

MANGANESE SULPHATE PILOT PLANT OPERATIONAL

CAUTIONARY STATEMENT – CHINA BASED BATTERY GRADE MNSO₄ SCOPING STUDY

The China-based Manganese Sulphate Scoping Study, announced to the ASX on the 21/11/2023 is a preliminary technical and economic study of the potential viability of the processing of part of the manganese concentrate to be produced from the Oakover Manganese Project at a facility to be established in China. The Scoping Study outcomes, production targets and forecast financial information referred to in this release are based on low accuracy level technical and economic assessments that are insufficient to support estimation of Ore resources.

The Scoping Study has been completed to a level of accuracy of +/- 35% in line with a scoping level study accuracy. While each of the JORC modifying factors was considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the production target itself will be realised. Further exploration and evaluation work and appropriate studies are required before the Company will be in a position to estimate any Ore Reserves or to provide any assurance of an economic development case. Accordingly, given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study. Given that the results of the Scoping Study are subject to the qualifications above (including assumptions as to accuracy), any results reported in this release should be considered as approximates and subject to variances having regard for the assumptions referred to in this release. The Company has reasonable grounds for disclosing a Production Target, given that approximately 99% of the Life-of-Mine (LOM) Production Target is in the Indicated Mineral Resource category, and 1% is in the Inferred Mineral Resource category. The production target stated in this announcement is based on Firebird's current expectations of future results or events and should not be relied upon by investors when making investment decisions. Further evaluation work and studies are required to establish sufficient confidence that the production target will be met. Firebird confirms that the financial viability of the Oakover Manganese Project is not dependent on the inclusion of Inferred Resources in the Scoping Study.

The Company considers all the material assumptions in this to be based on reasonable grounds. These include assumptions about the availability of funding. While Firebird considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved. To achieve the range of potential outcomes indicated in the Scoping Study, funding of in the order of US\$82.3 million (excluding working capital and finance costs) will likely be required. Investors should note that there is no certainty that Firebird will be able to raise that amount of funding when needed. However, the Company has concluded it has a reasonable basis for providing the forward-looking statements included in this announcement and believes that it has a "reasonable basis" to expect it will be able to fund the development of the Project. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Firebird's existing shares. It is also possible that Firebird could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce Firebird's proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

The Mineral Resources underpinning the production target in the Scoping Study have been prepared by a competent person in accordance with the requirements of the JORC Code (2012). The Competent Person's Statement is found on page 5 of this announcement. For full details of the Mineral Resources estimate, please refer to Firebird's ASX release dated 10th March 2022 and 23 March 2023. Firebird has confirmed that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that ASX release continue to apply and have not materially changed.

BATTERY GRADE MANGANESE SULPHATE PILOT PLANT OPERATIONAL

HIGHLIGHTS

- Chinese-based Research and Development (R&D) Centre fit-out completed ahead of schedule and under budget
- R&D Centre situated in the Jinshi High Tech Industries Development Zone, Jinshi, Hunan province, China
- Completion of R&D Centre includes commencement of Pilot Plant operations, with samples of high-purity manganese sulphate (MnSO₄) and manganese tetra oxide (Mn₃O₄) to be produced for potential customers and offtake parties
- R&D centre will be used to complete testing on several other potential manganese rich precursor cathode active materials (pCAM)
- Commencement of Pilot Plant operations represents the execution of another key milestone for the China-based LMFP battery strategy
- Establishment of the R&D Centre follows completion of the Battery Grade Manganese Sulphate Scoping Study, which delivered excellent results and reaffirmed the opportunity to establish Firebird as low-cost, near-term manganese sulphate producer, key results include:
 - Low-cost total CAPEX of ~US\$82.3M before tax
 - Highly competitive low OPEX of ~ US\$659/mt
 - Strong projected NPV of ~US\$331M at a discount rate of 8%, before tax
 - Internal rate of return of 47% before tax
 - Payback period of less than two years
 - Plant capacity of 72,000 mt/a of battery grade manganese sulphate (MnSO₄) equivalent, producing:
 - 50,000mt/a Battery Grade Manganese Sulphate (MnSO₄); and
 - 10,000mt/a Manganese Tetra Oxide (Mn₃O₄)
- Battery Grade Manganese Sulphate Pre-Feasibility Study (PFS) at an advanced stage and on-track for completion in Q1 2024

Advanced manganese developer **Firebird Metals Limited (ASX: FRB, “Firebird” or “the Company”)** is pleased to announce completion of fit-out of the Chinese-based Research and Development Centre (“**R&D Centre**”) and commencement of Pilot Plant operations, ahead of schedule and under budget.

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Commenting on completion of the R&D Centre and rapid execution of the China-based LMFP battery strategy, Firebird Managing Director Peter Allen said, “We continue to make excellent strides in China on our LMFP Battery Strategy, which will position us to become a major, low-cost, manganese sulphate producer, providing battery-grade manganese into a market that is forecast to experience exponential growth over the coming decade.

“Completion of the R&D Centre, under budget and ahead of schedule, is an excellent achievement and a strong testament to the team on-the-ground in China. We have commenced Pilot Plant work and will focus on demonstrating our ability to produce high-purity manganese sulphate and manganese tetra oxide for potential customers and offtake parties. This work will also play a key role in securing finance to construct our plant in Hunan and continue our focused efforts towards becoming a producer in the next 18-24 months.

“We have attracted and assembled a leading and experienced manganese team in China and I am very confident and excited on what we are working towards and the future for Firebird and our shareholders.

“Importantly, we are well-funded following our heavily oversubscribed Placement from last October and in a very strong position to execute key work programs in China, along with the continued development of our Oakover Project in Western Australia. We are fully focused on maintaining this strong momentum and look forward to delivering on a very busy 2024.”

The R&D Centre is located in the Jinshi High Tech Industries Development Zone, Jinshi, Hunan province, China, which is a central location for Chinese Battery production and manganese sulphate demand in China.

Initially, the Pilot Plant will produce samples of battery grade manganese sulphate ($MnSO_4$) and manganese tetra oxide (Mn_3O_4) for potential customers and offtake parties. The Plant will also be used to demonstrate the production process to financiers, as Firebird continues to progress its China-based LMFP battery strategy and develop into a near-term producer of battery grade manganese.

The Pilot Plant forms part of Firebird’s Research and Development Centre, which will be used to complete testing on several other potential manganese rich precursor cathode active materials.

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Image 1: Sulphate Reactor



Image 2: Filter press (foreground) and sulphate reactors (background)



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Image 3: Sample preparation room



Image 4: Analysis room

Completion of fit-out of the R&D Centre follows delivery of the Battery Grade Manganese Sulphate Scoping Study, which focused on the development of a manganese sulphate plant with a total capacity of 72,000 battery grade manganese sulphate equivalent, **producing 50,000 tpa of Battery Grade MnSO₄ and 10,000 tpa of Mn₃O₄ capacity in China from manganese concentrate.**

Economic assumptions for the Scoping Study assumed that manganese concentrate will be able to be sourced from Oakover (or third parties) at prevailing forecast market prices.

Firebird will process concentrate through ore preparation, leaching, reagent addition, multi-stage precipitation, impurity removal and 2-stage crystallisation to produce Battery Grade MnSO₄ and Mn₃O₄.

Key results from the Scoping Study included:

- Low-cost total CAPEX: ~US\$82.3M before tax
- Highly competitive low OPEX: ~ US\$659/mt
- Strong projected NPV: ~US\$331M (at a discount rate of 8%, before tax)
- Internal rate of return: 47% (before tax)
- Payback period of less than two years

Importantly, results from the Scoping Study continued to build upon the strong platform for Firebird to successfully deliver on its vision to become a global leader in the manganese industry, combining mining and downstream processing with a dedication to the advancement of the Li-ion battery sector.

The Company is well advanced on the Battery Grade Manganese Sulphate PFS, which is on-track for completion in Q1 2024.

For full details of Battery Grade Manganese Sulphate Study refer to ASX announcement dated 21/11/2023.

This announcement has been approved for release by the Board.

For further information contact:

Mr Peter Allen
Managing Director
+61 8 6245 9818
admin@firebirdmetals.com.au

Cameron Gilenko
Citadel-MAGNUS
0466 984 953

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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 owns 100% of its project portfolio, located in the renowned East Pilbara manganese province of Western Australia, which boasts a total Resource of 234Mt, with exciting exploration and development growth upside. The portfolio is led by the flagship Oakover Project, which holds a Mineral Resource Estimate¹ of 176.7 Mt at 10% Mn, with 105.8 Mt @ 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 Resource² of 57.5Mt @ 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 Exploration Results and Mineral Resource Estimates, which have been extracted from previous ASX announcements as referenced. For full details of Exploration Results and Mineral Resource Estimates in this release that have been previously announced, refer to those announcements.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the said announcements, and in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

¹ For full details refer ASX announcements dated 10/3/2022 and 23/3/2023

² For full details refer ASX announcement dated 1/12/2021

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