

## DECEMBER 2023 QUARTERLY ACTIVITIES REPORT

### HIGHLIGHTS

#### CHINESE LMFP BATTERY STRATEGY

- In-house Battery Grade Manganese Sulphate Scoping Study ('SS' or 'the Study') which delivered excellent results and reaffirmed the opportunity to establish Firebird as low-cost, near-term manganese sulphate producer
- Battery Grade Manganese Sulphate Pre-Feasibility Study at an advanced stage, with completion expected in late Q1 2024
- Establishment and registration of the Company's Chinese subsidiary named Hunan Firebird Battery Technology Co Ltd
- Advanced and commercialised crystallisation technology secured, providing a key operation and cost advantage for Firebird
- Preferred location for battery grade manganese sulphate plant secured and will be situated in the Jinshi High Tech Industries Development Zone, Jinshi, Hunan province, China
- Subsequent to quarter end, 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 (MnSO<sub>4</sub>) and manganese tetra oxide (Mn<sub>3</sub>O<sub>4</sub>) 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

#### OAKOVER PROJECT

- Planning for next stage environmental surveys and studies underway
- Diamond drill program for on-going metallurgical test work at Oakover to be carried out in Q1 2024

#### CORPORATE

- Cash \$7.36 M
- The 2023 Annual General Meeting was held on Wednesday 29 November 2023 and all resolutions were successfully passed

Firebird Metals Limited (ASX: FRB, "Firebird" or "the Company") is pleased to provide an update on its activities during the December 2023 Quarter.

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## **CHINESE LMFP BATTERY STRATEGY**

### **BATTERY GRADE MNSO<sub>4</sub> SCOPING STUDY COMPLETED**

**FOR FULL DETAILS REFER TO ASX ANNOUNCEMENT DATED 21/11/2023**

### **CAUTIONARY STATEMENT – CHINA BASED BATTERY GRADE MNSO<sub>4</sub> SCOPING STUDY**

The China-based Manganese Sulphate Scoping Study, 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.

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The Completion of the Firebird's in-house China-based Battery Grade Manganese Sulphate Scoping Study generated outstanding results, which validated the Company's strategic growth transition to produce battery grade manganese sulphate in China.

Key results from the Study included a **strong projected NPV of approximately US\$331M, total CAPEX of approximately US\$82.3M, an impressive IRR of 47% and a payback period of less than two years.** Importantly, results from the Study have 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 Study focused on the development of a plant with a total capacity of 72,000 battery grade manganese sulphate equivalent producing 50,000 tpa of Battery Grade MnSO<sub>4</sub> and 10,000 tpa of Mn<sub>3</sub>O<sub>4</sub> capacity in China from manganese concentrate.

Economic assumptions for the study assume that manganese concentrate is able to be sourced from Oakover (or third parties) at prevailing forecast market prices.

The Company will process concentrate through ore preparation, leaching, reagent addition, multi-stage precipitation, impurity removal and 2-stage crystallisation to produce key Battery Grade MnSO<sub>4</sub> and Mn<sub>3</sub>O<sub>4</sub>.

Importantly, Firebird is progressing its LMFP strategy at an opportune time, with 2023 seen by many industry participants as the beginning of the new era of batteries propelled by the commercialisation of LMFP.

Execution of the LMFP growth strategy is expected to place Firebird at the forefront of manganese sulphate production to meet the further downstream aspirations of becoming a cathode producer and this places the Company in a strong position to benefit from growing demand for LMFP's.

Firebird believes the SS clearly demonstrated the advantages and possible value accretion of the LMFP Strategy, validating the Company's decision to progress towards building an initial Battery Grade Manganese Sulphate plant in China.

### ***Study Pricing and Financials***

The price used in the Study was based on the Benchmark Minerals price forecast for Battery Grade Manganese Sulphate for China domestic trade. With an average of US\$1419 Ex factory including VAT.

The price used for Mn<sub>3</sub>O<sub>4</sub> is a management assumption extrapolated from the battery grade manganese sulphate forecast. Feed pricing was based on the company's long term market view as per the Concentrate scoping study sales price of US\$4.80/CIF China. Please refer to the ASX announcement of 30th August 2023 for full details. All financial results were released on a pre-tax basis, Chinese company tax is 25%, Firebird has ongoing and incomplete discussions with appropriate Chinese government agencies around potential tax incentives, the result of these discussions are expected to be announced through PFS, which is scheduled for completion in late Q1 2024.

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Total investments	USD M
CAPEX MnSO <sub>4</sub>	34.3M
CAPEX Mn <sub>3</sub> O <sub>4</sub>	13.7M
Other facilities	11M
Contingency 30%	17.7M
<b>Total civil &amp; CAPEX</b>	<b>76.7M</b>
LAND	5.6M
<b>Total project</b>	<b>82.3M</b>

*Table 1: Capital Estimates Summary*

Cost Summary	USD/mt (metric tonne)	USD/mt (metric tonne)
<b>Ore Feed Cost (1.15mt per 1mt of Battery Grade MnSO<sub>4</sub>)</b>		<b>\$176.0</b>
<b>OPEX for 1mt of Battery Grade MnSO<sub>4</sub></b>		
Processing Costs and reagents	\$328	
Labour	\$41	
Maintenance	\$21	
Contingency	\$93	<b>\$483</b>
<b>Total Cost for 1mt of Battery Grade MnSO<sub>4</sub></b>		<b>\$659</b>
<b>OPEX for 1mt of Mn<sub>3</sub>O<sub>4</sub></b>		
2.3mt of Battery Grade MnSO <sub>4</sub>	\$1,500	
Processing Costs and reagents	\$795	
Labour	\$41	
<b>Total cost for 1mt of Mn<sub>3</sub>O<sub>4</sub></b>		<b>\$2,336</b>

*Table 2: Project Opex – Financial Model*

China-based Battery Grade Sulphate plant		
Ore Feed	Ktpa	80.5
Battery Grade MnSO <sub>4</sub> produced	Ktpa	50
Mn <sub>3</sub> O <sub>4</sub> Produced	Ktpa	10
Battery Grade MnSO <sub>4</sub> price (China)	US\$/mt	\$1,419
Mn <sub>3</sub> O <sub>4</sub> price (China)	US\$/mt	\$3,365
NPV 8% disc pre tax	US\$	\$331
IRR pre tax		47%
Simple Payback		2 years
Operating Cost - BG MnSO <sub>4</sub>	US\$/mt	\$659/t
Operating Cost - Mn <sub>3</sub> O <sub>4</sub>	US\$/mt	\$2,336/t
Annual EBITDA AVERAGE pre tax	US\$	\$48.3M
CAPEX	US\$	\$82.3M
CNY/USD exchange rate		7.3

*Table 3: Key Financial (Based on 15 Year plant operation)*

### China-Based Manganese Plant

The Battery Grade Manganese Sulphate circuit will grind manganese concentrate from Oakover, where it will be leached in a leach tank with Sulfuric Acid and reagents and the tanks heated to produce a pregnant leach solution (PLS).

Once leached the PLS will be further purified through multiple precipitation stages. The solution will then be crystallised in a two-stage crystallisation process to produce Battery Grade MnSO<sub>4</sub>.

The details of the reagents used are commercially sensitive and of a confidential nature. Mn<sub>3</sub>O<sub>4</sub> will be produced by taking the solution after Stage 1 Crystallisation and process it through its own circuit, with the addition of further reagents and second stage crystallisation. Mn<sub>3</sub>O<sub>4</sub> has a typical Mn content of 71.5%.

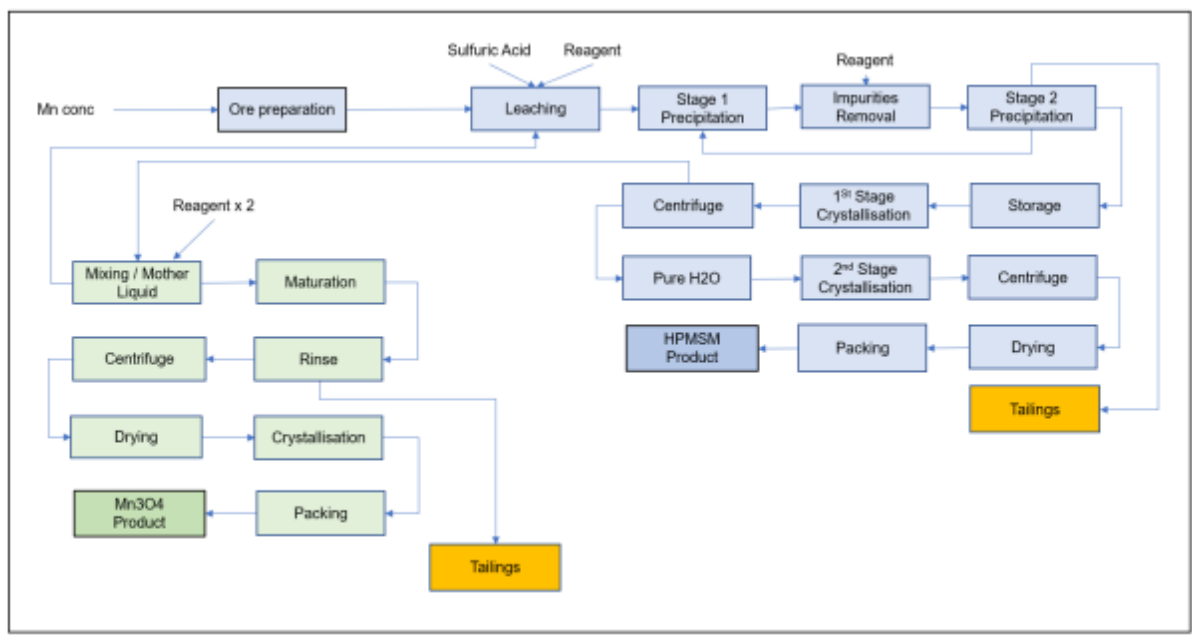


Figure 1: Block flow Diagram

The Company's flow sheet was designed based on test work completed initially in Australia and then in China, with significant input from Mr Zhou, Chief Operating Office (COO) of the Company's subsidiary, Hunan Firebird Battery Technology Co Ltd.

A bench scale amenability testwork program was conducted on a sample of 30% Mn concentrate that was generated from diamond drill core from all Oakover manganese ore domains of the Sixty Sixer, Jay-Eye and Karen deposits, which had been crushed, screened, scrubbed, and beneficiated. Leaching tests on ground concentrate confirmed the amenability of the Oakover concentrate to the proposed reductive leaching process. The resultant manganese sulphate leach solution was subjected to a sequence of impurity removal steps, followed by production of manganese sulphate crystals.

Trace element analyses for typical impurity elements was conducted to determine impurity levels in the crystals and levels of individual impurity elements listed in the Manganese Sulphate for Battery Materials Specification (HG/T 4823-2015) were within specified limits, also confirming the suitability of the purified manganese sulphate solution for production of Mn<sub>3</sub>O<sub>4</sub> and HPMSM used in LMFP batteries.

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The metallurgical testwork results underpin the selection of the flowsheet for the Scoping Study, which is largely based on processes that are proven in full scale production plants on similar feed materials.

**Project Funding**

The Project’s low risk, technically simple and strong economic fundamentals provide a strong platform for Firebird to source traditional financing through debt and equity markets, in addition to pursuing other financing strategies should this be to the benefit of shareholders. There is, however, no certainty that Firebird will be able to source funding as and when required. No formal funding discussions have commenced; however, Firebird has engaged with a number of financial institutions and potential partners which have expressed a high level of interest in being involved in the funding of the Project.

To achieve the range of outcomes indicated in the SS, pre-production funding of approximately US\$82.3M. It is envisioned that a working capital / shipment financing of approximately US\$13.9M will be required during commencement of mining and processing, finance costs of these funds have been built into the financial model.

Typical project development financing would involve a combination of debt and equity. Firebird has formed the view that there is a reasonable basis to believe that requisite future funding for development of Oakover will be available when required.

**MANGANESE SULPHATE PLANT LOCATION SELECTED AND AGREEMENT SIGNED**

Firebird delivered another key milestone through the completion of an agreement for industrial land with Jinshi local government for the Company’s battery grade manganese sulphate plant.

The agreement covers land allocation, tax incentive structures, land rebates for the plant and options for future plant expansions.



*Image 1: Pilot plant land agreement signing with Jinshi local government*

Firebird considered various facets of the LMFP battery strategy and visited several sites when determining the right location for the sulphate plant. Key factors for site location included

availability of sulphuric acid, steam, key reagents, and proximity to customers, transportation routes and factory residue consumers.

Hunan is a leading battery metals region, a major Chinese hub for existing and planned cathode and cell capacity and provides Firebird with direct access to rapidly growing gigafactory development. Due to these key competitive advantages, along with the key location criteria mentioned above being met, the Company selected the land available within the Hunan region as the location for its sulphate plant.



**Image 2 and 3:** Firebird's industrial land for its Sulphate Plant at Jinshi Chemical Park

Jinshi City is situated in the north of Hunan Province and located approximately 237km from Changsha the capital of Hunan. Jinshi City has a population of 280,000 people and provides direct access to a significant land and water transportation network.

The Jinshi High-Tech Chemical Park is situated in the Li Shui River and is a key city in the Yangtze River economic zone's growth plan. Currently there are 126 large scale industrial enterprises within the Jinshi High-Tech Industries Development zone.

The design layout of the R&D facility has been completed and all specialised equipment ordered. Firebird expects the R&D facility to be operational in January 2024.

The R&D plant will be located in Jinshi City and in close proximity to Jinshi High Tech Industries Development Zone, which has connecting river access to the Yangzte river, which provides very efficient and low-cost transportation routes for raw materials and product.

Initially, the pilot plant within the R&D facility will produce samples for MnSO4 & Mn3O4 for potential customers and PFS work. Plans to complete testing on several other potential manganese rich PCAM materials is underway and expected to be produced soon after. The R&D plant costs are on time and budget.

**ADDITIONAL KEY MILESTONES COMPLETED**

**Technical & Operational Team**

Firebird made its first major team appointment for Hunan Firebird Battery Technology Co Ltd, with Mr Zhou Qiyun agreeing to join as Chief Operating Officer (COO).

Based in China, Mr Zhou is a highly regarded and leading MnSO<sub>4</sub> expert, who has spent majority of his career across the development, optimisation and commercialisation of technologies for MnSO<sub>4</sub> processing (including patents), with a key focus on energy saving optimisation processes through evaporation and crystallisation stages.

Mr Zhou was previously a part-owner of a battery grade MnSO<sub>4</sub> plant and has consulted to a large number of existing MnSO<sub>4</sub> plants in China, principally advising on technical processing issues.

Mr Zhou also consults to the Central South University as an expert in manganese sulphate processing. As part of Mr Zhou joining Hunan Firebird Battery Technology Co Ltd, he has introduced several other technical experts, who also bring Mn<sub>3</sub>O<sub>4</sub> process technology experience, to consult to and work for Hunan Firebird Battery Technology Co Ltd.

The establishment of a leading, high-purity manganese team, places Firebird in a strong position to execute on a busy 12-month work program in China and ensure the level of experience required is in place to grow into a high-purity manganese producer.

The key near-term objectives for Mr Zhou and his team will be:

- Manage the setup of Firebird's R&D centre;
- Assisting in the PFS process;
- Provide the technical process flow sheet for MnSO<sub>4</sub> & Mn<sub>3</sub>O<sub>4</sub> and engineering design;
- Ongoing development of new products for manganese rich PCAM materials, with a key focus on LMFP commercialisation; and
- Construction of the plant, sourcing equipment and operational production management once the plant is operational.

### ***Advanced Crystallisation Technology Secured for China Operation***

Product quality and cost efficiency remain key focus areas for Firebird in developing a competitive, long-term high-purity manganese operation.

The Company delivered attractive low CAPEX numbers in the SS however, remain focused on developing further cost advantages to operate further down the cost curve.

To support the development of a low-cost, high-margin operation, Firebird secured Mr Zhou's energy saving technology patent. Mr Zhou has sold & installed this technology, which is currently in its 5th generation, across all generations there are approximately 20 plants using the technology.

The patented 5th generation is being used in one operation in China, with the technology equipment currently being fabricated to be installed in another two MnSO<sub>4</sub> factories. The success of this technology derives from the utilisation of residual heat from the initial crystallisation process, to recycle and preheat solution feeding into crystallisation process, which ultimately leads to energy consumption of around 1/10th of existing standard crystallisation plants. Mr Zhou also agreed that Firebird can use other patents & inventions which he is the owner/inventor or part owner/inventor.

### ***Pre-Feasibility Study Underway and Leading Engineering Group Appointed***

The China-based manganese sulphate Pre-Feasibility Study (PFS) is progressing as planned.

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Firebird appointed Hunan Chemical Engineering Design Institute (HCEDI) to complete key PFS workstreams.

HCEDI will be responsible for all engineering design work & permitting documents. HCEDI has more than 60 years' experience across all facets of engineering work, including consulting, design, survey, supervision and general contracting of engineering construction. HCEDI has a team of more than 200 engineering and technical personnel and is seen as one of China's leading specialist engineering firms, having completed work on several previous manganese sulphate plants. HCEDI has successfully designed three MnSO<sub>4</sub> plants that are currently in operation. Firebird expects the PFS to be completed by the end of Q1 2024.



*Image 4: HCEDI and Hunan Firebird Battery Technology staff including Mr Zhou*

**R&D Lab Fit-Out Complete – Battery Grade Manganese Sulphate Pilot Plant Operational**

The Company made strong progress on the development of the R&D lab during the quarter with Fit out being completed ahead of schedule and under budget subsequent to quarter end.

The R&D Centre is 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<sub>4</sub>) and manganese tetra oxide (Mn<sub>3</sub>O<sub>4</sub>) 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 (pCAM).



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*Image 5: Sulphate Reactor*



*Image 6: Filter press (foreground) and sulphate reactors (background)*



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*Image 7: Sample Preparation room*



*Image 8: Analysis room*

## **FLAGSHIP OAKOVER PROJECT (100% FRB)**

The Company has a busy work program planned for its Oakover Project in 2024.

In the second half of 2023, Firebird, commenced planning for key environmental surveys and studies which are expected to be carried out in Q1 and Q2 2024.

Other major workstreams scheduled for commencement and completion during 2024 include:

- Diamond drill program for ongoing metallurgical test work: To commence and be completed in Q1 2024
- Manganese Concentrate PFS: Advanced stage of the Study, with completion scheduled by Q3/Q4 2024
- PFS metallurgical test work program
- Hydrology/ water monitoring
- Finalisation of the Mining Lease Application including native title and heritage negotiations

## **CORPORATE**

### **ANNUAL GENERAL MEETING**

Firebird held its Annual General Meeting on Wednesday 29 November 2023, with all resolutions passed on a poll.

### **FINANCIAL OVERVIEW**

The Appendix 5B for the quarter ended 31 December 2023 provides an overview of the Company's financial activities.

Exploration expenditure for the quarter was \$234,000.

Corporate and other expenditure for the quarter was \$369,000.

The total amount paid to Directors of the Company, their associated and other related parties was \$282,000 comprising salary and Directors fees.

Cash and cash equivalents at quarter end were \$7.36 M.

**This announcement has been authorised by the Board of Directors.**

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## Additional Listing Rule Information

### *Listing Rule 5.3.3 Tenement Schedule*

Project	Tenement	Ownership at the Start of quarter	Ownership at end of Quarter
Oakover	E 52/3577	100%	100%
Oakover	E 46/1392	100%	100%
Oakover	E 52/3948	100%	100%
Hill 616	E 52/3633	100%	100%
Raggard Hills	E45/5905	100%	100%
Midgengadge Manganese	E45/5906	100%	100%
Disraeli	E 46/1389	100%	100%
Wandanya	E 46/1456	100%	100%
Wandanya	E 46/1457	100%	100%

*Ownership may relate to either direct or contractual rights.*

### **Forward-looking statements**

This announcement may contain certain “forward-looking statements”. Forward looking statements can generally be identified by the use of forward-looking words such as, “expect”, “should”, “could”, “may”, “predict”, “plan”, “will”, “believe”, “forecast”, “estimate”, “target” and other similar expressions. Indications of, and guidance on, future earnings and financial position and performance are also forward-looking statements. Forward-looking statements, opinions and estimates provided in this presentation are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements including projections, guidance on future earnings and estimates are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance.

### **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.

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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 Estimate<sup>1</sup> 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 Resource<sup>2</sup> 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.

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

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

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## Appendix 5B

### Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Firebird Metals Limited

ABN

24 610 035 535

Quarter ended ("current quarter")

31 December 2023

Consolidated statement of cash flows	Current quarter \$A '000	Year to date (6 months) \$A '000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers		
1.2 Payments for		
(a) exploration & evaluation	(49)	(110)
(b) development	-	-
(c) production	-	-
(d) staff costs	(282)	(446)
(e) administration and corporate costs	(369)	(601)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	-	-
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (GST refunds)	318	385
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(382)</b>	<b>(772)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	(10)	(10)
(d) exploration & evaluation	(234)	(405)
(e) investments – MnSO <sub>4</sub> +Mn <sub>3</sub> O <sub>4</sub> plant China	(563)	(563)
(f) other non-current assets	-	-

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A '000	Year to date (6 months) \$A '000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>(807)</b>	<b>(978)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	8,000	8,000
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(192)	(192)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>7,808</b>	<b>7,808</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	742	1,303
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(382)	(772)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(807)	(978)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	7,808	7,808

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## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A '000	Year to date (6 months) \$A '000
4.5	Effect of movement in exchange rates on cash held	-	-
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>7,361</b>	<b>7,361</b>

<b>5.</b>	<b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A '000	Previous quarter \$A '000
5.1	Bank balances	7,361	742
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
<b>5.5</b>	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>7,361</b>	<b>742</b>

<b>6.</b>	<b>Payments to related parties of the entity and their associates</b>	Current quarter \$A '000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	282
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

*Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.*

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## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

<b>7. Financing facilities</b>	<b>Total facility amount at quarter end \$A '000</b>	<b>Amount drawn at quarter end \$A '000</b>
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	n/a	n/a
7.2 Credit standby arrangements	n/a	n/a
7.3 Other (please specify)	n/a	n/a
7.4 <b>Total financing facilities</b>		
7.5 <b>Unused financing facilities available at quarter end</b>		n/a
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		
n/a		

<b>8. Estimated cash available for future operating activities</b>	<b>\$A '000</b>
8.1 Net cash from / (used in) operating activities (item 1.9)	(382)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(807)
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(1,189)
8.4 Cash and cash equivalents at quarter end (item 4.6)	7,361
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	7,361
8.7 <b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	6.19
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer: n/a	
8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer: n/a	

**Mining exploration entity or oil and gas exploration entity quarterly cash flow report**

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: n/a

*Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.*

**Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: .....30.1.24.....

By the Board

Authorised by: .....  
(Name of body or officer authorising release – see note 4)

**Notes**

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.

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