



Sydney Mineral Exploration Discussion Group



Tony Truelove, the COO of First Tin

ADVANCING ONE OF THE WORLDS LARGEST TIN DEPOSITS AT TARONGA: FIRST TIN'S ROAD TO PRODUCTION

Precis - for a document including Resources and Reserves table, please follow [this link](#).

The Taronga tin deposit is located in the Emmaville district of Northeastern NSW, which produced around 89,000t of tin concentrates between 1872 to 1985, largely from alluvial, eluvial and weathered bedrock sources.

It is one of the largest undeveloped tin deposits in the world and probably one of the next tin deposits to be brought into production. Current resources and reserves are 138,300t tin and 52,000t tin respectively:

It is a classic example of a sheeted vein style tin deposit hosted by silicified meta-sediments and hornfels.

The host rocks are part of a Permian (~281Ma) accretionary wedge complex (Tablelands Complex) overlain by Late Permian (~255Ma) felsic volcanics and intruded by approximately coeval Triassic (~246Ma) granites during the Hunter-Bowen orogeny. The area was part of an active west verging subduction zone during the Permian and Triassic.

The sheeted veins consist of sub-vertical quartz-cassiterite-sulphide-mica “greisen” veins related to stress release and associated brittle fracturing during the final stages of emplacement of the Mole Leucogranite. Tin occurs dominantly as relatively coarse cassiterite (SnO_2) crystals that vary from around 1mm to 1cm (occasionally to 5cm) and which are volumetrically almost entirely within the veins.

The deposit was first identified in the 1870s by alluvial tin miners who worked all the streams draining Grampians Ridge, the main hill that hosts the mineralisation. Various parties explored the hard rock potential, including BHP (twice) but it was generally concluded that the deposit was too low grade to be economic at the time. The main period of work was by a Joint Venture managed by Newmont that explored the area between 1979 and 1984, culminating in the delivery of a Feasibility Study.

However, due to the machinations of a Malaysian tin Cartel (International Tin Council) and the decision by the US Department of Defence to sell its strategic tin stockpile (equivalent to almost one year's world tin production) the tin price dropped dramatically in 1984-85 and remained subdued for the next 20 years. This resulted in the Newmont JV eventually dropping the ground and virtually no tin exploration was conducted worldwide for the next 20 years.

Taronga Mines Pty Ltd (TMPL) is a 100% owned subsidiary of First Tin Plc which is listed on the Standard Board of the London Stock Exchange. TMPL completed a feasibility study on the Taronga deposit in 2004 and is currently intending to complete a revised “optimised” feasibility study by the end of 2025 and to lodge an EIS/DA by the end of June 2025.

The deposit, although low grade, has two unique factors that make it economic:

1. It is mineable as an open pit and has a very low strip ratio of around 1:1, thus making mining costs very low.
2. The mineralisation tends to break along vein boundaries (as the veins have a lower rock strength than the siliceous hornfels host rock) thus exposing and liberating the coarse cassiterite after a relatively coarse crush (6-12mm). This results in a very rapid reduction in mass through the processing facility which in turn makes capital and operating costs low.

Because of these two factors, even though the average mined grade is only around 0.13% Sn, compared with average hard rock grades of between 0.5% Sn and 1.5% Sn, the cost of production is projected to be around US\$12,000/t (C1), US\$15,840/t (AISC) and US\$19,350/t (Full Cost including CAPEX). This compares favourably with major producers such as Metals-X (AISC US\$18,296 and average grade of around 1.4% Sn) and Alphamin (AISC US\$13,900/t and average grade of over 4% Sn).

At current tin prices of around US\$32,000/t (May 13, 2025) a good margin of around US\$16,160/t (over 51%) is projected based on AISC.

Short Bio - Antony (Tony) Truelove

Chief Operating Officer, First Tin Plc

Director, Taronga Mines Pty Ltd

Mr Truelove is a geologist and experienced company director who graduated from Adelaide University in 1982 with a BSc (First Class Honours). He is currently COO of LSE (Standard Board) listed First Tin Plc and Director of its 100% owned Australia subsidiary Taronga Mines Pty Ltd.

Mr Truelove has over 40 years of experience in the resource industry covering project acquisition, mineral exploration, feasibility studies and mine geology.

Previous experience includes floating and serving as Managing Director of an ASX listed company and prior to that, senior positions with major and mid cap companies Billiton, Newmont, Newcrest and Delta Gold.

He has been involved with the discovery and definition of over 15 million ounces of gold and 300,000 tonnes of tin and has experience exploring for a wide variety of metals Worldwide.

Mr Truelove is currently overseeing the EIS and permitting of the Taronga tin deposit, located in northeastern NSW, and optimisation of a recently completed (2024) feasibility study on that deposit.

Upcoming events (may be changed or extra events may arise - keep an eye on the website, as well as emails):

Regular meetings (4th Thursday of the month, may be changed if necessary) - May 22, Jun 26, July 24, September 23 (Tuesday), October 23 and November 27

Awards Dinner - Thursday August 28, Club York

Cruises - Mid-Year June 20, 1pm to 5pm, Christmas - TBA.

[SMEDG website](#)

- **A treasure trove of current and historic information, including updated events schedules - well worth exploring!**

Club York and Regular Meetings

- **Regular SMEDG meetings are held in the Club York Function Centre, located on Level 2 of the Club, 95-99 York Street, just north of the Market Street intersection.**
- **These are also broadcast through Zoom, for which registration is required, with details on the notice of meeting email**
- **Entry is usually through the lifts located in the building foyer immediately to the left (south) of the Club entrance, however if for some reason the lifts are locked, entry can be gained through the Club - just let the concierge know that you are attending a function, and you will be let through. With the closure of Zabou, we are considering alternative after talk dinner venues, with Primi Italian at the Club being an option.**
- **The bar is open at meetings, and we shout each attendee one drink upon arrival. At the moment we are also providing snacks in the form of pizzas.**

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