mining is proposed to commence with a starter pit in the central section of the Northern open cut. Development of the Southern open cut will commence six months later, also commencing with a starter pit, in its central section.

Mining will consist of three-stage (front-end) crushing and screening of up to 5.0 Mtpa of run-of mine ore.

Pre-concentration will include screening, vertical shaft impact crushing followed by density separation in jigs. Concentration will be via ball milling, re-grind, screening and desliming with gravity separation using spirals and shaker tables to produce tin concentrate.

Batch dressing of tin concentrate via low intensity magnetic separation, sulfide flotation and final cleaning with shaker tables, with thickening, filtration and bagging aims to produce up to 7,300tpa of tin concentrate at 60% tin (previous studies using simpler methods achieved 56% tin). Recoveries of 53.3% and 53.4% are projected from the northern and southern pits respectively.

Processing residues would include up to (approximately):

- 2.3Mtpa of coarse rejects
- 1.3Mtpa of coarse tailings
- 1.3Mtpa of fine tailings.

The concentrator circuit is standard for this type of operation and projected recoveries and the assumptions associated therewith are reasonable.

Economic benefits of the resource

The Proponent commissioned Gillespie Economics to conduct an economic assessment of the Project which was completed in August 2025. The economic assessment was prepared in accordance with NSW Government guidelines and include cost benefit analysis (CBA) and a local effects analysis (LEA). The CBA of the Project indicated that it would have net production benefits to Australia and NSW of $74M and $35M (present value at 7% discount rate), respectively.

The local area used for the LEA is the Glen Innes Severn LGA. The LEA for the Project estimated that it would provide direct economic activity, including jobs, to the local area economy, and indirect economic activity to the local area via both wage and non-wage expenditure.

The economic assessment also estimates:

- the Project will provide a construction workforce that peaks at 150 full-time equivalent (FTE) jobs, and averages approximately 90 FTE jobs over the two-year construction period
- 45 percent of these jobs (41 jobs) will be sourced from the local area

- the Project will generate average annual operational employment of 129 FTE workers, with 50 percent of these jobs assumed to be sourced from the local area, with the remainder commuting from outside the local area.

The average annual construction impacts of the Project on the local economy were estimated at up to:

- $58M in annual direct and indirect output
- $20M in annual direct and indirect value-added
- $13M in annual direct and indirect household income
- 137 direct and indirect jobs.

The average annual operation impacts of the Project on the local economy were estimated at up to:

- $144M in annual direct and indirect output
- $94M in annual direct and indirect value-added
- $28M in annual direct and indirect household income
- 242 direct and indirect jobs.

All concentrate produced from the Project would be transported to the Port of Brisbane for export. Export revenue adds to NSW and Australia's balance of trade which has positive impacts on both Australian and NSW credit ratings and Australia's foreign exchange rate.

The assessment completed by NSW Resources in October 2025 has used tin prices supplied by the Proponent. These prices are mostly in line with the latest Consensus Economics tin price estimates published in mid-October 2025. NSW Resources notes that any commodity price forecasting is inherently difficult and is subject to potential changes in both supply and demand. Long term prices of around A$46,000 per tonne of contained tin were used by NSW Resources in its assessment.

Royalty calculation

Assumptions

- Total contained tin sales of around 30.6 kt over the life of the Project
- Operational Project life of 9 years from 2028 to 2036
- Price forecasts as provided by the Proponent (see above for more detail)
- Real discount rate of 5%, as per NSW Treasury Guidelines, February 2023
- Allowable deductions from total revenue reducing the 4% statutory royalty rate to around 3% of total revenue received for each year of the operational phase of the Project life.

Using the above assumptions and parameters, NSW Resources has calculated that the State should receive:

Parameter	$m (2025 dollars)
Total royalties received	$42 million
Net Present Value (NPV) royalties (5% discount rate, real)	$31 million
Annual estimated royalties (average)	$4.7 million (approximate)

NSW Resources position

NSW Resources is satisfied that, should the operational outcomes be achieved, the proposed mine design and mining method will adequately recover resources and is projected to provide an appropriate return to the State. NSW Resources considers that should the Project be approved, efficient and optimised resource outcomes can be achieved.

For further information concerning this Resource and Economic Assessment review please contact Mining Concierge mining.concierge@dpird.nsw.gov.au

NSW Resources
Resources Regulator

Wednesday, 29 October 2025

Brittany Golding
Department Planning, Housing and Infrastructure
Brittany.Golding@planning.nsw.gov.au

Via: Major Projects Portal

Dear Brittany,

I refer to the Taronga Tin Mine - Environmental Impact Statement (EIS) submitted to the Resources Regulator on 2 of October 2025 (SSD-74389710). Based on the review of the EIS the Resources Regulator requests further information to address the matters below.

Final Land Use

- Further information is required on the justification of Final Land Use Options and why the final land uses were selected. In particular, the options assessment is to justify that the proposed rehabilitation strategy represents the most sustainable option that minimises the sterilisation of land post closure for the:
  - management of final voids including the potential for either backfill or partial backfill;
  - the residue storage facility including processing and deposition strategies that will be utilised to maximise consolidation and progressive rehabilitation as well as the effective encapsulation of materials in the long term.
- Review and clarify the final land use of the residue storage facility (RSF) and Co-disposal area, which are currently proposed as “agricultural grazing” in Figure 3.14.2. The review must consider the following:
  - Appendix 22 "Geochemistry Characterisation and Assessment" states that the residue storage facility will be "revegetated to achieve the post mining land use of "native ecosystem"; and
  - the potential risks to the integrity of encapsulation cover systems of these areas post closure due to the natural establishment of trees as well as proposed grazing activities.

Rehabilitation Objectives

- Further refinement of the rehabilitation objectives in Section 3 of the EIS is required. Specifically to address the following:
  - the proposed final void stability criteria, which is referenced in the EIS as >1.5 Factor of Safety; and
  - reference to the need to achieve long-term stability of the tailings storage facility in accordance with requirement specified by ANCOLD.

Progressive Rehabilitation

- Provide diagrammatic representation of the life of mine rehabilitation schedule. No specific commitments for the location and quantity of rehabilitation have been presented in the EIS. Further information is required on the range of assumptions behind the life of mine rehabilitation schedule to determine whether opportunities for progressive rehabilitation (i.e. rehabilitation as soon as reasonably practicable) have been maximised.
- Provide information on the likely timing of rehabilitation activities beyond cessation of mining, including the capping of the residual storage facility.

Materials Balance

- Appendix 22 details the requirement for the floor of the waste rock emplacements and co-disposal areas are to consist of a low permeability layer, however, there is no reference to low permeability in the design figures provided in Section 3 Figure 3.5.3. As such, more information is required as to what permeability is to be achieved and whether there are sufficient sources of low permeability materials available on site.
- Provide more detail on key materials balance (including sources and volumes) including:
  - Growth media that aligns with specific final land uses. Whilst overall volumes are presented, the manner in which the various materials will be used in rehabilitation is unclear.
  - Low permeability material (if required) to underly waste rock emplacements where potentially acid forming material and uncertain materials are contained and co disposal areas
  - Capping material for the residual storage facility and co-disposal areas including an assessment of the volume of non-acid forming material to encapsulate the potentially acid forming material on site.
  - Materials suitable for the advective barriers over potentially acid forming materials.
  - Specify sources of additional encapsulation, capping and low permeability materials if required.
- Where a deficit of materials required for rehabilitation are identified, additional sources must be specified to ensure that there is flexibility in the project approval to enable supply from these sources (e.g. borrow pits).

Based upon the issues identified in the EIS and should the application be approved, the Rehabilitation Management Plan required under Schedule 8A of the Mining Regulation 2016 will need to address the following as a minimum:

- a summary of an updated rehabilitation risk assessment that is aligned with the Resources Regulators Guideline: Rehabilitation Risk Assessment and addresses the key issues above. It should also be noted that the rehabilitation security deposit is not considered a suitable control for the proponent's risk of insufficient funding for or prioritisation of rehabilitation activities;
- addresses all risks and the relevant controls including but not limited to potential acid forming materials and the potential for acid mine drainage and selective handling of materials to be used in rehabilitation and capping;
- site specific topsoil management techniques that are developed to address site specific risks, noting that the operation may be constrained in completing some controls listed in Appendix 20 of the EIS; and
- describe how long term landform stability principles (including geomorphic design) will be incorporated for all landforms (e.g. geotechnical stability design, erosion modelling, landform design concepts, quality assurance processes etc.) including where potentially acid forming materials will be encapsulated based on the details provided in Section 3 (Figures 3.5.1 to 3.5.4) of the EIS.

LIMITATIONS

It should be noted that the Resources Regulator does not provide any endorsement of the proposed rehabilitation methodologies presented in the plans provided. Under the conditions of a mining authorisation granted under the *Mining Act 1992*, the Resources Regulator requires the holder to adopt a risk-based approach to achieving the required rehabilitation outcomes.

The applicability of the controls to achieve effective and sustainable rehabilitation is to be determined based on site-specific risk assessments conducted by the authorisation holder. An authorisation holder may also be directed by the Resources Regulator to implement further risk control measures required to achieve effective rehabilitation outcomes during the life of the mine.

REGULATORY REQUIREMENTS IF APPROVED

The proponent will be required to comply with rehabilitation requirements under the mining authorisations prior to the commencement of the works associated with the proposal.

The Resources Regulator may undertake assessments of the mine operators' proposed mining activities under the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and Regulation as well as other WHS regulatory obligations.

BACKGROUND

The Mining Act Inspectorate within the Resources Regulator undertake risk-based compliance and enforcement activities in relation to obligations under the *Mining Act 1992*. This includes undertaking assessment and compliance activities in relation to mine rehabilitation activities and determination of security deposits. To ensure consistency, the Regulator requests the opportunity to review a copy of the draft development consent prior to any approval of the project.

The Mine Safety Inspectorate within the Resources Regulator is responsible for ensuring the mine operators' compliance with the Work Health and Safety (WHS) legislation, in particular the effective management of risks associated with the principal hazards as specified in the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2022*.

CONTACT

Should you require any further information or clarification, please contact the Regulator on 1300 814 609 (Press Option 2 Press Option 5) or email nswresourcesregulator@service-now.com.

Yours sincerely,

Anthony Margetts

Chief Inspector of Mines

Resources Regulator