ASX ANNOUNCEMENT 25 June 2025

POSITIVE RESULTS FROM LMFP TEST WORK

Concepts & Preparation

- Leveraging manganese chemistry expertise to develop a high-quality, cost-effective synthesised MFP (pCAM) product
- **Targeting the fast-growing LMFP market, projected to exceed $20B by 2030[1], along with other Mn-rich cathode segments**
- Over 100 lab-scale batches planned; more than 50 already completed

World-Class R&D Lab & Technical Team

- **A team of 11 highly skilled specialists dedicated to advancing FRB's synthesis process**
- 10 kg/day lab-scale cathode production facility established
- Intellectual property (IP) protection is in progress, with patents owned and retained by FRB, applicable globally

Lab-Scale Results

- **Early results demonstrate higher energy density for Firebird LMFP, with key measurements (0.1C@156 mAh/g)[2] indicating >10% improvement over standard LFP [3]**
- Results exceed current industry benchmarks; ongoing development aims to enhance this further using advanced methodologies
- Product samples to be provided to CAM producers (potential customers) for evaluation.

Next Steps - Pilot Plant (1 t/day) & Commercialisation

- Upon validation of lab-scale samples, a 1 tonne/day pilot pCAM production facility is planned
- **It is expected that successful trials at the planned pilot plant will attract attention from Chinese and international OEMs**
- This will allow Firebird to refine the production process and demonstrate its scalability worldwide, not just in China

Note
1. Source Soochow Securities
2. mAh/g is milliampere-hours per gram & 0.1C discharge capacity is the discharging or charging entire capacity over 10 hour, LMFP based Mn/Fe 60/40, with theoretical Voltage for cathode of 3.82V.
3. Refer table on page 2

Firebird Managing Director, Mr Peter Allen, commented: *"These initial test results provide clear validation that we are progressing in the right direction. Achieving high discharge specific capacity confirms the technical strength of our cathode material. To our knowledge, no other manganese sulphate producer has demonstrated this level of vertical integration from raw material to cathode material.*

"We believe this process innovation will deliver material cost advantages in manganese sulphate production by bypassing the energy-intensive crystallisation stage — historically the largest contributor to our operating costs. This integrated approach not only enhances cost efficiency but also supports production of a higher-quality LMFP cathode product.

*"I want to acknowledge and thank our exceptional technical team, led by **Mr Wei Li**, for their ongoing commitment to product development and cost innovation. Their dedication is exemplary. This program is a critical step in executing our strategy to become a leading, low-cost producer of manganese-based cathode materials."*

Australian-owned Firebird Metals Limited (ASX: FRB, Firebird or the Company) is pleased to announce that, following the execution of a binding strategic collaboration agreement with **Central South University (CSU)** of Hunan in October 2024, the Company has commenced laboratory testing on the production of **lithium manganese iron phosphate (LMFP) cathode active material (CAM)**, with encouraging discharge specific capacity results:

Discharge Specific Capacity	Firebird Results	Targeting	Chinese Industry Standard (T/CIAPS0029—2023)
0.1 C	156 mAh/g	>160 mAh/g	150 mAh/g
1C	133 mAH/g	>130 mAh/g	130 mAh/g

Note: 0.1C discharge capacity is the discharging or charging entire capacity over 10 hours & 1C discharging or charging entire capacity over 1 hours, both LMFP based Mn/Fe 60/40, with theoretical Voltage for cathode of 3.82V, all testing conducted in accordance with Chinese Industry Standard T/CIAPS0029—2023

Theoretical Energy Density Industry benchmarking based on 0.1C Testing

Producer / Source	mAh/g	Volts	Theoretical Energy Density (mAh/g x V = Wh/kg)	% Improvement of FRB LMFP over
Firebird LMFP	156	3.82	595.92 Wh/kg	
Dynanonic Spec Sheet LFP	>150	3.41	511.5 Wh/kg	16.5%
Dynanonic LFP commercial testing by CSU	158	3.41	538.78 Wh/kg	10.6%


Images 1 and 2: Button battery production and testing

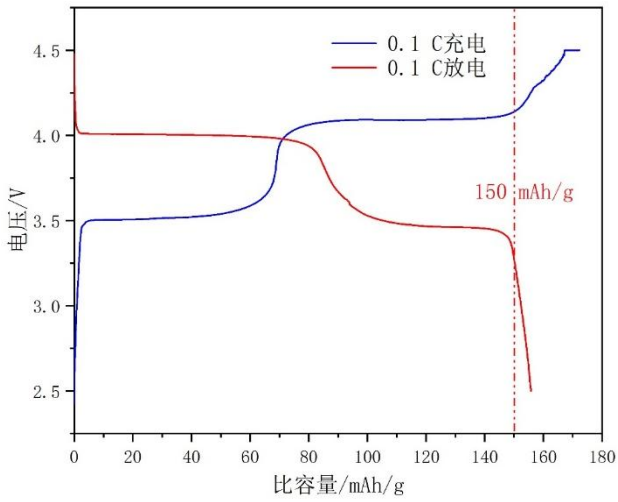

Image 3: LMFP - Li charge/discharge curve -0.1 C, dotted line Standard T/CIAPS0029—2023

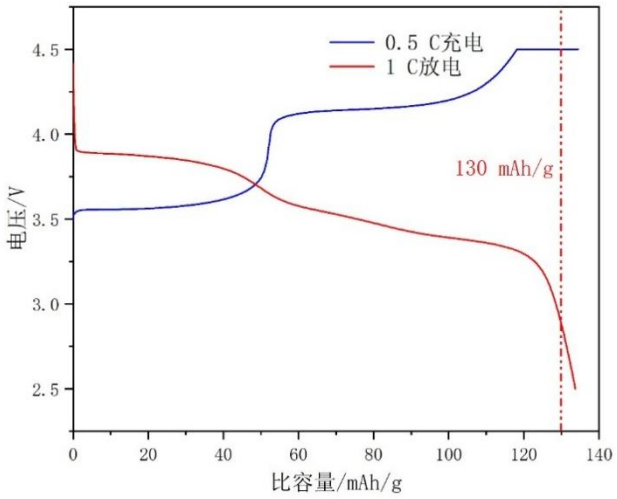

Image 4: LMFP - Li charge/discharge curve-1 C, dotted line Standard T/CIAPS0029—2023

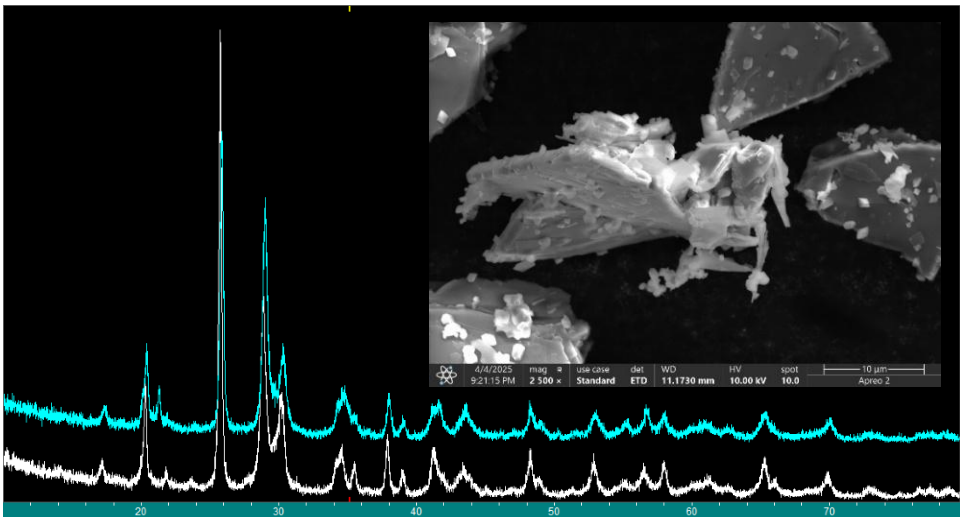

Image 5: Identical XRD Analysis of FRB LMFP and competitors LMFP (inset: SEM Scan)

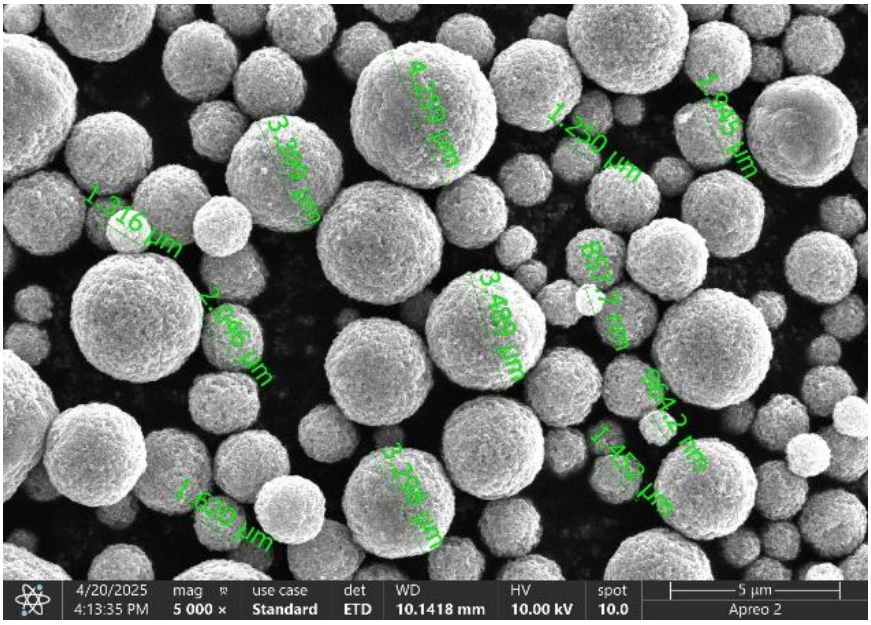

Image 6: Uniform morphology, good particle size

Results of the testing exceed Chinese industry standards, using materials that are all commercially available and from third party chemical suppliers. Test results confirm that Firebird's MFP precursor materials can produce batteries that meet, and in some cases exceed, Chinese Industry standards. This demonstrates their strong potential as suitable feedstock for CAM manufacturers.

Recently installed equipment is now operational, with a production capacity of 10 kilograms of MFP cathode material per day. Samples are available for distribution to interested cathode manufacturers.

Discharge Specific Capacity refers to the amount of electric charge a battery can deliver per unit mass of the active material during discharge. It is a key performance indicator for battery materials, especially cathodes and anodes.

The test facility, and associated testing, also allows Firebird to test the impact of different feedstocks, from front of process through to final product, and therefore provides a capability to test, measure and de-risk the impact of different feedstocks on process all the way through to final product. This will be important if planning to purchase or toll treat feedstocks.

51 batches of Lithium Manganese Iron Phosphate "LMFP" cathode material have been successfully produced to date, as part of a broader 100-batch program. These results arising will provide essential real-world performance data for prospective cell manufacturing partners, supporting efforts to optimise battery efficiency, product consistency, and scalability.

The results will establish the baseline for ongoing test work, including metal doping, carbonisation, and nanonisation, in line with customer processes and test methods — each expected to further enhance cathode performance.

Central South University is internationally recognised as a leader in battery material research and innovation. Its academic team includes several of the world's foremost experts in lithium-ion battery technology, and its alumni network includes founders and executives of leading industry players such as **BYD** and **Ronbay Technology**.

Importantly, by integrating **manganese sulphate ($MnSO_4$)** production directly with the MFP pre-cathode active material (pCAM) process, Firebird expects to achieve a **significant structural cost advantage** in LMFP manufacturing. This vertically integrated approach is a key differentiator as the Company continues to advance its strategy to become a **low-cost, globally competitive producer of manganese-based battery materials. Importantly all intellectual property remains owned by Firebird Metals with patents now in final stages of lodgement.**

The use of manganese-rich cathodes is expanding rapidly, with LMFP (Lithium Manganese Iron Phosphate) emerging as the leading candidate for mass-market adoption. MFP precursor materials will be critical in facilitating the broader shift from LFP to LMFP cathodes, supporting the next generation of cost-effective and higher-performing battery technologies. Soochow Securities forecast that LMFP will replace 50% of LFP to become a >US$20 billion market by 2030.

The companies long term objective is to provide fully integrated processing solutions for manganese-rich cathode materials, with an initial focus on the rapidly emerging LMFP technology. While our R&D centre and operations are initially based in China, where global leadership in cathode material development and production makes it the ideal foundation. Our long-term objective is to replicate these activities in Western markets through the deployment of advanced technology and the establishment of localised production facilities. The Company looks forward to providing further updates as the test work program progresses.

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[1,2], with exciting exploration and development growth upside. The portfolio is led by the flagship Oakover Project, which holds a Mineral Resource Estimate 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 Project is Hill 616 which provides Firebird with a compelling growth opportunity. Hill 616 contains an Inferred Mineral Resource[6] of 57.5Mt at 12.2% Mn and shares similar geological traits to Oakover.

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 Statements

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.

The information in this report that relates to metallurgical test work results is based on information reviewed by Mr Phil Dundas, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Dundas is an employee of Sedgman Pty Ltd and consultant to Firebird Metals Limited. Mr Dundas is a qualified chemical engineer and has sufficient experience which is relevant to the supervision and interpretation of test work activities undertaken to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 Edition). Mr Dundas consents to the inclusion in the announcement t of the matters based on the reviewed information in the form and context in which it appears.

[1] 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.
[2] See ASX announcement dated 1 December 2021: Inferred Resource of 57.5 Mt at 12.2% Mn.

Appendix A – JORC Table 1

JORC Table 1 Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*	Not Applicable. Materials used to present metallurgical study results in this announcement were sourced from commercial third party manufacturers of refined chemicals.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	No Applicable.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information	Not Applicable. Material used in the studies presented in this announcement are commercially available chemical compounds, sourced from third party suppliers. Primary Mineralisation was not sampled.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Not Applicable. No sampling from drilling is presented in this announcement.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Not Applicable. No sampling from drilling is presented in this announcement.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Not Applicable. No sampling from drilling is presented in this announcement.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Not Applicable. No sampling from drilling is presented in this announcement.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	Not Applicable. No sampling from drilling is presented in this announcement.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Not Applicable. No sampling from drilling is presented in this announcement.
	The total length and percentage of the relevant intersections logged.	Not Applicable. No sampling from drilling is presented in this announcement.
Subsampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Not Applicable. No sampling from drilling is presented in this announcement.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Not Applicable. No sampling from drilling is presented in this announcement.

Criteria	JORC Code explanation	Commentary
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Not Applicable. No sampling from drilling is presented in this announcement.
	Quality control procedures adopted for all subsampling stages to maximise representivity of samples.	Not Applicable. No sampling from drilling is presented in this announcement.
	Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.	Not Applicable. No sampling from drilling is presented in this announcement.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Not Applicable. No sampling from drilling is presented in this announcement.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Not Applicable. No analyses of primary samples from drilling are presented in this announcement.
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Not Applicable. No analyses of primary samples from drilling are presented in this announcement.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of	Not Applicable. No analyses of primary samples from drilling are presented in this announcement.

Criteria	JORC Code explanation	Commentary
	accuracy (i.e. lack of bias) and precision have been established.	
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Not Applicable. No analyses of primary samples from drilling are presented in this announcement.
	The use of twinned holes.	Not Applicable. No analyses of primary samples from drilling are presented in this announcement.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Not Applicable. No analyses of primary samples from drilling are presented in this announcement.
	Discuss any adjustment to assay data.	Not Applicable. No analyses of primary samples from drilling are presented in this announcement.
Location of data points	*Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	Not Applicable. No analyses of primary samples from drilling are presented in this announcement.
	Specification of the grid system used.	Not Applicable. No drilling or sampling data is presented in this announcement.
	Quality and adequacy of topographic control.	Not Applicable. No analyses of primary samples from drilling are presented in this announcement.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Not Applicable. Not Reporting Exploration Results.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	Not Applicable. Not Reporting Exploration Results.

Criteria	JORC Code explanation	Commentary
	Whether sample compositing has been applied.	Not Applicable. Not Reporting Exploration Results.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	Not Applicable. Not Reporting Exploration Results.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Not Applicable. Not Reporting Exploration Results.
Sample security	*The measures taken to ensure sample security.*	Not Applicable. Not Reporting Exploration Results.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	Not Applicable. Not Reporting Exploration Results.

JORC 2012 Table 1 Section 2 – Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	Not Applicable. The work presented in the body of this announcement is not directly related to a Mineral Resource or Exploration Project.

Criteria	JORC Code explanation	Commentary
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	Not Applicable. The work presented in the body of this announcement is not directly related to a Mineral Resource or Exploration Project.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Not Applicable. The work presented in the body of this announcement is not directly related to a Mineral Resource or Exploration Project.
Geology	*Deposit type, geological setting and style of mineralisation.*	Not Applicable. The work presented in the body of this announcement is not directly related to a Mineral Resource or Exploration Project.
Drillhole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* *Easting and northing of the drillhole collar* *Elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar* *Dip and azimuth of the hole* *Downhole length and interception depth* *Hole length.*	Not Applicable. Not Reporting Exploration Results.
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	Not Applicable. Not Reporting Exploration Results.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	Not Applicable. Not Reporting Exploration Results.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	Not Applicable. Not Reporting Exploration Results.

Criteria	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Not Applicable. Not Reporting Exploration Results.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.*	Not Applicable. Not Reporting Exploration Results.
	If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.	Not Applicable. Not Reporting Exploration Results.
	If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').	Not Applicable. Not Reporting Exploration Results.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.*	Relevant diagrams are included in the body of this announcement.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Not Applicable. Not Reporting Exploration Results.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	Firebird Metals Limited is conducting proof-of-concept flowsheet testwork to produce lithium manganese iron phosphate (LMFP) cathode active material (CAM) in a new process that directly integrates the generation of precursor manganese sulphate into the production of the manganese-iron phosphate (MFP) pre-cathode active material (pCAM) production. This work, and the flowsheet being developed demonstrates and ability to produce CAM from commercially purchased, refined chemicals from third party independent suppliers. The process requires the following chemicals, which Firebird have sourced from the listed suppliers: **Raw Material** / **Company** $MnSO_4.H_2O$ / ISKY Chemicals Co. Ltd $FeSO_4.7H_2O$ / Qianjiang Fangyuan Titanium Industry Co., Ltd

Criteria	JORC Code explanation	Commentary
		$NH_4H_2PO_4$ — Hubei Ezhong Ecology $NH_3.H_2O$ — Hunan Jinniu Chemical Co., Ltd. Li_2CO_3 — Hunan Tiantai Tianrun Amperex Technology Co., Ltd $C_6H_{12}O_6$ — Aladdin
Further work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Not Applicable. Not Reporting Exploration Results.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Not Applicable. Not Reporting Exploration Results.