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FIREBIRD PRODUCES LMFP BATTERIES

HIGHLIGHTS

- **LMFP cathode material testwork is underway at Firebird's state-of-the-art R&D centre, located in Jinshi, Hunan Province, China. Five batches have been completed, with LMFP button batteries already produced from this early round of testing.**
- **100 batches expected to be completed - each batch to be turned into button batteries for full evaluation and analysis. Program being completed with Central South University (CSU) of Hunan, under a binding strategic collaboration agreement.[1]**
- **Production of LMFP fits within Firebirds growth strategy of becoming a near-term, low-cost manganese-based cathode material business, to deliver products into the growing electric vehicle battery market.**
- **Substantial cost advantages expected to flow through to manganese sulphate operating costs through this innovative LMFP production process, which retains manganese sulphate in solution, eliminating the need for sulphate crystallisation, packaging and other ancillary costs.**
- **Bypassing the packaging and crystallisation steps, combined with reduced handling within sulphate process, will yield a ~32% or US$167/t saving in the projected manganese sulphate operating cost. [2]**
- **Leveraging its unique processing methods and technology, Firebird expects this streamlined approach will not only significantly reduce costs but will result in a higher-quality LMFP product, strengthening Firebird's position in the market.**
- **Testwork results will be used to undertake a Scoping Study and, once completed, Firebird will assess options to expand the current pilot plant to produce approximately one metric tonne per day of LMFP.**

Image 1: *Button batteries made with Firebird LMFP, Note: Battery industry standard to conduct battery testing on button batteries*

[1] See FRB ASX announcement 28 October 2024
[2] See FRB ASX announcement 7 May 2024 for full details regarding proposed operating cost. Stated savings are calculated costs for each removed stage of process by using LMFP process.

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Firebird Managing Director Mr Peter Allen commented: *"The commencement of testwork and first production of LMFP batteries with CSU is an exciting and transformative step forward for Firebird in the commercialisation of our LMFP cathode materials, which will ultimately be distributed directly into global battery markets.*

"This achievement places Firebird in a very small select group of non-Chinese owned companies (first Australian company) to have produced LMFP batteries. Manganese sulphate is a critical element within LMFP and our manganese processing knowledge and IP enables Firebird to drive significant value by co-precipitation.

"We expect our process to translate into substantial cost advantages in sulphate production by bypassing the manganese sulphate crystallisation process, which is the largest component of our operating cost. This streamlined approach not only reduces costs but also results in a superior quality LMFP product, strengthening our position as a cost-effective, high-quality leader in the market.

"The progress we have made in a short period of time is testament to our dedicated and innovative team and partners who have been instrumental in fast-tracking our journey toward becoming a leading manganese chemical business.

"The production of LMFP batteries is aligned with our growth strategy of establishing Firebird as a leading and low-cost manganese-based cathode material business. We are well-positioned to deliver on this strategy and through our sector leading manganese team and proposed, tier-one manganese sulphate plant, the Company is fully focused on establishing operations and continuing to innovate through our leading technology processes to generate strong stakeholder returns.

"The future for Firebird is very exciting and we look forward to delivering on a busy 2025."

Australian-owned Firebird Metals Limited (ASX: FRB, Firebird or the Company) is pleased to announce that subsequent to entering into a binding strategic collaboration agreement with Central South University (**CSU**) of Hunan in October 2024, Firebird and CSU have commenced testing of a combination of solid and co-precipitation methods for the production of lithium manganese iron phosphate (**LMFP**) cathode active material (**CAM**).

Impressively, five batches have already been completed and through this, LMFP batteries have been produced through manganese sulphate in solution which was then processed into LMFP CAM. In turn, the CAM has been made into button batteries for analysis and testing. The battery industry standard involves testing cathode chemistries using button-sized batteries to evaluate performance, charge/discharge cycles, and degradation. Upon successful completion of these tests, the Company will proceed to larger-scale pouch battery testing.

The complete program is expected to test 100 batches overall. Each batch will be turned into button batteries for full evaluation and analysis. These insights will prove to be critical for potential cell manufacturing clients, providing valuable data to optimise battery performance.

CSU has a strong reputation for developing world leading battery materials processes. CSU staff include global experts in the Li-ion battery supply chain, with alumni including the founders of BYD and Rongbay Technology.

This collaboration with CSU has potential to position Firebird as a global leader in the evolving Li-ion battery market, addressing the growing demand for cost-effective, high-performance, energy storage solutions.

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The Company's long-term strategy is to grow into low-cost manganese-based cathode material business, leveraging its world-class team, unique processes and technology and location in China.

Through the execution of this strategy, Firebird aims to secure a natural cost advantage in LMFP cathode production, particularly by integrating manganese sulphate ($MnSO_4$) from its proposed production plant in China.

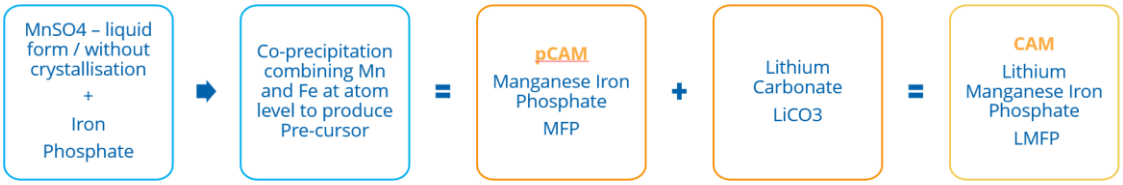

Image 2: *High level process flowsheet for Firebird Co-precipitation process*

Cost and Production Advantages from LMFP Cathode Production

In LMFP cathode production, producers typically purchase crystalised $MnSO_4$ and then dissolve it back into solution for further processing, which uses a large amount of energy from the crystallisation process. Importantly, Firebird's innovative process eliminates this inefficiency, giving it a critical cost advantage in LMFP cathode production.

Eliminating packaging and crystallisation steps within the sulphate process **equates to a ~32% or US$167/t saving in projected manganese sulphate operating cost[3]. In addition the expected reduced grinding at pCAM level will generate further total savings.**

CSU is leveraging both in-house and third-party laboratories to convert the LMFP into button batteries for comprehensive performance testing. Additionally, Firebird's technology is easily transferable to locations outside of China, positioning the Company as a global leader in LMFP cathode manufacturing.

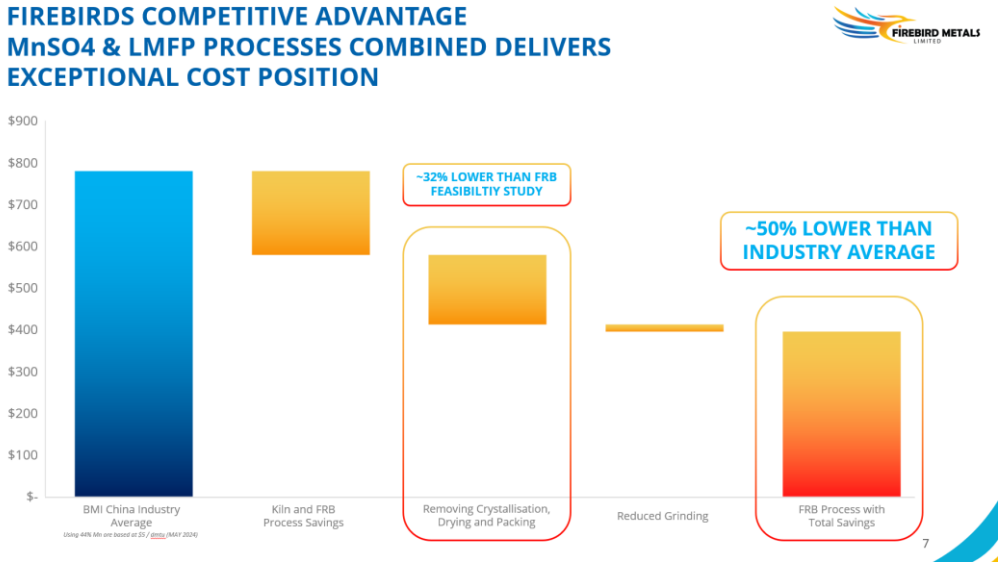

Image 3: *Cost savings by combining sulphate production and LMFP CAM production[3]*

[3] See FRB ASX announcement 7 May 2024 for full details regarding proposed operating cost. Stated savings are calculated costs for each removed stage of process by using LMFP process.

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Images 4 and 5: *Testing facility at grinding mill manufacturer*

Next Steps

Results from the testwork program will be used to undertake a Scoping Study on LMFP production. Once completed, Firebird will assess the results and opportunity to expand the current pilot plant to produce approximately one metric tonne per day of LMFP.

The CSU professors and their team have already established a strong foundation in the LMFP production process. Lab testing with Firebird's Chinese technical team will refine this process, which will differ from mainstream production methods.

To maintain confidentiality and protect IP, Firebird intends to lodge patents both domestically and internationally. All necessary equipment has been ordered to enable Firebird to complete future testwork at its own R&D lab facilities.

This announcement has been approved for release by the Board.

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About Firebird Metals Limited

Firebird Metals is an advanced manganese developer focused on combining mining and downstream processing with a dedication to the advancement of the EV battery sector.

The Company is currently progressing its unique China-focused lithium manganese iron phosphate (LMFP) battery strategy, which will develop Firebird into a near-term producer of high-purity, battery-grade manganese sulphate, a key cathode material in LMFP batteries for electric vehicles.

Execution of this strategy will place Firebird at the forefront of manganese sulphate production, at a time when the use and demand for manganese in batteries continues to rapidly grow. Due to the low number of ASX-manganese developers and increasing use of LMFP by car manufacturers, Firebird is in a strong position to benefit from this growing market and deliver significant value to its shareholder base.

The Company also has a project portfolio located in the renowned East Pilbara manganese province of Western Australia, which boasts a total Resource of 234Mt[4,5], with exciting exploration and development growth upside. The portfolio is led by the flagship Oakover Project, which holds a Mineral Resource Estimate[5] of 176.7 Mt at 9.9% Mn, with 105.8 Mt at 10.1% Mn in an Indicated category.

The Company's other key Projects are Hill 616 and Wandanya which provide Firebird with compelling growth opportunities. Hill 616 contains an Inferred Mineral Resource[6] of 57.5Mt at 12.2% Mn and shares similar geological traits to Oakover. Wandanya is a high-grade exploration opportunity, with Direct Shipping Ore potential.

The Company is committed to generating sustainable long-term value and growth for stakeholders, through the implementation of best practice exploration methods while prioritising the well-being, health and environmental protection of its employees and communities it operates in.

JORC Compliance Statement

This announcement contains references to Mineral Resource Estimates, which have been reported in compliance with Listing Rule 5.8 and extracted from previous ASX announcements as referenced.

The Company confirms that it is not aware of any new information or data that materially affects the information previously reported and that all material assumptions and technical parameters underpinning the Mineral Resource Estimates continue to apply and have not materially changed.

[4] See ASX announcement dated 23 March 2023: Indicated Resource of 105.8Mt at 10.1%; Inferred Resource of 70.9Mt at 9.6% for global Resource of 176.7 Mt at 9.9% Mn.
[5] See ASX announcement dated 1 December 2021: Inferred Resource of 57.5 Mt at 12.2% Mn.