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22 July 2022

Positive Metallurgical Testwork for Copper Sulphate Pentahydrate Production

Highlights

- **Final bottle roll tests for copper leaching provide encouraging results**
- **Margin derived from copper sulphate production utilizing copper in ponds, heaps and pit floor likely to be in excess of refurbishment costs**
- **Progressive copper sources identified with in pit mineralisation having been drilled and pending assays.**

R3D Resources Limited (ASX: R3D) (R3D or the Company), a significant copper-gold explorer and developer in the Chillagoe Region in Far North Queensland, is pleased to announce that it has received a technical Memorandum from Element Process which has reviewed the metallurgical testwork results for copper leaching of the existing heap leach material on the pads and within the open pit. The metallurgical testwork was conducted by Core Metallurgy.

The Element Process report provided an estimation of economically-available copper in existing heap and pit fill and was designed to enable the Company to determine when it needs to bring alternative copper sources on line to maintain constant future copper sulphate production. The report estimates that around 2,000 tonnes of copper sulphate pentahydrate will be available from the 'easily available sources' and the margin on this production will more than cover the refurbishment costs.

The next step is to analyse assay results pending from the recent resource drilling in the north end of the pit. These assays and subsequent resource upgrade are expected to underpin future copper sulphate pentahydrate production beyond the copper sources analysed by Element Process.

Work on the plant is continuing with a recent focus on the documentation of operating and safety procedures and the appointment of a new SSE.

Dr Stephen Bartrop, CEO and Managing Director of R3D stated,

> "This metallurgical work is important and while it has been delayed due to current industry conditions, it independently confirms the potential for positive cash flows from the production of copper sulphate from our existing 'easily available' copper sources.
>
> "Work on the restart is progressing well and the combination of firming offtake demand and the receipt and interpretation of the assays for the supergene pit resource drilling will determine the ramp up schedule. These assays are due over the next two weeks."

Tartana Existing Leachable Copper

R3D Resources Limited (R3D) commissioned testwork on samples taken from locations on the existing heap (designated “Upper” and “Lower”) and from previously leached pit fill (designated “Pit”).

Testwork was conducted by Core Metallurgy at their laboratory in Brisbane throughout April-June 2022. The principal aims of the testwork were to investigate variations in material composition with size, and to quantify recoverable copper and acid consumption rate. Core Metallurgy supplied testwork datasheets and a covering report to R3D, which have been forwarded to Element Process.

Element Process (Element) has conducted additional analysis of the testwork results and calculated an estimate of economically-recoverable copper from the three resources with details of this analysis outlined below.

Copper Leach Results

Sub-samples of each size fraction were crushed to -3.35mm and leached in bottle-roll tests for 7 days. Background solution acidity was maintained at ~5 g/L throughout with acid additions, and solution samples were taken periodically. The purpose of crushing each size fraction was to obtain an accelerated view of respective size fraction leach performance.

The following chart (Figure 1) plots final (day 7) copper extraction for each size fraction versus the sum of oxide and secondary sulphide (chalcocite, covellite) proportion in the respective fraction, suggesting that both oxide and secondary sulphide copper were consistently leached to completion:

Figure 1: Oxide plus secondary sulphide feed grade versus copper extraction. Source: TRL002 – Tartana Existing Leachable Copper Estimation of economically-available copper in existing heap and pit fill by Element Process

Chalcopyrite is not expected to leach in bottle-roll or commercial heap leach conditions. The oxidation of chalcocite and covellite minerals is likely being accomplished by soluble ferric iron which is present due to the acid leaching of ferric oxide gangue minerals. This mechanism can also be expected to operate in the commercial heaps. Consequently, the chart above illustrates the maximum possible heap leach extractions from each sample.

The leach test work on the various size fractions did not establish any preferential concentrate of leachable copper in any of the size fractions.

The extractable mass of copper from the various sources is summarised in Figure 2. These exclude long term sources such as the mining of the supergene and oxide ore in the pit and other sources of copper mineralisation

(e.g. Cardross) with the testwork and assessment designed to determine the economics and margin of 'easily available' copper mineralisation on the Tartana mining leases.

		Upper	Lower	Pit	Total
Ore	t	254,000	92,000	120,000	466,000
Contained Cu	t	881	271	246	1397
Extractable Cu	t	292	110	109	511
Economic Cu	t	251	104	104	459
Ponds Cu	t				50

Figure 2. 'Economic' copper from the upper and lower heaps and material in the pit and ponds. Source: TRL002 – Tartana Existing Leachable Copper Estimation of economically-available copper in existing heap and pit fill by Element Process.

The analysis is encouraging as it indicates that based only on these copper sources the project has the potential to more than cover the capital costs associated with the plant refurbishment and pave the way for more profitable copper sulphate production in the future from more traditional ore sources. The 'economic' copper estimated by the report at around 510 tonnes is equivalent to approximately 2,000 tonnes of copper sulphate pentahydrate or around 4 months of production at full capacity.

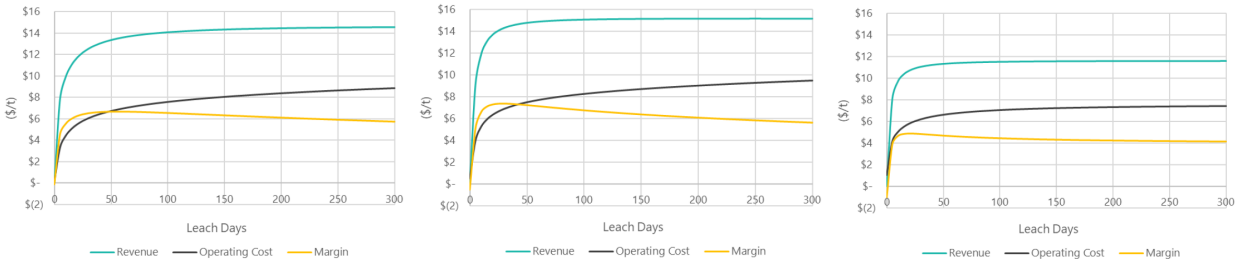

Figure 3. 3(a) Upper leach pad ore, 3(b) Lower leach pad ore & 3(c) Material in pit. revenue, operating cost and margin based on A$12,700 copper sulphate payable price. Source: 'Economic' copper from the upper and lower heaps and material in the pit and ponds. From TRL002 – Tartana Existing Leachable Copper Estimation of economically-available copper in existing heap and pit fill by Element Process.

The charts in Figure 3 reflect the fact that copper extraction plateaus relative quickly over time while cumulative Gangue Acid Consumption (GAC) continues indefinitely at a steady rate after an initial rapid increase. As a result, it is reasonable to expect there to be some number of leach days after which the cost of further acid addition is not worth the return in leached copper.

Overall Element Process summarises its findings by stating that it is clearly worthwhile to refurbish the recovery plant and leach all economic copper from Upper, Lower and possibly Pit ores prior to over-stacking with new ore following successful delineation of ongoing copper sources.

Stephen Bartrop
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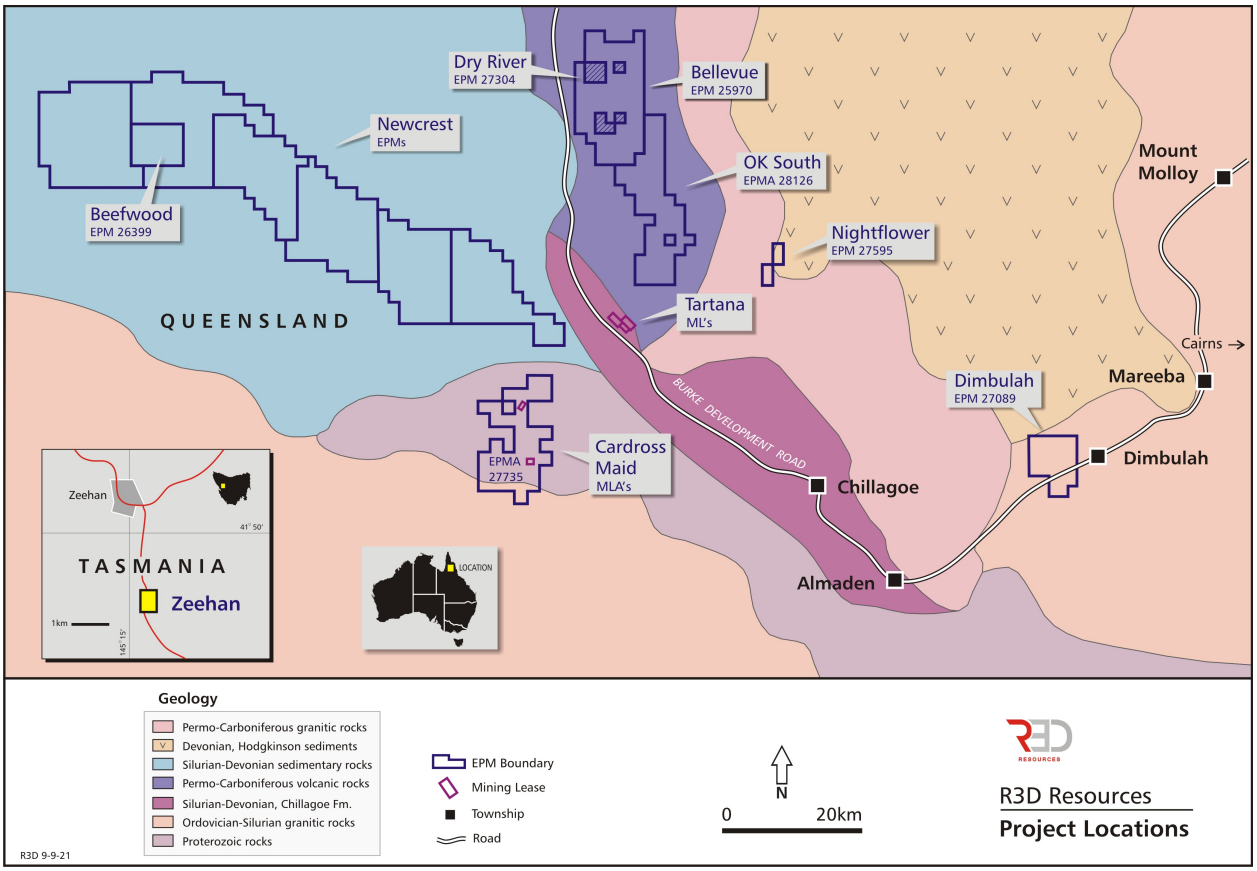
This announcement has been approved by the Disclosure Committee of R3D Resources Limited.

About R3D Resources



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.

The information in this announcement that relates to Exploration Results is based on information compiled by Mr Geoff Reed who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM (CP)), and a Member of the Australian Institute of Geologists (AIG). Mr Reed 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 Reed is a consultant 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.

JORC Code, 2012 Edition

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• Excavator bulk sampling using a 1 bcm bucket. Excavator samples on 1 metre intervals to 5 metres depth. Split and compositing to 10 kg samples. Samples comprise unconsolidated material less than 40 mm size. Sub-samples within each location were composited and screened at 12.5 and 4.75 mm to produce three size fractions per location. Each fraction was assayed and tested for copper speciation. • The Core Metallurgy report correctly identifies that there is no significant preferential deportment of any of the assayed elements to any of the size fractions
Drilling techniques	• Bulk sampling
Drill sample recovery	• 100%
Logging	• All samples were geologically logged using the same coding for past Majestic and Outokumpu drill logs and geological mapping.
Sub-sampling techniques and sample preparation	• Samples were laid out in a 1 metre intervals and were sampled by cone and quarter. • 2020 sampling was a minimum of 20kg per sample. • 2022 sampling was a minimum 2kg sample for assaying and whole hole composite minimum of 20kg. • 2022 sampling for Waste Rock characterization was 2.5kg composite for each hole.
Quality of assay data and laboratory tests	• Sub-samples of each size fraction were crushed to -3.35mm and leached in bottle-roll tests for 7 days. Background solution acidity was maintained at ~5 g/L throughout with acid additions, and solution samples were taken periodically. The purpose of crushing each size fraction was to obtain an accelerated view of respective size fraction leach performance. • The chart included in the report plots final (day 7) copper extraction for each size fraction versus the sum of oxide and secondary sulphide (chalcocite, covellite) proportion in the respective fraction, suggesting that both oxide and secondary sulphide copper were consistently leached to completion:
Verification of sampling and assaying	• Bulk samples – minimum of 20 kg/sample interval; average 25kg. • Individual assays for resource statements included duplicates at a rate of 1 per every 20 samples (5%).
Location of data points	• 2020 Pit distribution is a star pattern equidistant across the upper and lower lifts of the heaps and centred on the pile.

Criteria	Commentary
	• 2022 pit distribution was star pattern but rotated 45degress from original pattern. Centre pit on lower lift was offset by 12 metres from original pit. Only four pits were completed on upper lift due to position of acid irrigation layout.
Data spacing and distribution	• 2020 all samples 1.0-1.1 metre intervals. Hole depth is 4.0-4.1 to avoid bottom drainage layer at 6.0 metres. • 2022 all samples sampled at 1 metre intervals – all holes 5.0m deep.
Orientation of data in relation to geological structure	• Right angles (Vertical)
Sample security	• Security protocols were in place in both Tartana, Townsville, Cairns and Brisbane laboratories. Reputable shipping company used. CoC protocols used at all times.
Audits or reviews	• Review undertaken by Core Laboratories to optimize sampling and testing methodology. • Results of duplicate assays indicates strong correlation.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
Mineral tenement and land tenure status	• ML's 4819, 4820, 5312 and 20489. All held by Tartana Resources Limited, a 100% owned subsidiary of R3D Resources Limited.
Exploration done by other parties	• Extensive exploration and mining completed within the tenement footprint (see prospectus). No testing directly on heap leach. Grade of lower lift (0.85% Cu) and upper lift (0.75% Cu) pers comm previous operator. Heap Leach was fully operational but not completely leached.
Geology	• -50mm crushed interbedded shale and sandstone and minor porphyries with veining. Weathered oxide copper – red ochre, limited malachite and azurite.
Drill hole Information	• Excavator
Data aggregation methods	• Aggregation by Core Laboratories to optimize leach testing. • 2022 sampling demonstrates increasing grade with increasing depth indicating that copper precipitation has occurred in the lower levels of the heap during the period the leach operation was in standby.
Relationship between mineralisation widths and intercept lengths	• All sample intervals were within the mineralised zones.
Diagrams	• See attached.
Balanced reporting	• Report is a balanced report combining the geology and metallurgical testing.
Other substantive exploration data	• Oxide ore that was the source of the material on the heap was drilled by Majestic Resources and Solomon Copper RC programs. Additionally costean, pit face sampling and blast hole sampling by pXRF for grade control by Solomon Copper (previous operator).
Further work	• R3D are currently looking at minor additional RC or auger to complete the lower zone (south end) to test if any additional grade increases occur due to the high height is causing addition precipitation. Combined with metallurgy and engineering to go to measured and then reserve status.

HOLE TEX	Waypoints	East	North	RL	
17	73	208519	8126016	251	Lower Ramp N
18	74	208537	8125989	245	Lower Centre
19	75	208545	8125971	246	Lower South
20	76	208550	8126006	244	Lower NW
21	77	208512	8125993	245	Lower SE
22	79	208581	8125892	256	Upper NW
23	80	208597	8125912	257	Upper NE
24	81	208563	8125924	258	Upper Ramp N
25	82	208782	8125476	230	Open Cut Centre
26	85	208588	8125897	258	Upper Centre

Sample locations