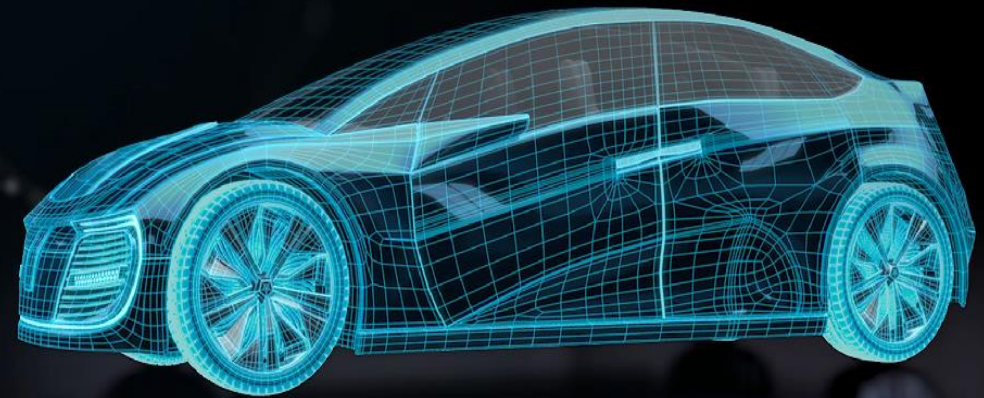




BUILDING WA'S NEXT MAJOR MANGANESE OPERATION

NEW WORLD METALS CONFERENCE
SEPTEMBER 2022

ASX:FRB



DISCLAIMER

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COMPETENT PERSONS STATEMENT

The information in this report that relates to Mineral Resources is based on information compiled by Mr Mark Pudovskis and Mr Aaron Meakin. Mr Mark Pudovskis is a full-time employee of CSA Global Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Aaron Meakin is a full-time employee of CSA Global Pty Ltd and is a Member and Chartered Professional of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Mark Pudovskis and Mr Aaron Meakin have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Mark Pudovskis and Mr Aaron Meakin consent to the disclosure of the information in this report in the form and context in which it appears. Mr Mark Pudovskis assumes responsibility for matters related to Sections 1 and 2 of JORC Table 1, while Mr Aaron Meakin assumes responsibility for matters related to Section 3 of JORC Table 1.

Dr Parry has sufficient experience of the ore sorting test work under consideration to be aware of problems that could affect the reliability of the data and to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Parry consents to the inclusion in this report of the matters based on information in the form and context in which they appear.

EMERGING MANGANESE DEVELOPER

**Targeting manganese concentrate
and high purity manganese
sulphate**

**Strong and growing manganese
demand from battery minerals
and infrastructure (steel) markets**

**229Mt in Resources across Project
Portfolio**

**Flagship Oakover project 172Mt @
9.9%Mn with 58.7Mt @10.4% Mn in
Indicated Resource & growing**

**Successful metallurgical testwork
programs provide a high-level of
confidence that a commercial
product can be produced at
Oakover**

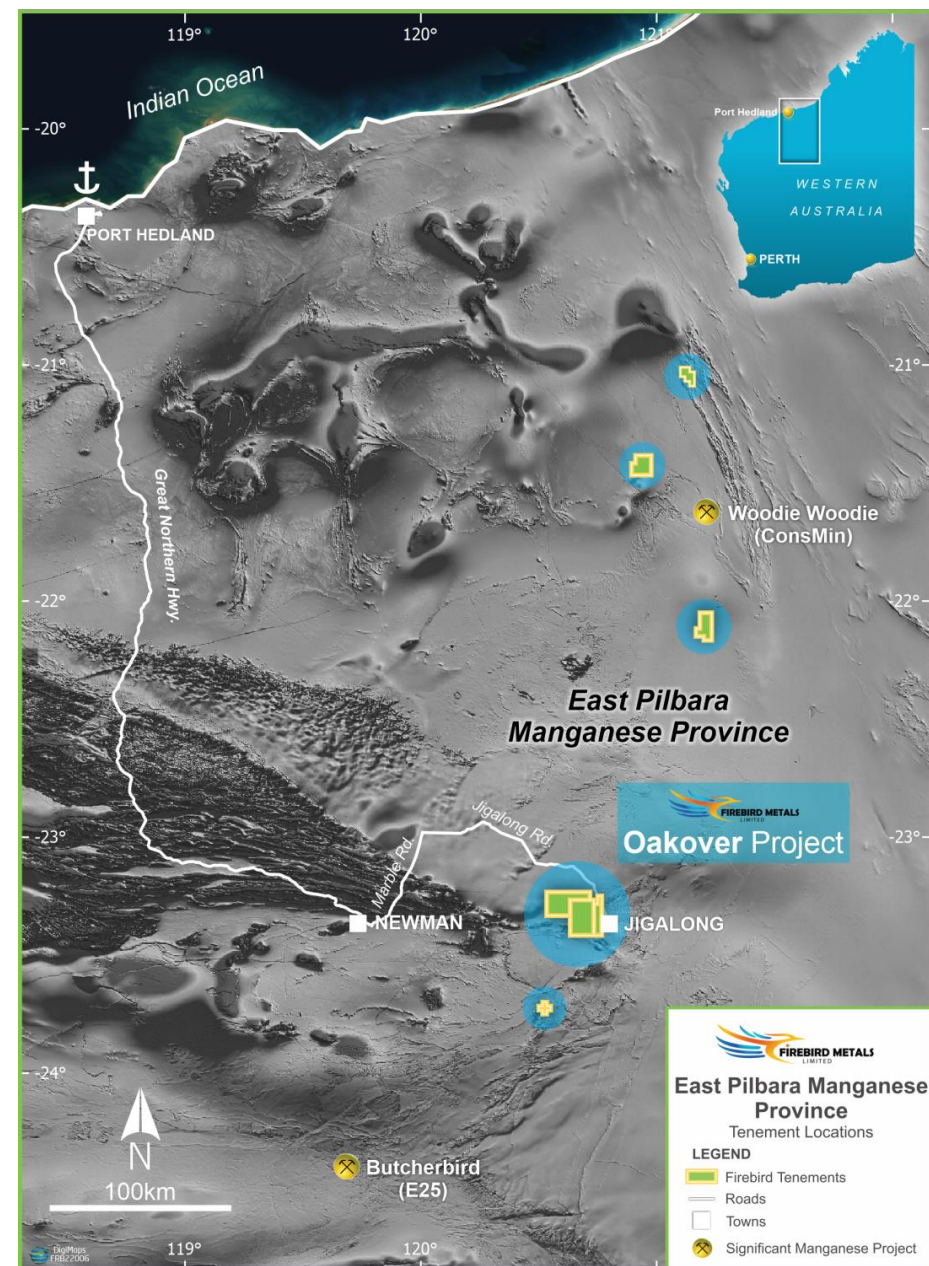
**Oakover Scoping Study, confirmed
outstanding long-term potential as
a Manganese hub**

**Successfully advancing critical ESG
objectives in alignment with
development of Oakover**

FLAGSHIP OAKOVER PROJECT

- ✓ Located 85km East of Newman
- ✓ Excellent geological characteristics, highlighted by near surface / shallow mineralisation
- ✓ 400 holes for 20,090 m completed through historical exploration and drilling by Firebird
- ✓ Company's maiden 233-hole, 10,145m drill program in 2021 delivered a significant Resource upgrade
- ✓ **108 Mt increase in Mineral Resource to 172 Mt at 9.9% Mn**
 - ✓ 170% increase from historical resource
 - ✓ 58.7Mt @10.4% Mn in Indicated Resource category
 - ✓ 80.7Mt Resource Defined as Massive & Supergene
- ✓ Large number of exploration prospects remain within tenement, providing excellent growth upside
- ✓ Significant metallurgical test work completed, with excellent results achieved
- ✓ Impressive Scoping Study completed, with significant NPV growth potential

Refer to ASX Release 10th March 2022 "Game Changing Resource Upgrade at Oakover" for full details

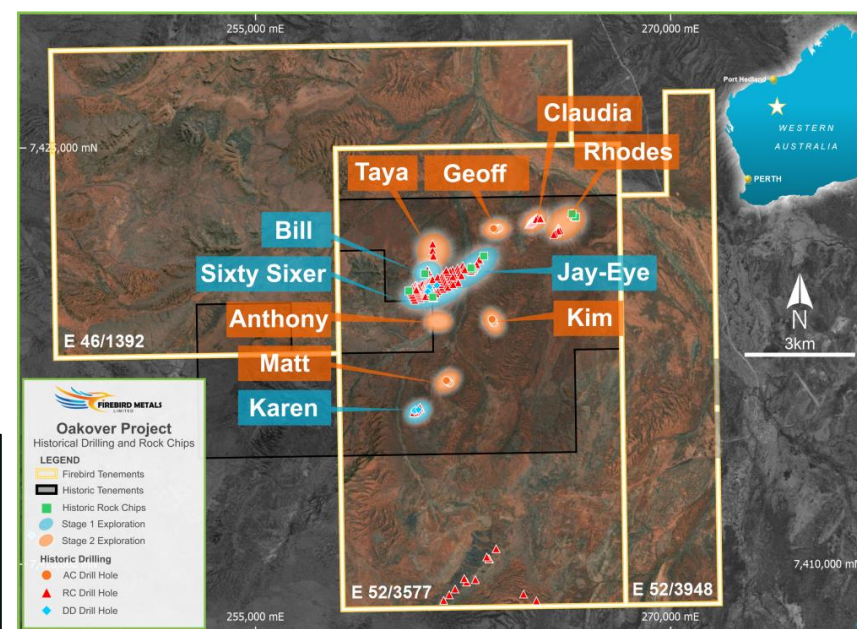
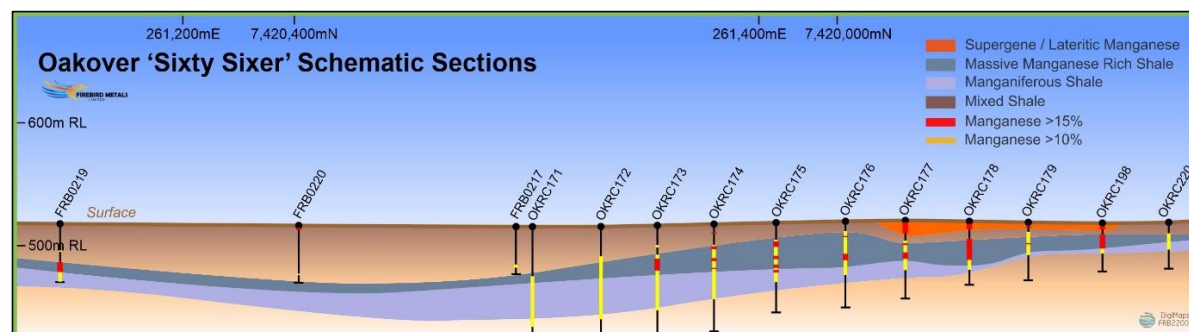


OAKOVER MINERAL RESOURCE ESTIMATE

Highlighted by near-surface, gently dipping geology and multiple processing options, providing an exciting production pathway to deliver superior value to shareholders

Area	Mineral Resource classification	Tonnes (Mt)	Mn (%)	Fe (%)	SiO ₂ (%)	Al ₂ O ₃ (%)	P (%)	LOI (%)
Sixty Sixer	Indicated	58.7	10.4	9.2	40.2	10.1	0.10	13.2
Sixty Sixer	Inferred	50.7	9.6	8.5	38.9	9.9	0.11	15.0
Sixty Sixer	Sub-Total	109.4	10.1	8.9	39.6	10.0	0.11	14.1
Jay Eye	Indicated	-	-	-	-	-	-	-
Jay Eye	Inferred	22.0	9.5	8.5	40.0	9.8	0.11	14.2
Jay Eye	Sub-Total	22.0	9.5	8.5	40.0	9.8	0.11	14.2
Karen	Indicated	-	-	-	-	-	-	-
Karen	Inferred	40.9	9.5	9.3	42.7	10.5	0.11	12.0
Karen	Sub-Total	40.9	9.5	9.3	42.7	10.5	0.11	12.0
Oakover	Indicated	58.7	10.4	9.2	40.2	10.1	0.10	13.2
Oakover	Inferred	113.6	9.6	8.8	40.4	10.1	0.11	13.8
Oakover	Grand Total	172.3	9.9	8.9	40.4	10.1	0.11	13.6

OAKOVER RESOURCE TABLE



Refer to ASX Release 10th March 2022 "Game Changing Resource Upgrade at Oakover" for full details

OAKOVER CONCENTRATE METALLURGICAL TEST WORK

Gravity Separation – Work Completed

- Preliminary heavy liquid beneficiation test work on -8+1 mm material delivered excellent beneficiated grades up to 32.8% Mn

Ore Sorting - Work Completed

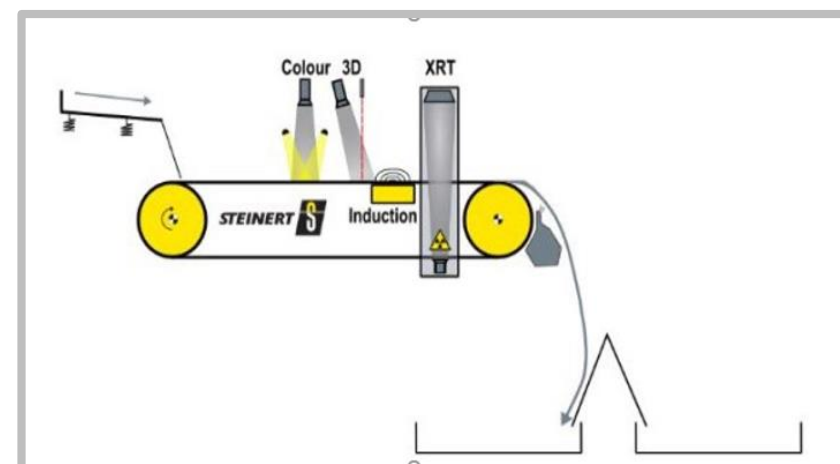
- Excellent results, with beneficiated product grades up to 31% Mn (11.4% Mn feed)
- Importance of multi-sensor sorting (incl XRT which approximates DMS density upgrade), not dependent on colour and total surface cleaning
- Key focus on screening and scrubbing for future studies to alleviate feed prep issues

Key Takeaways

- Successful proof-of-concept ore sorting trials and preliminary heavy liquid test work from diamond core
- Results provide a high-level of confidence that a commercial product can be produced at Oakover

Further Work Underway

- Larger scale bulk metallurgical test work program underway
- Further work planned for Ore Sorting, Scrubbing Optimisation, Gravity Separation incl DMS, with completion expected by H2 2022



SCOPING STUDY RESULTS

Mining & Production Profile (Based on MRE at Sixty Sixer)

- Processing plant throughput of ~4 Mtpa, to produce ~900 ktpa of 30% Mn concentrate annually
- 10-year Life of Mine
 - First ~6.5 years of production based on 30.5Mt Indicated Resource
 - Last ~3.5 years based on 11.9Mt Inferred Resource
- Low mine strip ratio of 0.9:1

Production Options

- Ore sorting and traditional gravity separation

Potential Near-Term Upside to NPV

- Significantly extend Life of Mine through conversion of Inferred Resource to Indicated at Jay-Eye and Karen, which combined host 62.9Mt of Inferred Resources
- 89-hole, ~3,000m Infill drilling program at Jay-Eye and Karen to commence shortly and be completed in 2022
- High level of confidence in increasing Indicated Resources
 - Following strong success of 2021 infill drilling program, which converted 96% of Sixty Sixer Inferred Resource to Indicated by incorporating Hill 616

Total CAPEX \$A143.8m

- A\$73.4M for plant
- A\$70.4M for renewable power plant, road upgrades and other infrastructure

Strong Financials

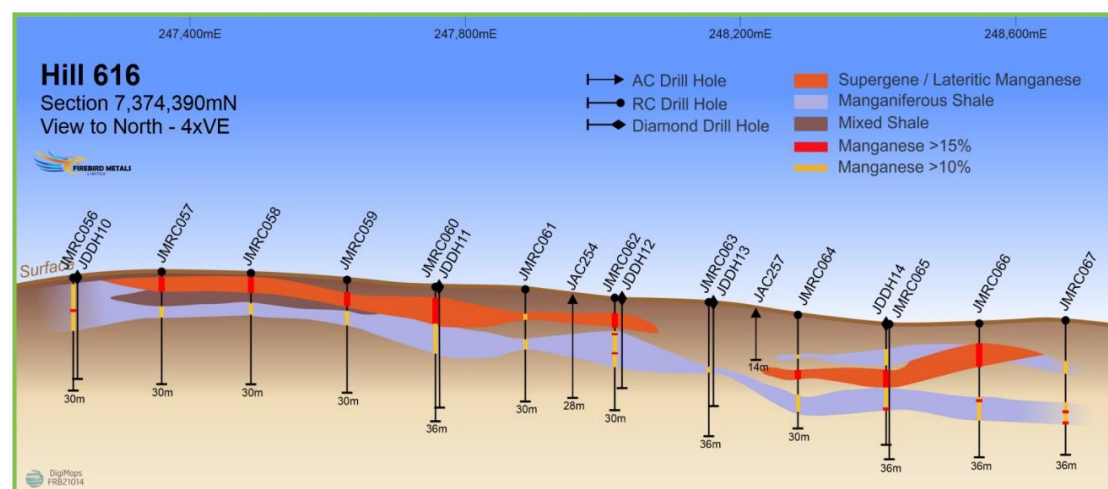
- NPV@8% ~A\$329m
- IRR of 47%

Refer to ASX Release 20 July 2022 "Impressive results from Manganese Concentrate Scoping Study at Oakover" for full details

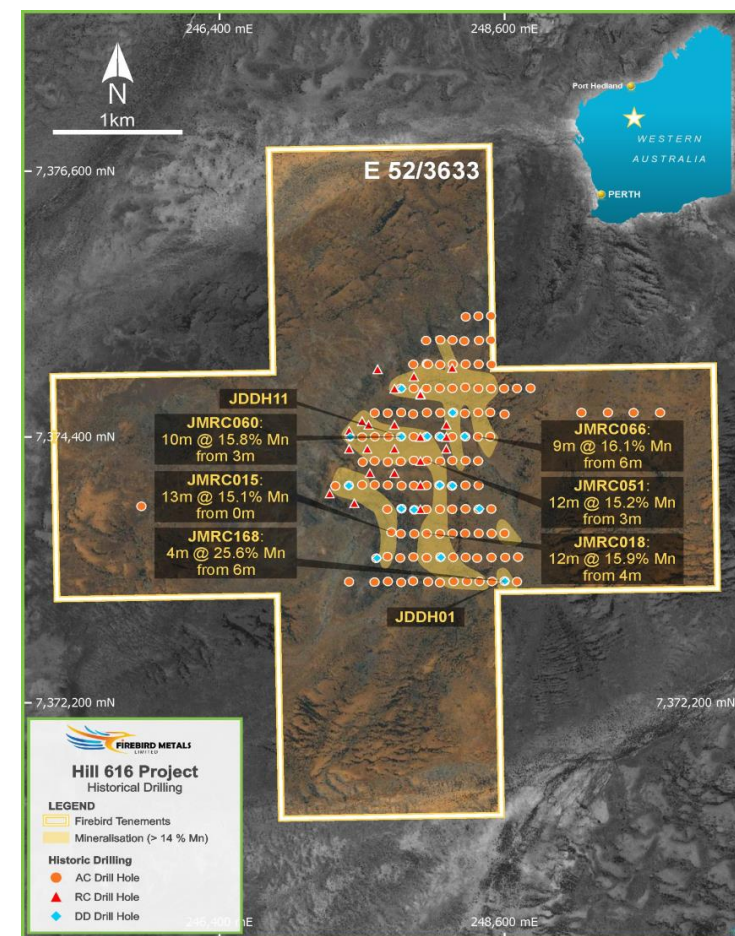
Firebird is not aware of any new information or data that materially affects the information included in its announcement dated 20 July 2022, and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

HILL 616

- ✓ 35km south of Oakover
- ✓ Shallow, gently dipping geology, similar to Oakover
- ✓ Historical drilling of 116 holes for 4,900m completed, over a strike of 2.2km
- ✓ **57.5 Mt @12.2% Mn Inferred Mineral Resource**

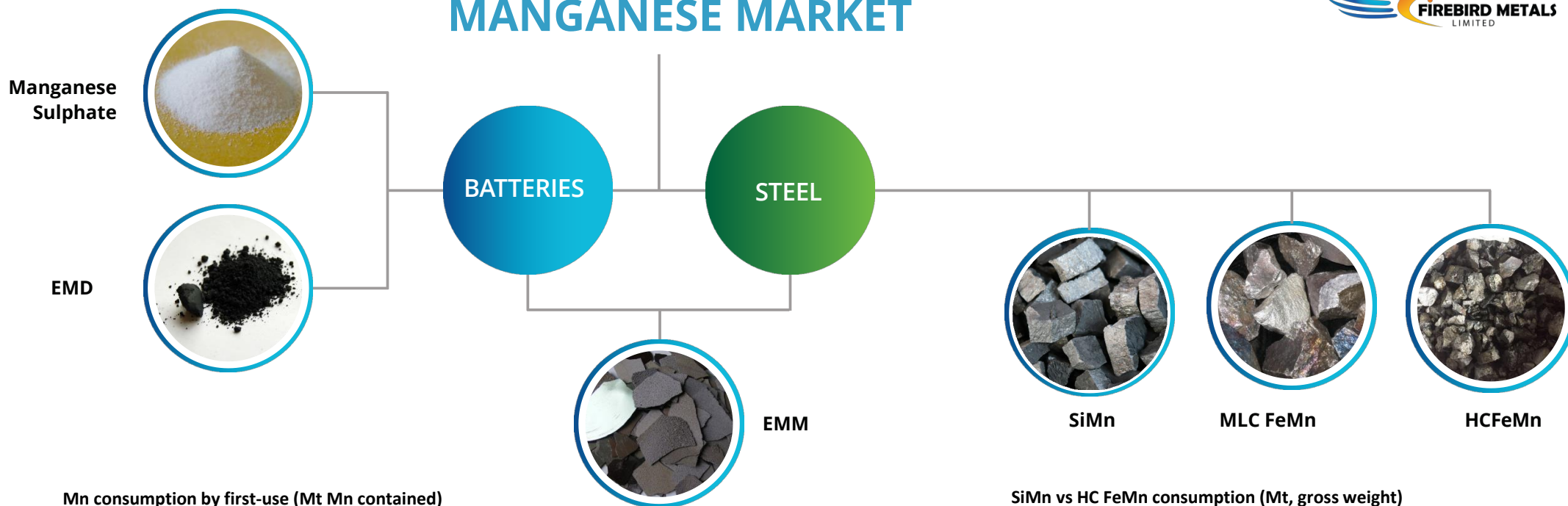


Zone	Mineral Resource Classification	Tonnes (Mt)	Mn (%)	Fe (%)	SiO ₂ (%)	Al ₂ O ₃ (%)	P (%)
Manganiferous shale	Inferred	49.3	11.4	17.3	40	8.5	0.13
Supergene manganese	Inferred	8.1	17.4	16.8	30.1	9.4	0.09
Grand Total	Inferred	57.5	12.2	17.2	38.6	8.6	0.13

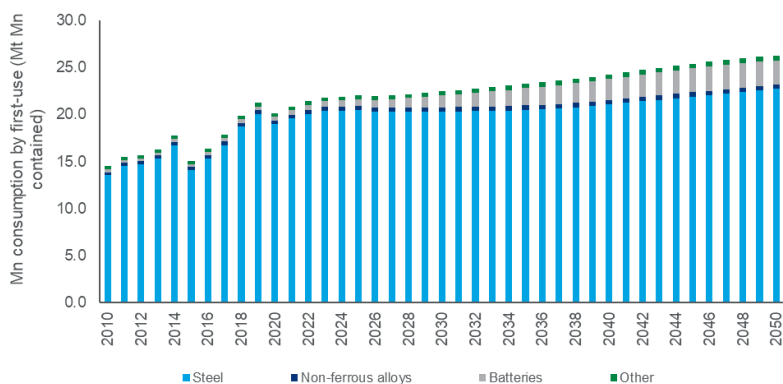


Source: Firebird ASX announcement "Hill 616 Technical Review Complete, CSA Global engaged for Resource Work" dated 11/11/21 and "Maiden Resource at Hill 616" dated 1/12/21

MANGANESE MARKET

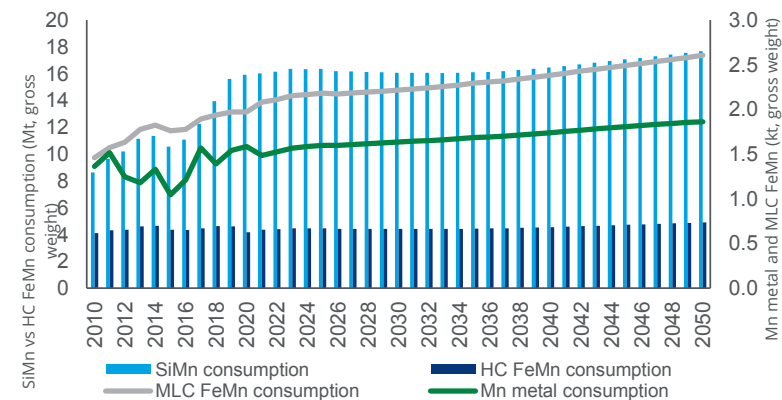


Mn consumption by first-use (Mt Mn contained)



- ✓ SiMn is the largest manganese alloy market
- ✓ Manganese concentrate to be produced from Oakover suitable for SiMn production

SiMn vs HC FeMn consumption (Mt, gross weight)



Source: Wood Mackenzie, AlloyConsult

The foregoing graph was obtained from Bulk Steel Alloys, a product of Wood Mackenzie, see disclaimer

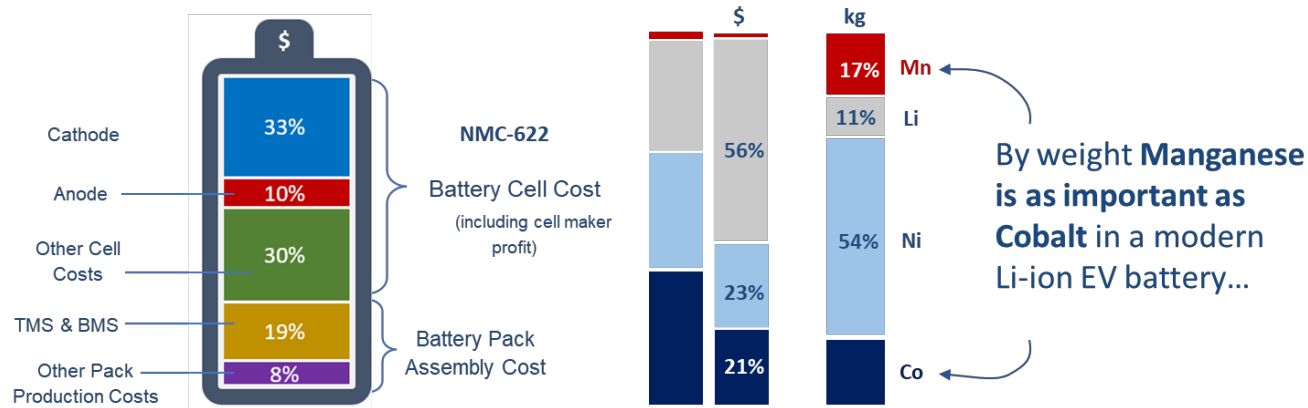
Source: Wood Mackenzie, AlloyConsult

The foregoing graph was obtained from Bulk Steel Alloys, a product of Wood Mackenzie, see disclaimer

LI-ION BATTERIES AND MANGANESE IMPORTANCE

- Targeting production of High Purity Manganese Sulphate Monohydrate (HPMSM) for the Battery Industry
- Sulphate test work commenced at Oakover:
 - Amenable to Reductive Leaching using SO₂, with excellent initial leach results
 - Achieving outstanding Mn extraction
 - Heat generated by reaction
 - High Mn solubility
 - Typical impurities (Fe, K, Al, Ca, Mg, etc) require removal before crystallisation
 - Completion expected by H2 2022
- Following completion, Firebird will commence a Scoping Study, with results expected in late Q4 2022, Q1 2023

Manganese accounts for only 1-2% of the cost of cathode materials



Source: Cairn ERA, American Manganese Inc., Bloomberg, CPM Group
 Prices used (per kg of battery-grade material, metal contained):
 Jan 2019: Li=\$85, Ni=\$18, Mn=\$3.2, Co=\$62; May 2022: Li=\$386, Ni=\$31, Mn=\$3.5, Co=\$84

STRONG COMMITMENT TO ESG OBJECTIVES

- Committed to developing Oakover in line with ESG strategy and objectives
- Key focus on integration of clean energy technologies where possible through development and operational stages
- Energy management plan will ensure local community and environment are of core consideration
- Dedicated and ongoing focus to support local Jigalong community:
 - Local band, Local school, Weather station
 - Utilising community services where possible
 - Develop training and apprenticeship programs
 - Endeavour to employ local personnel wherever possible
- Regular ESG reporting
- Maiden report released in 2021, year of ASX-listing



CORPORATE SNAPSHOT



EVAN CRANSTON Chairperson

Mr Cranston is an experienced mining executive, with a background in corporate and mining law



PETER ALLEN Managing Director

Mr Allen is a mining executive, with more than 20 years experience in marketing of manganese, lithium and a range of other commodities



WEI LI Finance Director

Mr Li is a Chartered Accountant with extensive experience in the resource industry. Mr Li managed a private base metal exploration company in the Northern Territory and assisted in commissioning a A\$150 million Electrolytic Manganese Dioxide (EMD) plant in Hunan China



ASHLEY PATTISON Non-executive Director

Mr Pattison has over 20 years' experience in the resources sector from both a corporate finance and operational perspective. Qualified as chartered accountant, he has extensive experience in operations, finance, strategy and corporate finance



BRETT GROSVENOR Non-executive Director

Mr Grosvenor is an experienced mining executive, with over 25 years' experience in the Mining and Power industry. Holding a dual tertiary qualification in Engineering and a Master in Business

Firebird Metals Limited **ASX:FRB**

Share price per 14/9/22 \$0.19

Shares on issue 67.5 M

Market capitalisation **\$12.1 M**

Options @ \$0.30 8 M

Options @ \$1 10 M

Performance rights 3.3 M

Shareholders

Tolga Kumova 8.4%

Mining Equities 5.57%

Board (incl related parties) & management 7.6%

Top 20 shareholders 51%

DEVELOPING WA'S NEXT MANGANESE OPERATION

- ✓ Total Mineral Resource Estimate across Oakover and Hill 616 increased by 350% to 229Mt
 - ✓ Indicated Resource of 58.7Mt @ 10.4% Mn at Oakover
- ✓ Manganese hub strategy, targeting manganese concentrate and high purity manganese sulphate
 - ✓ Excellent concentrate metallurgical test work results to date, programs ongoing
 - ✓ Manganese Sulphate Test work underway
 - ✓ Scoping Study results confirmed excellent fundamentals and significant growth upside at Oakover
- ✓ Favourable manganese market fundamentals, underpinned by strong, long-term demand forecasts from the battery minerals and steel markets
- ✓ Well-funded to execute a busy work program over the next 6-12 months
- ✓ Led by a proven Board and management team, who hold all the required skills to successfully build a quality, long-term manganese operation

Activity	CY2022		CY 2023			
	Q3	Q4	Q1	Q2	Q3	Q4
89 hole, ~3,000m Infill Drilling Program at Jayeye And Karen						
Updated Oakover Mineral Resource Estimate						
Concentrate test work – DMS and Ore Sorting						
High Purity Manganese Sulphate - Hydrometallurgy						
Environmental Baseline Surveys						
Feasibility Study						



THANK YOU

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