



ASX RELEASE (27 JULY 2023)

Tartana Plant Refurbishment Complete

Circuits being loaded for Copper Sulphate Pentahydrate Production

Highlights:

- Solvent extraction – crystallisation plant refurbishment now completed following final wiring of additional pumps, flow meters and some miscellaneous tasks which could only be completed with ‘charged’ circuits.
- Pregnant Liquor Solutions (PLS) now being pumped to the plant. Copper in the Solvent Extraction circuit expected to take 4 days to build up to concentrations which allow crystallisation to commence and leading to copper sulphate pentahydrate production.
- An increase in copper assays in the ponds have led to an estimated higher copper content capable of supporting higher forecast production levels prior to commencing heap leaching.
- Recruitment of operators in progress with transition from refurbishment to production.
- 100% offtake agreement with Kanins with pricing directly linked to the LME copper price plus premium.

R3D Resources Limited (ASX: **R3D**) (the **Company**), is pleased to announce that it has completed the refurbishment of its solvent extraction – crystallisation process plant and is charging the circuits for imminent first copper sulphate pentahydrate production. Commissioning of the crystallisation and drying circuit was completed earlier this year leaving the solvent extraction portion to be commissioned now for continuing production.

R3D Managing Director Stephen Bartrop commented:

“This is an exciting time for R3D with copper sulphate pentahydrate production finally about to commence after a prolonged period of plant refurbishment.

“We look forward to production commencing in the coming week and providing further updates to shareholders. Cash flows from copper sulphate pentahydrate sales are expected to be a ‘game changer’ for the Company and allow it to achieve its desired self-funding status. It also enables the Company to turn its attention to expanding existing copper resources in the Tartana open pit.”

Plant Refurbishment

The heap leach – solvent extraction plant located on the Tartana mining leases operated for around a decade before being placed in care and maintenance in 2014. The plant produced high quality copper sulphate pentahydrate and is reported to have produced 6,000 to 7,000 t p.a. with plant capacity at around 9,500 t p.a.

R3D Resources Limited (ASX: R3D)

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With the strong domestic demand for copper sulphate pentahydrate in the northern Australian larger mining operations, R3D commenced a refurbishment program in late 2021 with the appointment of a Plant Manager, Mat Hancock after listing on the ASX in July 2021. During 1H 2021 the Company focused on resource drilling and follow up metallurgical testwork which was then followed by the plant refurbishment commencing in earnest in late 2022.

The plant has produced some of the highest quality copper sulphate pentahydrate in the world, with several proprietary plant components which enable the extraction of impurities and a producing a higher quality final product.



Figure 1. *Tartana Solvent Extraction – Crystallisation Plant. Clockwise – New acid tanks with delivered acid, Inspection of pipework, New tanks for copper stripping, View of plant tanks and pipework, Copper sulphate crystals in crystalliser, Plant, PLS pond and heaps for leaching in distance.*

Process Flow Sheet

The process flow sheet is outlined below (Figure 2). The heap leach – solvent extraction – crystallization circuit is similar to a heap leach solvent extraction – electrowinning plant (e.g., Nifty Copper Mine (ASX: CYM), Capricorn Copper Mine (ASX: 29M)) except it produces copper sulphate instead of cathode copper. Copper sulphate sells at a premium to the LME copper price but generally has lower operating and capital costs in comparison to electrowinning copper.

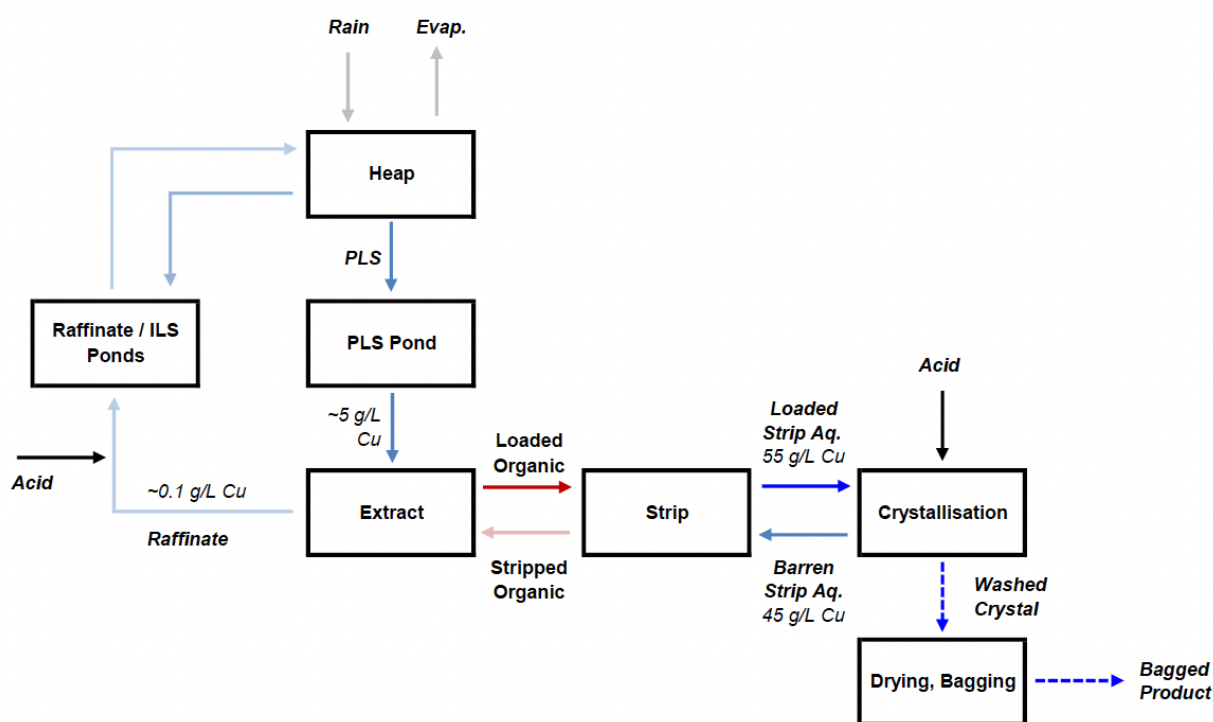


Figure 2. Process flowsheet for the Tartana heap leach – solvent extraction – crystallisation plant.

Copper Sulphate Market and Offtake

The Company has previously announced (see ASX announcement dated 2 November 2022) that it had signed a 100% copper sulphate offtake agreement with Kanins International, a leading supplier of copper sulphate pentahydrate to the Australian and southeast Asian markets. The agreement significantly de-risks the project with Kanins to buy 100% of production during an initial period of 3 years but with flexibility around product quantities.

The production copper sulphate pentahydrate provides the Company with leverage to the copper price with the product priced on a formula using the average London Metal Exchange copper price for the month of production multiplied by copper content plus surcharge ex works Chillagoe.

The fundamentals of the copper market are considered attractive given demand increases from the electrification of vehicles and renewable energy while large copper mines tend to be facing higher costs and declining copper grades. Global research and consultancy group, Wood Mackenzie, recently suggested a net-zero global emissions scenario will require 9.7Mt of new copper supply to be added over the next decade. It estimates that this would mean US\$23B investment per year will be needed over 30 years to deliver new copper projects to reach zero-carbon targets (source: TheAssay.com, Mixed Forecasts for 2023 Copper Price Levels).



Figure 3. *Plant view from the heaps with raffinate pond in foreground.*

This announcement has been approved by the Board of R3D Resources Limited.

Further Information:

Stephen Bartrop

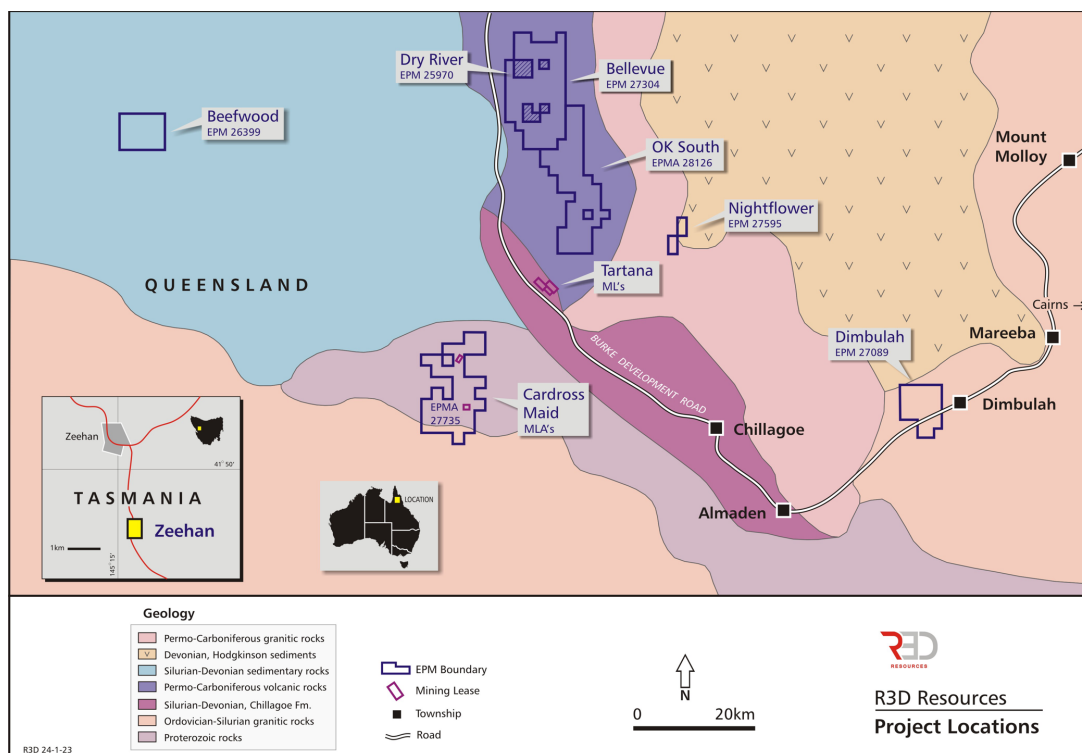
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About R3D Resources Limited



R3D Resources is a significant copper, gold, silver and zinc explorer and developer in the Chillagoe Region of Far North Queensland. R3D owns several projects of varying maturity, with the most advanced being the Tartana mining leases, which contain an existing heap leach – solvent extraction – crystallisation plant nestled between resource estimates of 45,000 tonnes of copper at Tartana and 39,000 tonnes of zinc at Queen Grade both reported to JORC standards.

Competent Person's Statement

The information in this announcement that relates to Exploration Results based on information compiled by Dr Stephen Bartrop who is a Fellow of the Australian Institute of Geoscientists (AIG) and a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Dr Bartrop has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration, and to the activity that is being undertaken to qualify as a Competent Person, as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.' Dr Bartrop is an employee of R3D Resources Limited, and consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Disclaimer Regarding Forward Looking Statements

This ASX announcement contains various forward-looking statements. All statements, other than statements of historical fact, are forward-looking statements. Forward-looking statements are inherently subject to uncertainties in that they may be affected by a variety of known and unknown risks, variables and factors which could cause actual values or results, performance or achievements to differ materially from the expectations described in such forward-looking statements.

R3D Resources does not give any assurance that the anticipated results, performance or achievements expressed or implied in those forward-looking statements will be achieved.