



R3D Resources Limited | ACN: 111 398 040 | ASX: R3D

169 Blues Point Road, McMahon's Point NSW 2060 Australia | Tel: +61 2 9392 8032

23 March 2022

R3D Copper Sulphate Plant Achieves Significant Progress

HIGHLIGHTS

- On site Copper Sulphate Plant review completed with copper sulphate production through Heap Leach – Solvent Extraction – Crystallisation
- Process flowsheet finalised and design of process control progressing
- Production set for 2H FY2022 with environmental approvals already in place
- Production target rate of 6000-7000 tonnes per annum, with indicative copper sulphate price of ~A\$3500 per tonne
- Additional sampling on heaps underway to upgrade resource status to Indicated or Measured and enable further metallurgical test work
- Strong offtake interest by third parties to mitigate world supply disruption, with 15-20% of world supply coming from Russia

R3D Resources Limited (ASX: R3D) is pleased to announce that it is making significant progress finalising its plans for the restart of the copper sulphate plant at Tartana. The works completed includes the finalisation of detailed flow sheets, component listings and electrical drawings to facilitate the refurbishment over the next few months. The plant appears in reasonable order with some civil repair work required as well as upgrading the electrical control panels to meet current safety standards. R3D has now identified that some tank and pipe replacements will be required although most tanks remain in good operational order.

R3D Managing Director Steve Bartrop commented: *"We are making good progress on the refurbishment and restart of the heap leach – solvent extraction – crystallisation plant to re-enter the copper sulphate market later this year. The current conflict in Ukraine has placed constraints on the supply of copper sulphate worldwide and this is likely to facilitate the placement of our future production to customers wishing to diversify their supply sources. Our refurbishment timetable remains on track, and we expect the market confidence will increase in the project as we approach production in 1H FY2023."*

Leach Heap Material Sampling

The Company has also conducted a second round of sampling of the heaps to test observed grade increases with depth in the earlier sampling. In addition, composite samples have been collected for further metallurgical bottle roll testing to confirm leaching parameters and upgrade the resource status.

Copper Sulphate Market

Copper sulphate is used as an activator for sphalerite (ZnS) and pyrite (FeS_2) in the flotation of base metal ores in mineral processing. Copper sulphate consumption is related to mineral processing rates with the larger consumers represented by the base metal mines in northwest Queensland and Northern Territory. Most copper sulphate is imported into Northern Australia and with 15% - 20% of the world supply coming from Russia. The current situation in Europe is creating uncertainty in supplies for many industries and bodes well for the placement of R3D's future production.

Copper sulphate pricing is based on the LME copper price plus a premium. As copper sulphate comprises approximately 25% copper, the price of one tonne of copper sulphate is approximately 25% of one tonne copper priced on the LME plus the premium.

Heap Leach – Solvent Extraction – Crystallisation Circuit

The process flowsheet at Tartana is relatively simple and is similar to the typical SX-EW process which electrowins cathode copper as a final product whereas the Tartana process crystallises copper sulphate as the final product. The benefit of crystallising copper sulphate instead of electrowinning copper cathode is lower operating and capital costs whilst still receiving the LME copper price for the contained copper and a premium for our product.

A simplified process flowsheet is outlined below. Key components are:

- The storage of copper in solution in the Pregnant Leach Solution (PLS) pond ready for extraction
- The extraction and upgrading of the copper grade in solution using organic solvent extraction
- The crystallization of copper sulphate crystal by chilling the solution
- Drying and bagging the copper sulphate for sales

The plant has been on care and maintenance since 2014 but many components remain functional and in reasonable condition with the environmental approvals in place. At the completion of the refurbishment programme, the Company will notify the relevant authorities of the transition from care and maintenance to resuming operations.

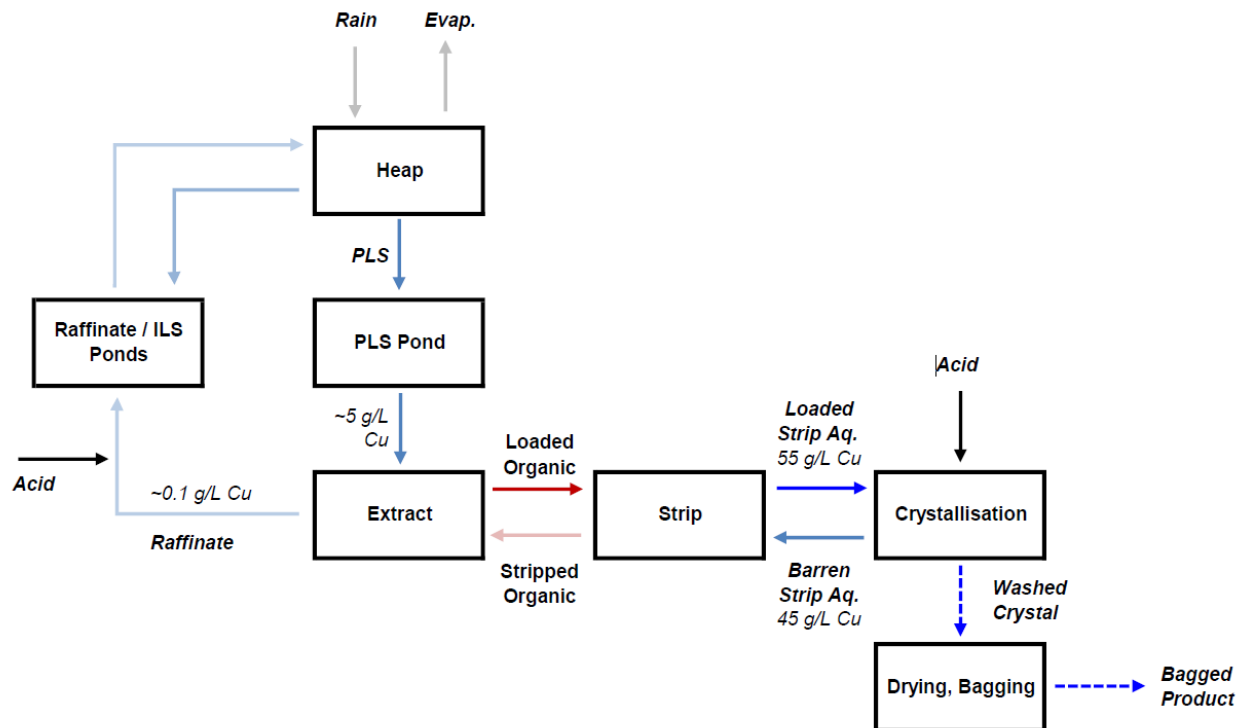


Figure 1 – Simplified circuit for copper sulphate production.



Figure 2 – 2(a) PLS ponds containing residual copper, 2(b) metallurgical and electrical team on site with R3D personnel, 2(c) Sampling the heap leach material to upgrade the resource status and conduct further metallurgical test work.

The Company reported preliminary scoping study parameters on the 28 January 2022 and these are outlined in Figure 3. These parameters remain in line with the Company's forecasts.


	Project Parameters	
	Production Rate	6,000 - 7,000 tpa
	Pre-production time	6 months
	Refurbishment capex excluding working capital	\$1.21 million
	Working capital	\$205,000
	Indicative copper sulphate price (based on US\$9,741/t Cu price)*	\$3,513 A\$ per tonne
	Preliminary copper sulphate production costs excluding copper sourcing	\$854 A\$ per tonne
* the price of copper sulphate is based on the LME copper price plus a premium		

Figure 3. Initial scoping study parameters for the refurbishment of the solvent extraction – crystallisation plant.



The Scoping Study referred to in this report is based on low-level technical and economic assessments and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

The heap leach sampling programme conducted earlier this month will increase the density of sampling of the material on the heap leach pad and combined with drilling planned for April 2022 is expected to enable an upgrade of the resource to *Indicated* or *Measured* and allow the reporting of ore reserves.

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

Further Information:

Stephen Bartrop
Managing Director

R3D Resources Limited

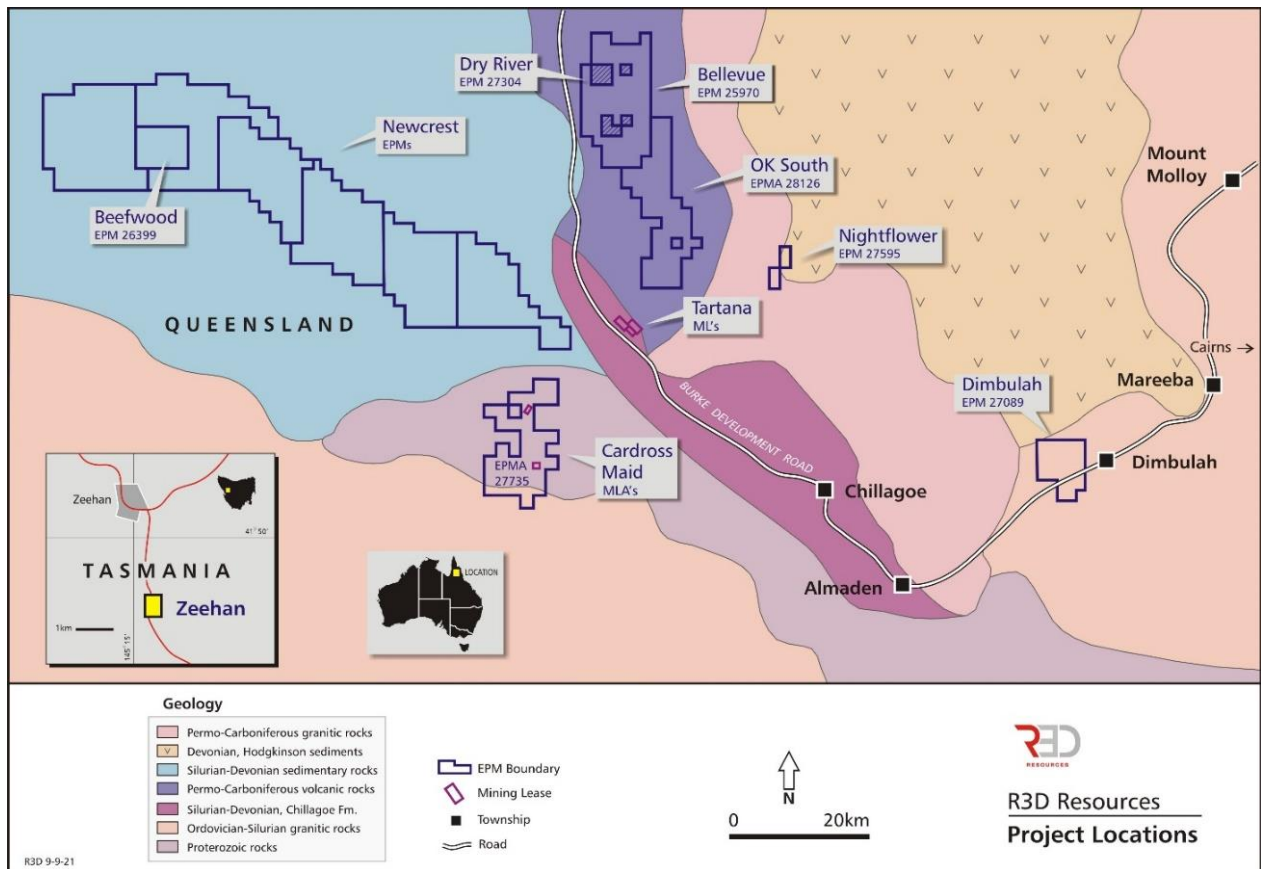
M: + 61 408 486 163

P: + 61 2 9392 8032

About R3D Resources Limited

In July 2021 R3D Resources Limited acquired Tartana Resources Limited, a significant copper-gold explorer and developer in the Chillagoe Region in 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. Work has commenced to restart this plant to provide future cash flow through the sale of copper sulphate. In Tasmania, the Company has secured permitting to excavate and screen for export low-grade zinc furnace slag/matte from its Zeehan stockpiles in Western Tasmania and has been shipping zinc slag to South Korea. The next stage in this project requires Stage 2 permitting to crush the slag and access the northern stockpile.

These two projects have the potential to generate a cash flow to underpin the R3D's extensive exploration activities in the Chillagoe region.



Competent Person's Statement

The information in this announcement that relates to Exploration Results is based on information compiled by Mr Wayne (Tom) Saunders who is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM), and a Member of the Australian Institute of Geologists (AIG). Mr Saunders has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration, and to the activity that is being undertaking 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.' Mr Saunders 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 that could cause actual values or results, and performance or achievements to differ materially from the expectations described in such forward-looking statements. R3D does not give any assurance that the anticipated results, performance or achievements expressed or implied in those forward-looking statements will be achieved.