

12 April 2023

Tivan announces TIVAN+ technology pathway, Speewah Project delivery timeline and Pilot Plant roadmap

The Board of Tivan Limited (ASX: TVN) ("Tivan" or the "Company") is pleased to advise that the Company has confirmed the technology pathway for facilitation of its vanadiferous titanomagnetite ("VTM") projects through the proposed development and commercialisation of an evolved mineral processing technology, branded as "**TIVAN+**". In support, Tivan confirms it has engaged in an ongoing collaboration with Australia's national science agency, CSIRO, on the TIVAN+ technology pathway and project facilitation.

In parallel, the Company has defined the indicative delivery timeline for the Speewah Vanadium-Titanium-Iron Project ("Speewah" or "Speewah Project") and the TIVAN Processing Facility based at the Middle Arm Sustainable Development Precinct ("MASDP") in Darwin. The Company has also defined and commenced execution of a roadmap for the development and operation of a large-scale Pilot Plant to validate the TIVAN+ technology and facilitate project delivery. The planned Pilot Plant will be based in Darwin and is supported by the Northern Territory Government.

TIVAN+ Technology Pathway

Tivan is a critical minerals company that owns two globally significant VTM ore bodies, the Mount Peake Vanadium-Titanium-Iron in the Northern Territory ("Mount Peake") and Speewah in Western Australia. Over the past decade, Tivan has developed and owns the intellectual property for the TIVAN[®] Process, a novel mineral processing technology specifically designed to commercialise VTM deposits by producing vanadium pentoxide, titanium dioxide and iron oxide fines. The Company plans to develop the downstream TIVAN Processing Facility at the MASDP.

Over the past four months, Tivan and CSIRO have engaged in extensive knowledge sharing on their respective VTM processing intellectual property, including in respect of VTM ores from Mount Peake and Speewah. Given the embedded capabilities and technical knowledge of both parties, a strategic opportunity exists to consolidate efforts to develop an optimal VTM processing technology pathway, TIVAN+, based on defined aspects of the respective flowsheets.

The Board views a hybridised TIVAN+ process route as an optimal path to project facilitation, with the potential for significant reductions in capital and operating costs and environmental impacts. The Board additionally sees commercial advantage in the potential for a hybridised TIVAN+ process route to produce an intermediate product, specifically a titanium ilmenite feedstock. For reference, the Company's critical and secondary paths are shown in Figure 1.

The Board is highly supportive on ongoing collaboration and knowledge sharing with CSIRO in further development of the TIVAN+ technology pathway. Collaboration with CSIRO offers access to Australian based technical expertise and

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laboratory resources to expedite further testwork and development processes. The parties intend to work towards formalising this collaboration over the next six months, bearing independent costs. Tivan will provide further updates at the appropriate time.



Figure 1: critical and secondary paths for Tivan Limited

End of Strategic Review

Defining the TIVAN+ technology pathway and associated critical paths, represents the fourth and final finding of the Board's strategic review, and the conclusion of the "Reset, Review, Renew" phase.

The Board previously announced three findings as part of this phase:

- 1. the relocation of the TIVAN Processing Facility to MASDP (see ASX announcement of 14 February 2023);
- 2. the signing of a Binding Term Sheet for the acquisition of the Speewah Vanadium-Titanium-Iron Project in Western Australia (see ASX announcement of 20 February 2023); and
- 3. the signing of an Exploration Alliance Agreement with EARTH AI for the Sandover Lithium Project in central Australia (see ASX announcement of 7 March 2023).

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Speewah Project Delivery Timelines

During the Board's strategic review process, the Tivan Project Team has in parallel undertaken a detailed project planning review to establish the delivery pathway and indicative delivery timeline for the recently acquired Speewah Project. Development of Speewah will require completion of an initial Scoping Study, then progress through industry standard Pre-Feasibility and Feasibility studies, concluding with a Front-End Engineering and Design ("FEED") Study as set out in the process flowchart and indicative timeline below in Figure 2. Permitting and approvals processes will be undertaken simultaneously with the study and engineering workstreams.

The delivery pathway will facilitate initial, and then progressive refinement of, capital and operating costs, as well as the project execution plan, culminating in a FEED Study in support of a final investment decision.

The Company is currently finalising the engagement of an engineering group to lead the Scoping Study, having selected a preferred supplier. In support, Tivan has developed a detailed scope of work and deliverables list for the Scoping Study, in consultation with the preferred engineering supplier. The Scoping Study will extend to beneficiation and non-process infrastructure at Speewah, leveraging off work completed in these areas by the previous owner of Speewah, and the Processing Plant in Darwin.



Figure 2: delivery pathway and indicative timeline for the Speewah/MASDP Project

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Pilot Plant Roadmap

The delivery pathway in Figure 2 above also defines the roadmap and indicative timeline for design, construction, commissioning and operating of a state-of-the-art Pilot Plant that is proposed to validate and refine the TIVAN+ technology. The Board views a large-scale Pilot Plant as a prerequisite for industrial scale delivery of a TIVAN Processing Facility, and also the final stage of technical validation that must be completed to achieve project financing.

The Tivan Project Team has in recent months developed the roadmap for the delivery of this piloting project, defining the various phases required for delivery including plans for extraction and preparation of the ore to be beneficiated as the feedstock for the Pilot Plant. To expedite the commissioning of the Pilot Plant ore samples will initially be sourced from Mount Peake, then Speewah. The Pilot Plant will be designed to facilitate the piloting of multiple VTM ore bodies.

Tivan confirms that it submitted a request for funding to the Critical Minerals Development Program in mid-February, with the support of the NT Government. The Company is progressing a range of additional facilitatory steps in support, including:

- Initial scoping and assessment of technology scale-up factors for sizing
- Engagement with independent industry experts on engineering considerations and scale-up factors
- Project scheduling and development of an initial project management plan
- Development of indicative manning requirements during each phase, including indicative costs
- Development of funding strategy including consideration of various Federal and Northern Territory grants and programs
- Financial and tax modelling
- Briefings with Government and key department stakeholders
- Identification of preferred location in Darwin, following site evaluation with the NT Land Development Corporation
- Progressing the required permitting and approvals processes with the NT Environment Protection Authority
- Progressing revisions to Mount Peake Mine Management Plan with the NT Department of Industry, Tourism and Trade to secure ore samples
- Progressing discussions with Central Land Council and Stirling Station to facilitate Mount Peake ore samples
- Commencement of a process for the appointment of an engineering group for project delivery
- Development of an indigenous engagement and employment plan

As set out in the Company's submission to the Australian Federal Government's refresh of the Critical Minerals Strategy (see ASX Announcement of 1 February 2023), as part of a renewed emphasis on R&D in the critical minerals sector, priority needs to be given to the development of laboratory testbeds, demonstration facilities and pilot plants. From the perspective of industry, large-scale pilot plants are a crucial bridging step between the laboratory and project delivery. They constitute the single most important risk mitigation strategy for all aspects of a complex project and should be viewed as mandatory for novel technologies.

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Next Phase - Implementing & Inspiring

The Company's emphasis now shifts to the next phase of "Implementing & Inspiring", focused on execution of key initiatives and work streams in support of the reset strategy, and continuing to inspire new stakeholders to join the Company's journey on the path to project delivery.

Consistent with earlier guidance (see ASX announcement of 12 April 2023), Executive Chairman, Mr Grant Wilson, will host a comprehensive and interactive online briefing with shareholders on 12 April 2023. Investor briefing materials will be provided prior to this session, and a replay will be made available.

Comment from Executive Chairman

Mr Grant Wilson commented:

"As the 'Reset, Review, Renew' phase comes to a close, I would like to acknowledge the team at Tivan for their contributions. The distance travelled in a short period of time has been remarkable, and a real-time demonstration of hard work, integrity and resilience. These are principles that matter, and that are now reflected in the DNA of Tivan.

I am pleased that the Company is now in a position to provide credible timelines for project delivery, and to commit to the development of a Pilot Plant as a key facilitatory step. I am also pleased to commence the journey of 'Implementing and Inspiring' where Tivan's new sense of mission will be to the fore. With a clearly defined purpose, and through consolidated efforts, much will be achieved."

This announcement has been approved by the Board of the Company.

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This announcement may contain certain 'forward looking statements' which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. The words "expect", "anticipate", "estimate", "intend", "believe", "guidance", "should", "could", "may", "will", "predict", "plan" and other similar expressions may identify forward-looking statements.

Forward-looking statements contained in this announcement include, but are not limited to: completion of the Transaction; the strengths, characteristics and potential of the Company following completion of the Transaction; timing and receipt of shareholder approvals and satisfaction of other conditions precedent and discussion of future plans, projects and objectives. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions, and other factors which are beyond the control of the Company, which could cause actual results to differ materially from future results expressed, projected, or implied by such forward looking statements. Such risks include, but are not limited to third party actions, metals price volatility, failure to complete the Transaction, currency fluctuations and variances in exploration results or other factors, as well as political and operational risks, and governmental regulation and judicial outcomes. For a more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other releases.

Forward-looking statements are provided as a general guide only and should not be relied on as an indication or guarantee of future performance.

No representation or warranty, express or implied, is made as to the accuracy, likelihood of achievement or reasonableness of any forecasts, prospects, returns or statements in relation to future matters contained in this announcement. Actual results, performance or achievements may differ materially from those expressed or implied in such statements and any projections and assumptions on which these statements are based.

Readers are cautioned not to place undue reliance on forward-looking statements and, except as required by law, the Company, its directors, officers, agents, employees and advisers do not undertake any obligation to release publicly any update or revision to any 'forward looking statement' to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events.

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