

MACQUARIE  
WESTERN AUSTRALIA  
FORUM

BRUCE GRIFFIN  
EXECUTIVE CHAIR

30 November 2023

ASX: SFX

[www.sheffieldresources.com.au](http://www.sheffieldresources.com.au)



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## Summary information in relation to Sheffield

This document contains summary information about Sheffield Resources Limited (ACN 125 811 083) (**Company** or **Sheffield**), its subsidiaries and their activities which is current as at the date of this document, unless otherwise indicated. The information in this document remains subject to change without notice. The information in this document does not purport to be complete nor does it contain all the information that would be required in a disclosure statement or prospectus prepared in accordance with the Corporations Act 2001 (Cth). This presentation should be read in conjunction with Sheffield's periodic and continuous disclosure announcements lodged with the Australian Securities Exchange (ASX), which are available at <http://www.sheffieldresources.com.au/irm/content/asx-announcements1.aspx?RID=398> or [www.asx.com.au](http://www.asx.com.au), including and in particular "\$30m Share Placement And Entitlement Issue To Advance Sheffield Growth Strategy".

None of Sheffield, nor any of its related bodies corporate, their respective directors, partners, employees or advisers or any other person (**Relevant Parties**) makes any representations or warranty to, or takes responsibility for, the accuracy, reliability or completeness of the information contained in this document, to the recipient of this document (**Recipient**), and nothing contained in it is, or may be relied upon as, a promise or representation, whether as to the past or future. The content of this presentation is provided as at the date of this presentation (unless otherwise stated).

## Information regarding the South Atlantic Project

All information in this presentation relating to the South Atlantic Project has been sourced from Rio Grande Mineração S/A (RGM). The information in this announcement that relates to the Retiro and Bujuru Exploration Targets is based on information compiled under the guidance of Mr Greg Jones, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Jones is an employee of IHC Mining and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Jones consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. This presentation should be read in conjunction with the Company's announcement "\$30m Share Placement And Entitlement Issue To Advance Sheffield Growth Strategy" dated 28 February 2023 which contains relevant exploration results for RGM reported in compliance with the Joint Ore Reserves Committee's Australasian Code for Reporting of Mineral Resources and Ore Reserves (**JORC Code**). Nothing has come to the attention of Sheffield that causes it to question the accuracy or reliability of the information provided by RGM. Nothing in this presentation can be relied on as implying that there has been no change to any information relating to the South Atlantic Project since the date of this presentation, or as a representation as to future matters in relation to RGM and its projects.

## Industry data

Certain market and industry data used in connection with or referenced in this document, including in relation to other companies in Sheffield's peer group, may have been obtained from public filings, research, surveys or studies made or conducted by third parties, including as published in industry-specific or general publications. Neither Sheffield or their respective representatives have independently verified any such market or industry data.

## Compliance Statements

This presentation should be read in conjunction with the following announcements by the Company: "KMS Bankable Feasibility Study Presentation" dated 24 March 2022, "Thunderbird Ore Reserve Update" dated 24 March 2022, "Thunderbird BFS, Results, Financing and Project Update" dated 24 March 2022, "Thunderbird Final Investment Decision" and "Final Investment Decision – Presentation" dated 10 October 2022 and "Mineral Resource and Ore Reserve Statement" dated 24 September 2019 (**the Primary Announcements**). Information in this document in relation to Mineral Resources, Ore Reserves and metallurgy and process design has previously been reported in the Primary Announcements. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of the 24 September 2019 Thunderbird Mineral Resource and Ore Reserve Statement and the 24 March 2022 Thunderbird Ore Reserve Update, that all material assumptions and technical parameters underpinning the estimates with regards to the Company in the relevant market announcement continue to apply and have not materially changed. The Company confirms that all material assumptions underpinning any production target and any forecast financial information derived from any production target that is disclosed in this announcement continue to apply and have not materially changed. The Company confirms that the form and context of the Competent Person's findings are presented and have not been materially modified from the original market announcements.

## Estimates of Mineral Resources and Ore Reserves and Exploration Results

This document and the Primary Announcements contain estimates of Ore Reserves and Mineral Resources and information that relates to exploration results. The Company confirms that all material assumptions underpinning any production target and any forecast financial information derived from any production target that is disclosed in this presentation continue to apply and have not materially changed. The Company confirms that the form and context of the Competent Person's findings are presented and have not been materially modified from the original market announcements. It is a requirement of the ASX Listing Rules that the reporting of ore reserves and mineral resources in Australia comply with the JORC Code. Investors outside Australia should note that while exploration results, mineral resources and ore reserves estimates of Sheffield in this presentation comply with the JORC Code, they may not comply with the relevant guidelines in other countries and, in particular, do not comply with (i) National Instrument 43-101 (Standards of Disclosure for Mineral Projects) of the Canadian Securities Administrators; or (ii) Industry Guide 7, which governs disclosures of mineral reserves in registration statements filed with the US Securities and Exchange Commission (SEC). Information contained in this presentation describing mineral deposits may not be comparable to similar information made public by companies subject to the reporting and disclosure requirements of Canadian or US securities laws.

## Not financial product advice

This document does not constitute, and is not intended to constitute, investment or financial product advice (nor tax, accounting or legal advice). This document should not be relied upon as advice to investors or potential investors and has been prepared without taking account of any person's individual investment objectives, financial situation or particular needs. Any investment decision should be made based solely upon appropriate due diligence. Except to the extent prohibited by law, the Relevant Parties disclaim all liability that may otherwise arise due to any of this information being inaccurate or incomplete. By obtaining this document, the Recipient releases the Relevant Parties from liability to the Recipient for any loss or damage that it may suffer or incur arising directly or indirectly out of or in connection with any use of or reliance on any of this information, whether such liability arises in contract, tort (including negligence) or otherwise.

## Financial data

A number of figures, amounts, percentages, estimates, calculations of value and fractions in this document are subject to the effect of rounding. Accordingly, the actual calculation of these figures may differ from the figures set out in this document. All currency amounts are in Australian Dollars (\$) or A\$) unless otherwise stated.

## Future performance, forward-looking statements and key risks

This document contains certain "forward-looking statements". Forward-looking statements can generally be identified by the use of forward looking words such as "forecast", "likely", "believe", "future", "project", "opinion", "guidance", "should", "could", "target", "propose", "to be", "foresee", "aim", "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", "indicative" and "guidance", and other similar words and expressions, which may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production dates, expected costs or production outputs for the Company, based on (among other things) its estimates of future production of the Thunderbird Mineral Sands Mine and the future operation of Sheffield and the Thunderbird Project.

To the extent that this document contains forward-looking information (including forward-looking statements, opinions or estimates), the forward-looking information is subject to a number of risk factors, including those generally associated with the mineral sands industry. Any such forward-looking statement also inherently involves known and unknown risks, uncertainties and other factors that may cause actual results, performance and achievements to be materially greater or less than estimated. These factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations, general economic and share market conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development (including the risks of obtaining necessary licenses and permits and diminishing quantities or grades of reserves), changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, geological and geotechnical events, and environmental issues, and the recruitment and retention of key personnel.



# CONTENTS

1. Corporate Overview
2. Thunderbird Mineral Sands Mine
3. South Atlantic Project



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# SHEFFIELD RESOURCES

Assembling a portfolio of global mineral sands development and production assets to generate cash returns and growth

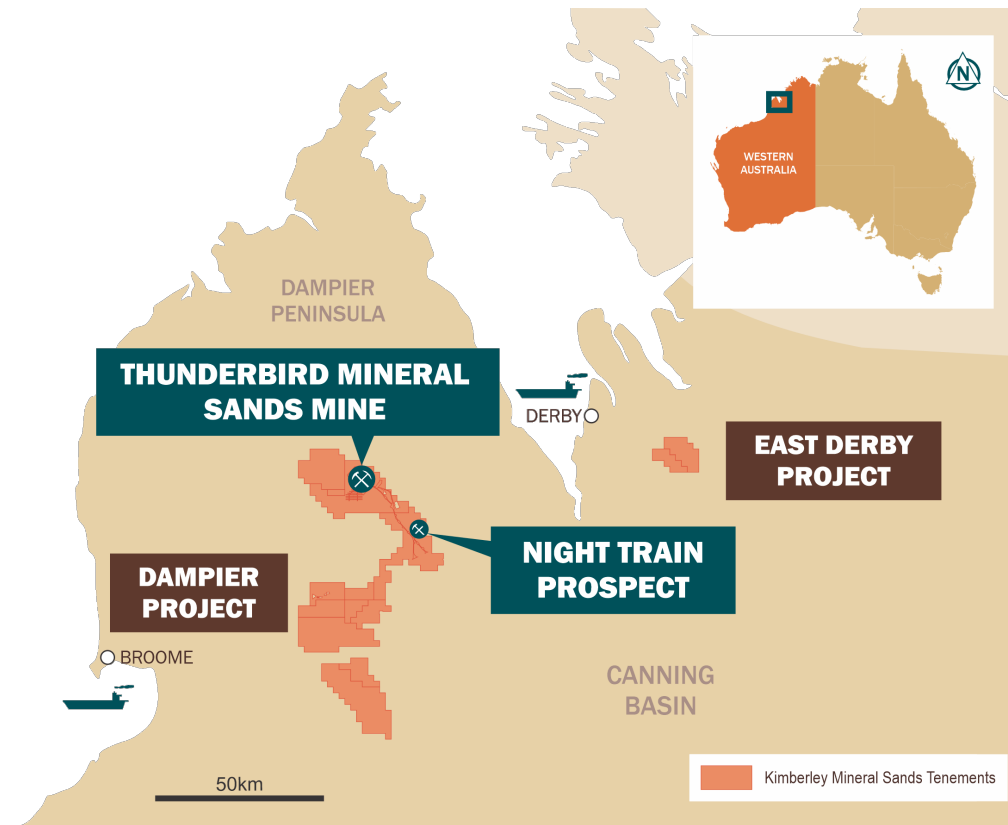
| CORE ASSET   | KMS GROWTH   | SOUTH ATLANTIC  | FUTURE GROWTH   |
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| <p><b>Thunderbird Mineral Sands Mine (50% interest)</b></p> <ul style="list-style-type: none"> <li>▶ Production commenced, ramp up underway</li> <li>▶ <b>A\$60m cash buffer</b> at start up</li> <li>▶ <b>On target</b> for first customer deliveries in Q1 2024</li> <li>▶ Stage 1 NPV<sub>g</sub> \$842m, generating <b>~\$120m pa of cash to Sheffield</b> following debt repayment (mid FY2027 in the base case)<sup>1</sup></li> </ul> | <p><b>Enhance KMS through</b></p> <ul style="list-style-type: none"> <li>▶ Thunderbird Stage 2, incremental NPV<sub>g</sub> of <b>\$548m<sup>1</sup></b></li> <li>▶ Additional zones of mineralisation along a 120 km trend</li> <li>▶ East Derby construction sand opportunity</li> </ul> | <p><b>South Atlantic Option</b></p> <ul style="list-style-type: none"> <li>▶ Exploration Target ranging between 500 to 720Mt at 3.2 to 4.0% HM<sup>2</sup></li> <li>▶ Exploration Targets comprising sulfate ilmenite and zircon</li> <li>▶ Option Agreement executed with US\$2.5m contribution to fund de-risking activities</li> </ul> | <p><b>Review of other quality mineral sands opportunities</b></p> <ul style="list-style-type: none"> <li>▶ Targeting advanced projects with potential to unlock value by applying Sheffield's mineral sands and funding experience</li> </ul> |

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# CORPORATE OVERVIEW

## SHARE PRICE INFORMATION



## CAPITAL STRUCTURE<sup>1</sup>

| Item                         | Unit        | Value      |
|------------------------------|-------------|------------|
| Ordinary Shares              | #m          | 393        |
| Share Price                  | A\$/sh      | 0.60       |
| <b>Market Capitalisation</b> | <b>A\$m</b> | <b>236</b> |
| Cash Balance <sup>2</sup>    | A\$m        | 24         |
| Debt Balance                 | A\$m        | -          |
| <b>Enterprise Value</b>      | <b>A\$m</b> | <b>212</b> |

## MAJOR SHAREHOLDERS

| Name               | % Holding |
|--------------------|-----------|
| Yansteel           | 9.9%      |
| Yovich & Co        | 8.0%      |
| BlackRock          | 6.4%      |
| Other Institutions | 10.4%     |

## BROKER COVERAGE & RESEARCH



1. Data quoted as of 28 November 2023. All other metrics as otherwise denoted.  
 2. 30 September 2023 (unaudited)



# THUNDERBIRD

MINERAL SANDS MINE



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# FIRST ORE PRODUCTION IN OCTOBER 2023



**MINE  
NOVEMBER 2023**

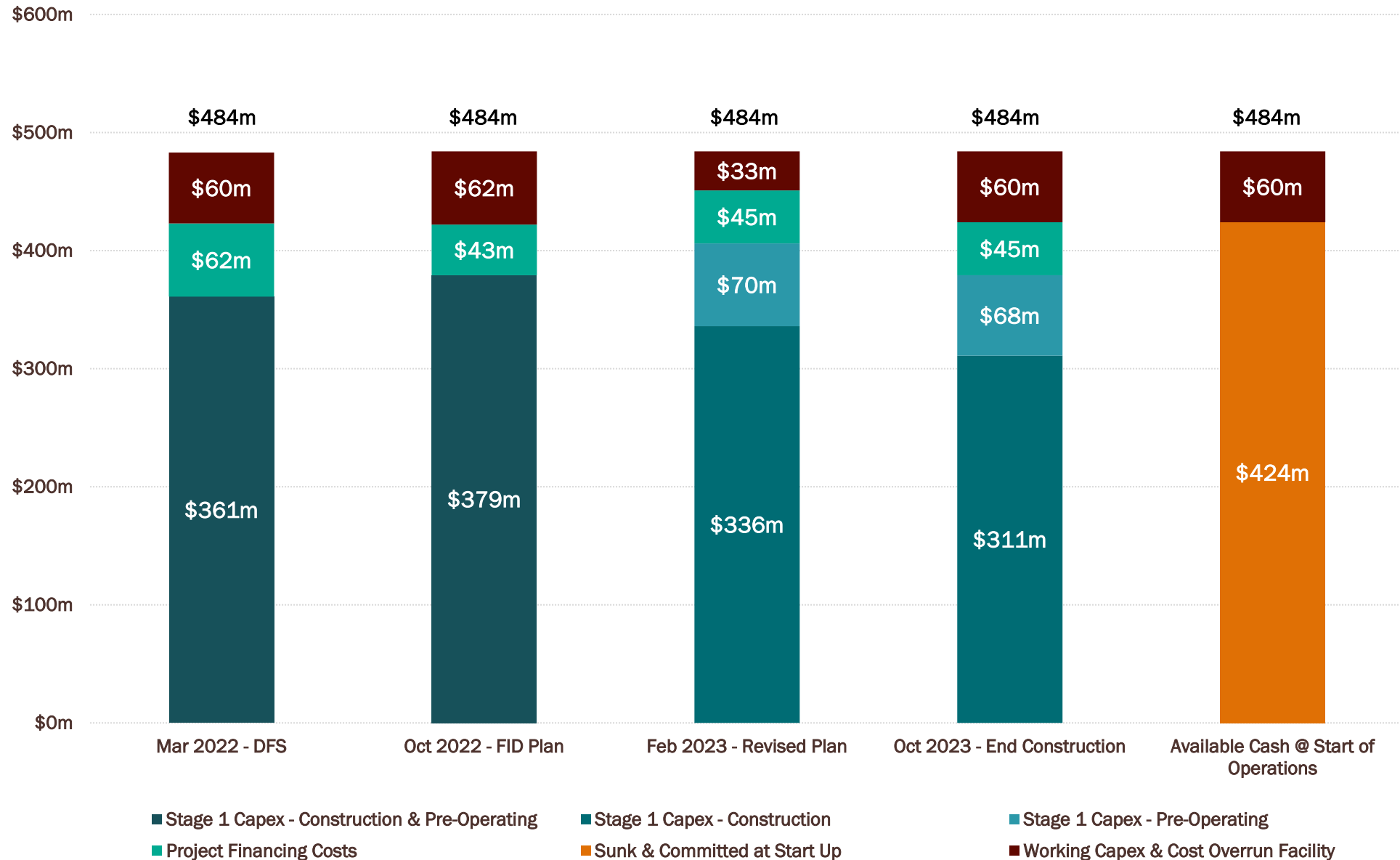


**PROCESS PLANT  
HMC AND PRODUCT STOCKPILES  
NOVEMBER 2023**



**TAILINGS STORAGE FACILITY  
NOVEMBER 2023**

# BUILD COMPLETED ON TIME AND BUDGET, WELL FUNDED FOR RAMP UP





# DE RISKING RAMP UP

## Design for Key Risks



### Mining fleet and DMU sized for 1800tph vs WCP at 1,085tph

- ++ Main variability is proportion of oversize/undersize
- ++ Sub 12mm ore to WCP can be maintained even with high oversize



### Starter pit open in all directions

- ++ Main variability is proportion of oversize/undersize
- ++ Can manage by flexing mining direction



### Tailings Dam ~ 2 years

- ++ Removes tight linkage between in-pit tailings and mining



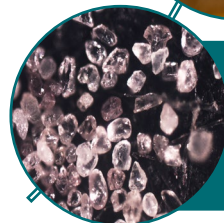
### Stormwater Surge Pond

- ++ ~ 2 weeks water supply at full production
- ++ Larger buffer than process water pond + bore field



### WCP 10% higher throughput than CUP + HMC stockpile

- ++ Use stockpile to main steady CUP throughput
- ++ Offtake partner fully committed to the product and project



### Concentrates not final products

- ++ No hard product specification
- ++ Greater flexibility to optimise throughput and yield

# PRODUCTION COMMENCED OCTOBER 2023 OUTLOOK THROUGH 2024 (2022 BFS ASSUMPTIONS)



Reference:

1. ASX Announcement: "Thunderbird BFS Results, Financing And Project Update" dated 24 March 2022



# LEVERAGING YANSTEEL DOWNSTREAM CAPABILITY

- Thunderbird is a 50/50 JV with Yansteel, part of Tangshan Yanshan Iron & Steel, a privately owned Chinese steel manufacturer
- Yansteel's integrated smelter complex in China operational
- Yansteel designed the plant to process ilmenite feedstock from various global sources including Australia (Thunderbird)
- Feed preparation plant (FPP) includes fluidised bed roasters and magnetic separation



Yansteel Director Mr Cui (right) & Mr Griffin (July 2023 Yansteel site visit)  
Source: Yansteel

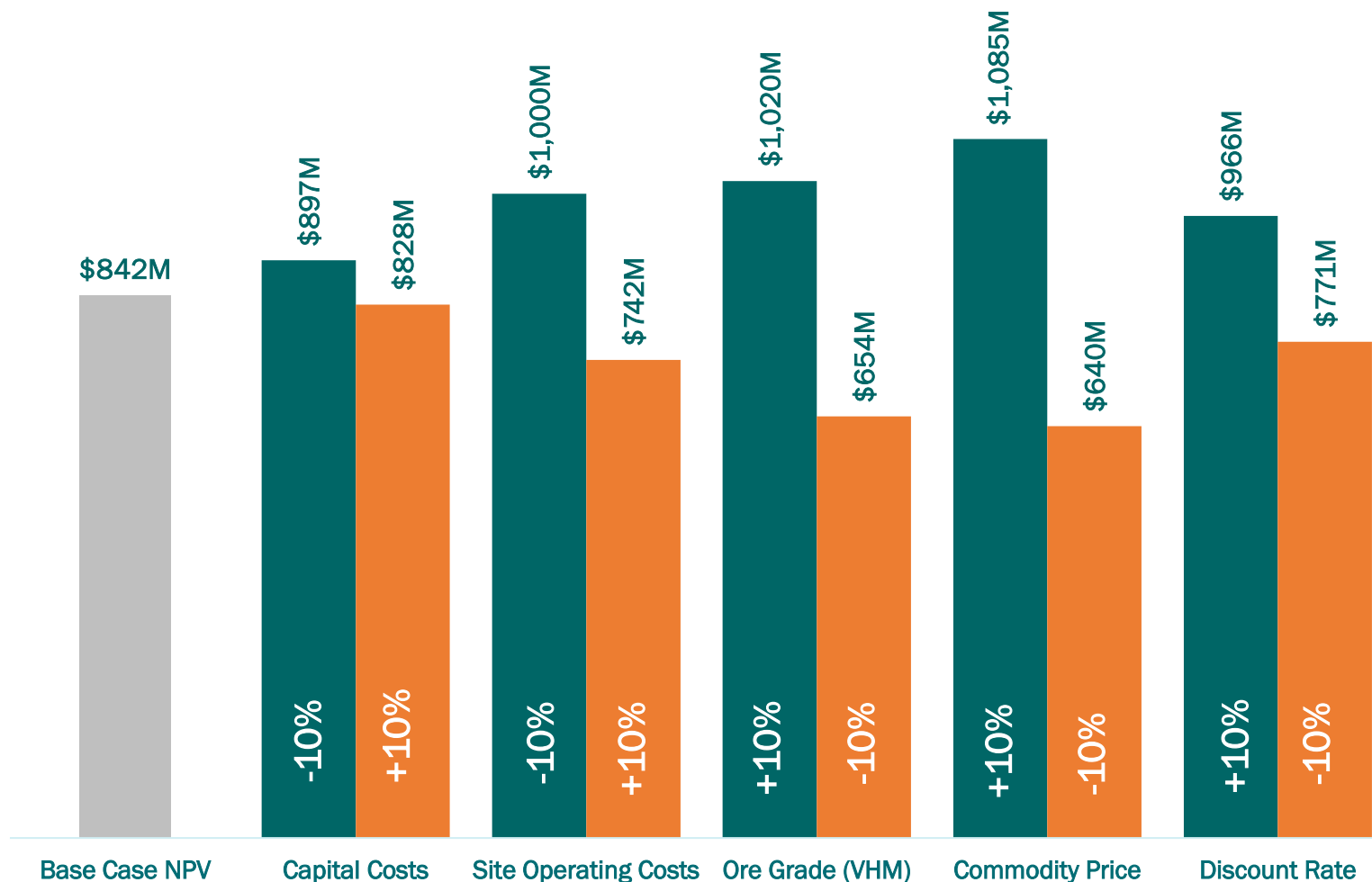


KMS Directors Mr Mo (far left) and Mr Griffin (far right)  
visiting Yansteel operations

Source: Yansteel

# COMPELLING STAGE 1 ECONOMICS

| Metric   | Stage 1 <sup>1</sup> |
|--|----------------------|
| NPV <sub>8</sub> post-tax                        | A\$842m              |
| IRR post-tax                                     | 26.6%                |
| Revenue to Cost Ratio (first 10 yrs)             | 2.3                  |
| Project Capital                                  | A\$379m              |
| Total Funding Requirement                        | A\$484m              |
| Process rate (tonnes p/hour)                     | 1,085                |
| Production (kt pa all products) <sup>2</sup>     | 913                  |
| Mine Life  | 33 years             |
| LT Average FX (A\$/US\$) <sup>3</sup>            | 0.75                 |
| Long Term Zircon Price – FOB (TZMI) <sup>4</sup> | US\$1,607            |



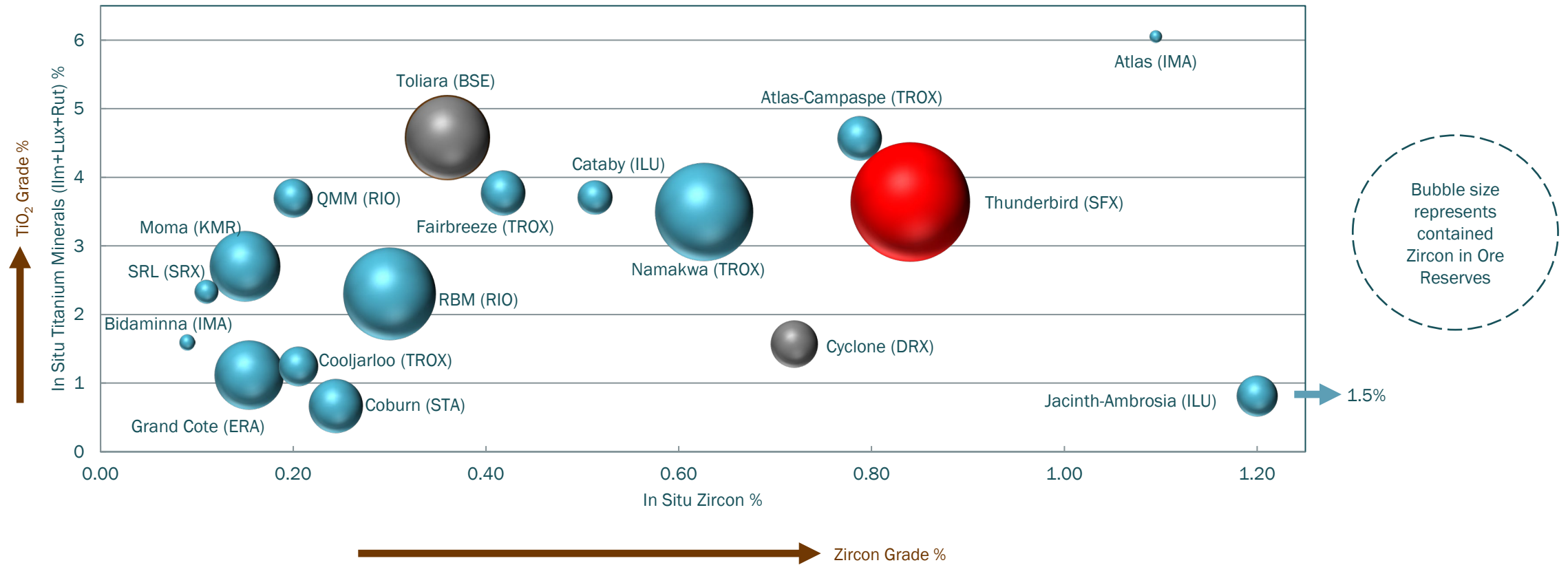
Reference:

1. ASX Announcement: "Thunderbird Final Investment Decision" 7 October 2022 and "Thunderbird BFS Results, Financing And Project Update" dated 24 March 2022
2. Annual average Life of Mine production
3. 2022 FID assumes 0.71:1.00 AUD:USD for 2023, increasing to 0.75:1.00 by 2025
4. 2022 BFS real 2020, 2022 FID real 2021



# THUNDERBIRD – THE WORLD’S LARGEST ZIRCON RESERVES ... STRATEGICALLY SIGNIFICANT ASSET IN A LOW-RISK JURISDICTION

CONTAINED ZIRCON IN ORE RESERVES AND GRADE FOR SELECTED MINERAL SANDS DEPOSITS 1,2,3



Bubble size represents contained Zircon in Ore Reserves

1.5%

Note:  
 1. Thunderbird Ore Reserve as published on the ASX on 24 March 2022. Thunderbird Ore Reserves ranked against latest published Ore Reserves of current mineral sands operations and projects under investigation globally. Accordingly, for the operating projects, no account is made for any volumes of product already produced  
 2. Blue bubbles are operating mines, grey bubbles are Ore Reserves reported but the project is not operating  
 3. Data compiled by Sheffield from public sources, refer to the Appendix on Page 24 of this ASX Announcement. This analysis does not illustrate the variance in product value between rutile, leucoxene and ilmenite

## STAGE 2 ADDS SIGNIFICANT VALUE

- Double mining capacity
- 50% increase in final products
- Mine life increased from 33 to 36 years – all from existing reserves
- Capex \$258m (2022 real)
- Post Tax NPV<sub>g</sub> A\$548m (\$274m SFX 50% share)<sup>1</sup>
- Post Tax IRR 27%<sup>1</sup>
- March 2022 BFS assumed execution in 2026/27 with production in 2028
- Scope and timing to be optimized post Stage 1 start up



Reference:

1. ASX Announcement: "Thunderbird Final Investment Decision" 7 October 2022 and "Thunderbird BFS Results, Financing And Project Update" dated 24 March 2022



# OUR ESG APPROACH



## ENVIRONMENTAL

- ▶ Full State and Federal environmental approvals
- ▶ Progressive mine rehabilitation throughout mine life
- ▶ Practices aligned with Equator Principles - Addressing the Climate Change challenge



## SOCIAL

- ▶ Native Title Agreement with Traditional Owners in place
- ▶ 26% Aboriginal employee base as of September 2023
- ▶ Focus on Kimberley residential employment – 80% locally employed
- ▶ Over \$60m in local expenditure to date with >A\$750m across mine life
- ▶ Tax contributions totalling >A\$1B over mine life



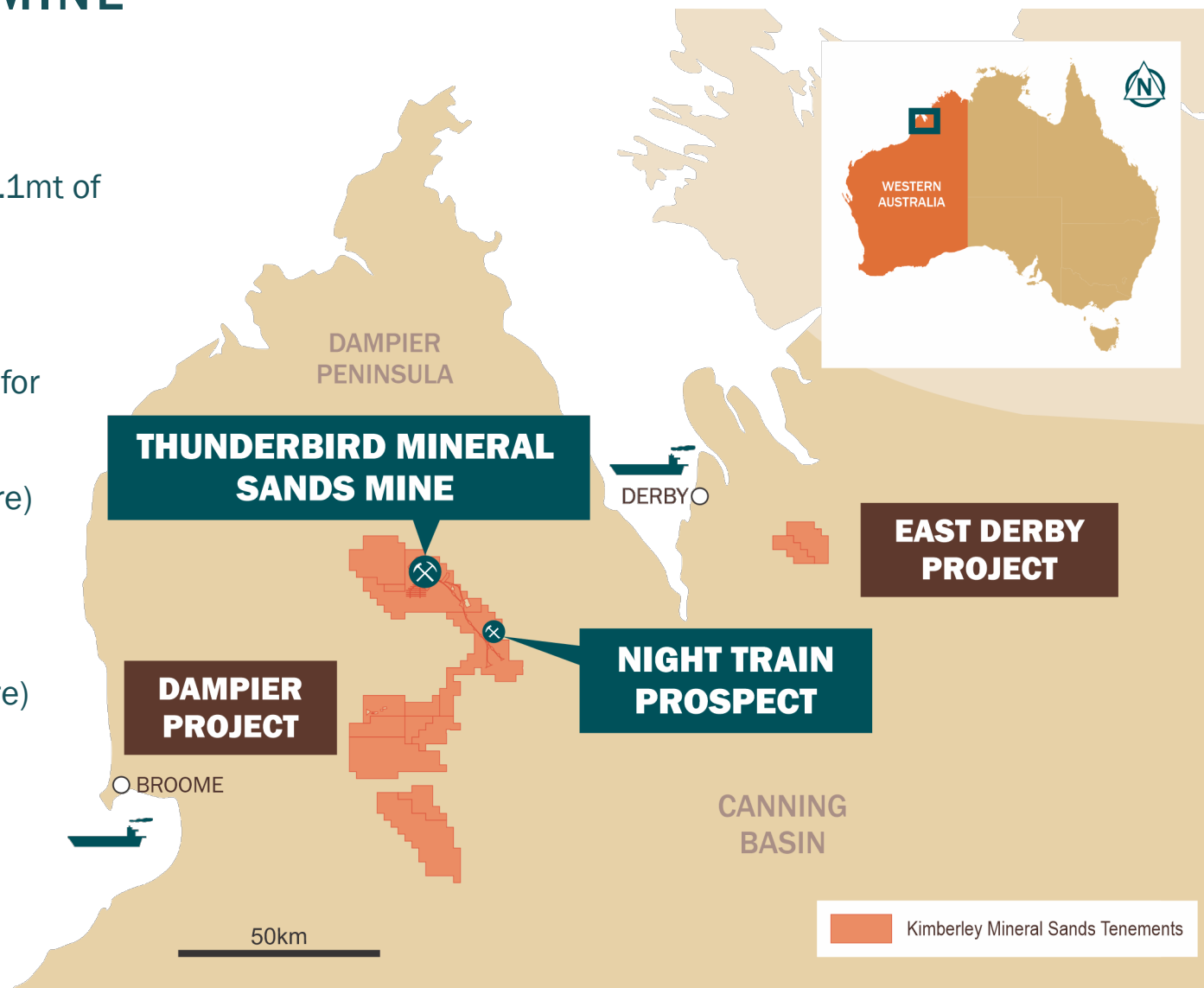
## GOVERNANCE

- ▶ Growing Kimberley workforce >25% female
- ▶ Committed to Board and management diversity
- ▶ Strong safety culture >1 million hours worked LTI free
- ▶ Compliance with ASX Corporate Governance Principles and Recommendations



# THUNDERBIRD MINERAL SANDS MINE

- 50/50 JV with Yansteel
- **Stage 1 Production** commenced October 2023 targeting 1.1mt of zircon and ilmenite rich concentrates<sup>1</sup>
- First product shipment expected in **Q1 2024**
- **Offtake agreements in place** for ~80% of Stage 1 revenue for first 5 years
- Stage 1 Post Tax NPV<sub>8</sub> **\$842m** (\$421 million SFX 50% share)
- **World's largest high grade zircon reserve**, in a low-risk jurisdiction
- Stage 2 Post Tax NPV<sub>8</sub> **\$548m** (\$274 million SFX 50% share)



Reference:

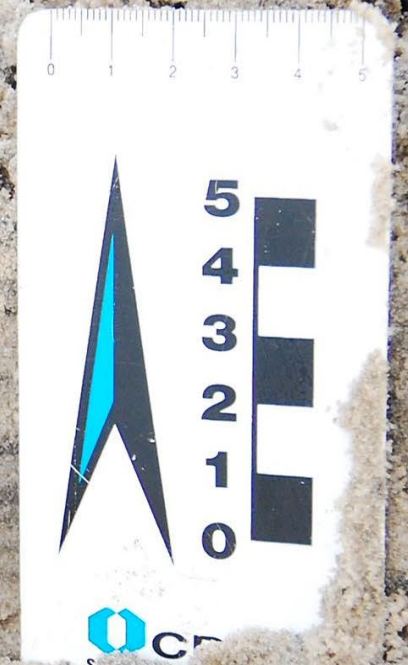
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# SOUTH ATLANTIC PROJECT



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# SOUTH ATLANTIC PROJECT OVERVIEW

- Investing up to US\$2.5 million to earn an **option to acquire a 20% interest** by paying a further US\$12.5 million
- Located **Southeast Brazil** (Rio Grande do Sul)
- Continuous sequence of dunes and beach sands extending for 80km
- Four continuous deposits; **Retiro, Estreito, Capão do Meio and Bujuru**
- **Exploration target** for Retiro and Bujuru of 500 to 720Mt @ 3.2 to 4.0% HM<sup>1</sup>
- Heavy mineral grades of 3 - 10%, low slimes (<5%) and 2 - 10m thick
- **10,000m drilling campaign** commencing Q4 2023
- Excellent existing infrastructure; ports, roads, power
- Established industrial area – high quality workforce
- High quality local partner



Reference:

1. See ASX Announcement: "\$30m Share Placement and Entitlement Issue To Advance Sheffield Growth Strategy" of 28 February 2023.



# SUMMARY



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# FULLY FUNDED TO EXECUTE PROPOSED WORK PROGRAM

A\$24m cash balance at end of Q3 2023, with adequate proceeds to fund work programs extending throughout CY2025

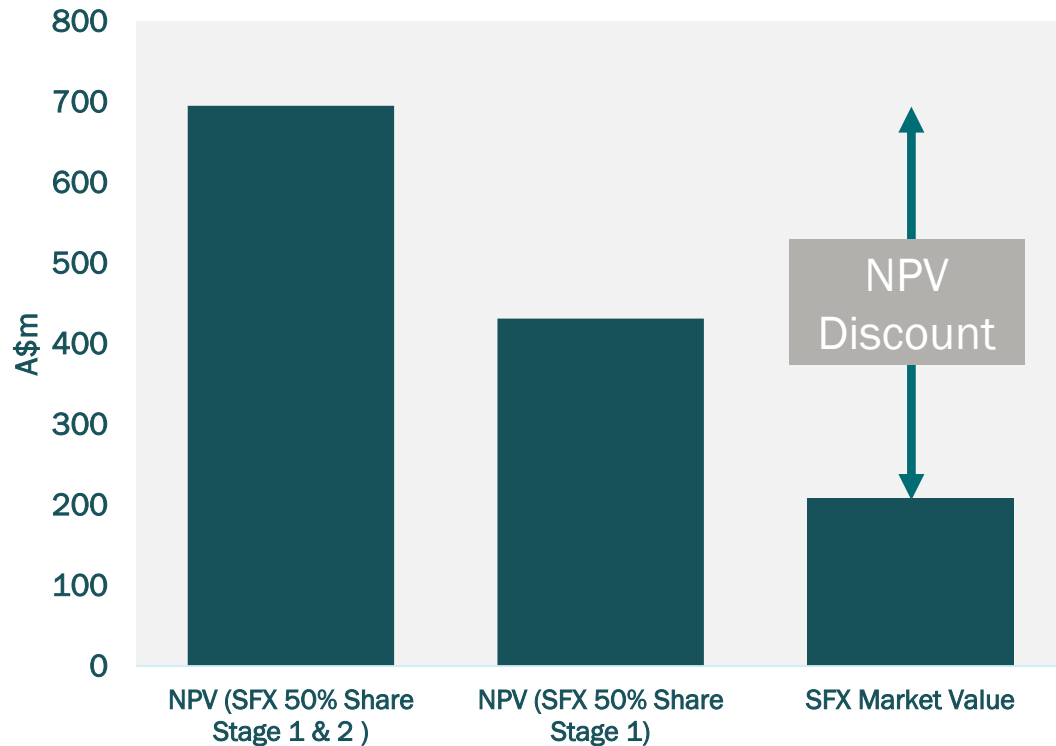


Reference:  
 1. See ASX Announcement: “\$30m Share Placement and Entitlement Issue To Advance Sheffield Growth Strategy” of 28 February 2023 for a more detailed summary of the RGM Option Agreement.  
 2. First payment of \$US1million for South Atlantic Option paid on 10 March 2023  
 3. Assumes part year 2024 (\$1m) plus \$2m p.a. for CY2024 and CY2025

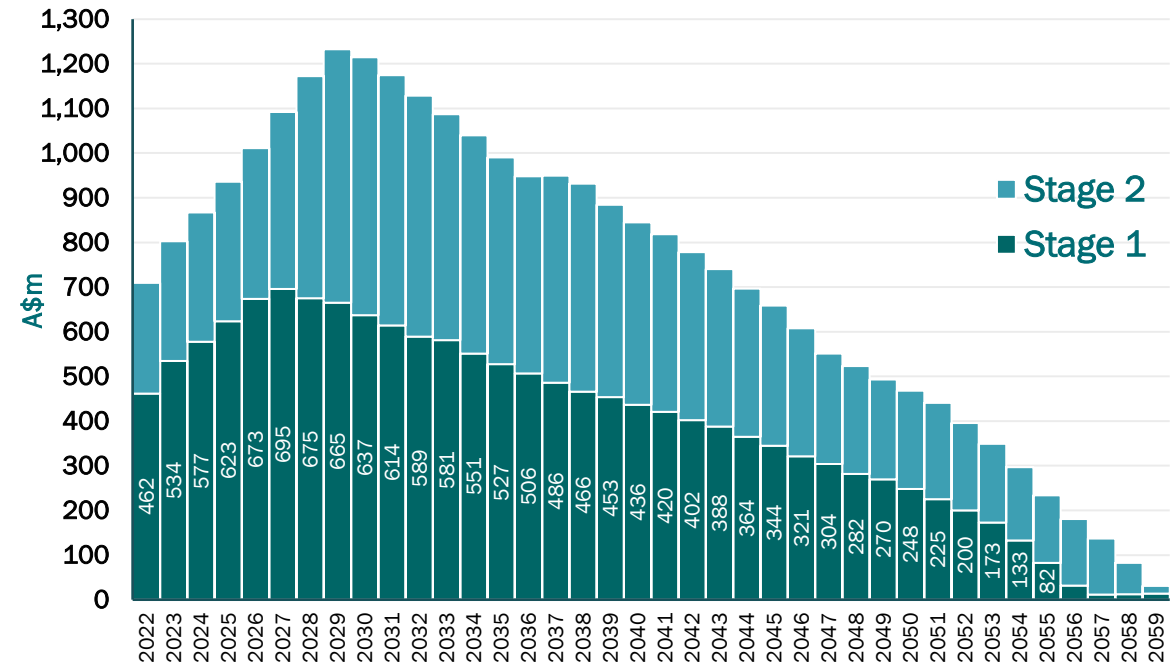
# DEEP DISCOUNT TO ASSET VALUE<sup>1</sup>

>70% discount to Sheffield NPV share of Stage 1&2 and  
>50% discount to Stage 1 NPV share despite:

- Low risk jurisdiction
- Stage 1 production commenced
- Fully funded with \$60m available at start up, in a low-risk jurisdiction



NPV of forecast Sheffield cash dividends from KMS peaks at \$1.2B from 2028 to 2031 and remains above \$0.5B until 2048



1. Based upon ASX market price of Sheffield Resources as of 30 June 2023 and sourced from ASX market based data and reports published by Sheffield Resources Limited

# SHEFFIELD RESOURCES

Assembling a portfolio of global mineral sands development and production assets to generate cash returns and growth

| CORE ASSET   | KMS GROWTH   | SOUTH ATLANTIC  | FUTURE GROWTH   |
|--|--|---|---|
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## APPENDIX: ADDITIONAL PEER INFORMATION

| Company              | Company Material Reference                                    |
|----------------------|---|
| Kenmare Resources    | 2020 Annual Report  |
| Strandline Resources | 2019 Reserve Statement  |
| Eramet               | 2021 Universal Filing   |
| Tronox               | 2022 Annual Report  |
| Diatreme Resources   | 2016 Reserve Statement  |
| Rio Tinto            | 2022 Annual Report  |
| Base Resources       | 2022 Reserve Statement  |
| Iluka Resources      | 2021 Reserve Statement  |
| Image Resources      | 2021 Annual Report and December 2022 Atlas Ore Reserve Update |
| Sierra Rutile        | 2021 Reserve Statement  |