

TZMI Conference – Singapore



November 2018

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Summary information in relation to Sheffield

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Industry data

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Estimates of resources and reserves and exploration results

This presentation contains estimates of Sheffield's Ore Reserve and Mineral Resources and information that relates to exploration results.

The Mineral Resources and Ore Reserves of Sheffield have been extracted from Sheffield's ASX releases;

- "MINERAL RESOURCE AND ORE RESERVE STATEMENT" 3 October 2018
- "THUNDERBIRD ORE RESERVE UPDATE" 16 March 2017
- "SHEFFIELD DOUBLES MEASURED MINERAL RESOURCE AT THUNDERBIRD" 5 July 2016

The exploration results have been extracted from Sheffield's ASX release;

• "EXCEPTIONAL RESULTS CONFIRM MAJOR DISCOVERY AT NIGHT TRAIN" 9 October 2018

A copy of these announcements is available at http://www.sheffieldresources.com.au/irm/content/asx-announcements1.aspx?RID=398 or www.asx.com.au.

The Company confirms that it is not aware of new information or data that materially affects the information in these announcements and, in the case of estimates of mineral resources and ore reserves, that all material assumptions and technical parameters underpinning those estimates continue to apply and have not materially changed.

Bankable Feasibility Study ("BFS")

This presentation contains information that relates to a Bankable Feasibility Study. This information was extracted from the following ASX releases by Sheffield:

THUNDERBIRD BFS DELIVERS OUTSTANDING RESULTS" 24 March, 2017

Other Extracted Information

This presentation contains information extracted from the following ASX releases: "NEW LARGE HIGH GRADE DISCOVERY SOUTH OF THUNDERBIRD" 13 November 2018 "FEDERAL ENVIRONMENTAL APPROVAL GRANTED FOR THUNDERBIRD" 28 September 2018 "MINING LEASE GRANTED OVER THUNDERBIRD MINERAL SANDS PROJECT" 26 September 2018 "NAIF APPROVES LOAN FACILITIES TOTALLING A\$95M" 19 September 2018 "NATIVE TITLE UPDATE: SHEFFIELD SIGNS CO-EXISTENCE AGREEMENT" 10 September 2018 "FAVOURABLE NATIONAL NATIVE TITLE TRIBUNAL OUTCOME" 28 August 2018 "STATE MINISTER FOR ENVIRONMENT APPROVES THUNDERBIRD MINERAL SANDS PROJECT" 13 August 2018 "OUARTERLY ACTIVITIES AND CASH FLOW REPORT" 16 July 2018 "GRANT OF MISCELLANEOUS LICENCES" 27 June 2018 "MAIDEN BINDING ILMENITE OFFTAKE AGREEMENT" 21 June 2018 "ADDITIONAL BINDING OFFTAKE SIGNED" 1 February 2018 "BINDING OFFTAKE AGREEMENTS EXCEED 50% OF STG 1 REVENUE" 22 December 2017 "BINDING ZIRCON CONCENTRATE OFFTAKE AGREEMENT SIGNED" 12 December 2017 "COMMENCEMENT OF EARLY WORKS AND TRAINING PROGRAM" 4 December 2017 "SHEFFIELD ANNOUNCES EPC PREFERRED CONTRACTOR" 19 October 2017 "SHEFFIELD MANDATES TAURUS FOR US\$200M DEBT FACILITY' 18 October 2017 "EPA RECOMMENDS APPROVAL OF THUNDERBIRD" 9 October 2017 "SHEFFIELD SECURES SECOND BINDING OFFTAKE AGREEMENT" 25 September 2017 "SHEFFIELD SIGNS MAIDEN BINDING OFFTAKE AGREEMENT" 12 September 2017 "SHEFFIELD LAUNCHES ABORIGINAL EMPLOYMENT PROGRAM" 17 August 2017 "SHEFFIELD SIGNS CORNERSTONE ILMENITE MOU" 29 May 2017 "SHEFFIELD SECURES FURTHER ZIRCON OFFTAKE MOUS" 26 April 2017 "ADDITIONAL ZIRCON OFFTAKE MOU SIGNED" 10 April. 2017 "THUNDERBIRD ILMENITE EXCEEDS PREMIUM SPECIFICATION" 13 March 2017 "OUTSTANDING IMPROVEMENTS IN RECOVERIES AND PRODUCT SPECIFICATIONS FROM THUNDERBIRD BFS" 12 October 2016



Not financial product advice

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Financial data

All currency amounts are in Australian Dollars (\$ or A\$) unless otherwise stated.

Future performance, forward-looking statements and key risks

This presentation 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", "caudid", "target", "propose", "to be", "foresee", "aim", "may", "will", "expect", "lintend", "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 Project and the future operation of Sheffield and the Thunderbird Project.

To the extent that this presentation 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.

Any forward-looking statements are also based on assumptions and contingencies which are subject to change without notice and which may ultimately prove to be materially incorrect, as are statements about market and industry trends, which are based on interpretations of current market conditions. Investors should consider the forward-looking statements contained in this presentation in light of those disclosures and not place reliance on such statements. The forward-looking statements in this presentation are not guarantees or predictions of future performance and may involve significant elements of subjective judgment, assumptions as to future events that may not be correct, known and unknown risks, uncertainties and other factors, many of which are outside the control of Sheffield. The forward-looking statements are based on information available to Sheffield as at the date of this presentation. Except as required by law or regulation (including the ASX Listing Rules), Sheffield undertakes no obligation to provide any additional or updated information or update any forward-looking statements, whether as a result of new information, future events or therwise.

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INVESTMENT HIGHLIGHTS

Thunderbird is a world-class mineral sands development project

- Large-scale, high grade, zircon-rich project with low operating costs, strong margins and attractive economics anticipated
- Expected 42 year mine life based on current JORC Ore Reserve¹ and proposed mine schedule
- Conventional processing of Heavy Mineral Sands ("HMS") expected to deliver low cost and simple
 operation
- De-risked development with a fixed price, lump-sum EPC contract covering approximately 80% of estimated development capex for Stage 1
- The high proportion of zircon production relative to TiO₂ differentiates Thunderbird and provides a competitive advantage

Located in a low risk, mining-focused jurisdiction

- · Located in northern Western Australia, in close proximity to key end-markets
- Certain key existing infrastructure is in place (roads, port, etc.)

Ideally positioned to meet emerging supply shortages in the global zircon and TiO2 market

- Thunderbird to produce high grade, premium quality zircon and TiO₂ products
- Ilmenite products suitable for both sulfate pigment production and chloride slag markets

Very strong customer interest in Thunderbird's product

 Binding offtake agreements in place, representing 100% of zircon product and 50% of LTR ilmenite product whilst those agreements are in place²

Fully permitted and construction ready

- All key permits in place
- First production expected in Q4 of 2020

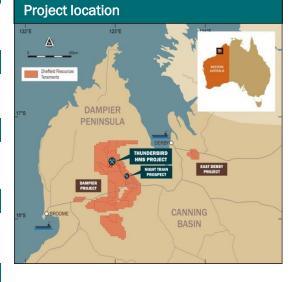
Potential for material exploration upside

- Exceptional drilling results³ confirm major new discovery at Night Train
- Regional Thunderbird drilling program suggest an opportunity to define a new mineral sands province

High quality, experienced board and management in place to deliver project

- 1. Refer to Appendix C for details about Thunderbird's Ore Reserves
- 2. Refer to slide 14 for tenor details for the offtake agreements
- 3. Refer to ASX announcement dated 9 October 2018 for further details about Night Train







Mineral sands pricing environment has strengthened

- · Zircon and TiO₂ price environment has strengthened due to ongoing supply constraints and global economic growth
- Material improvement in pricing relative to March 2017 Bankable Feasibility Study ("BFS") assumptions:
 - March 2017 BFS: US\$1,381/tonne (FOB)¹ for premium zircon and US\$183/tonne (FOB)¹ for LTR ilmenite (long-term assumption)
 - TZMI long term price estimates (March 2018): US\$1,435/tonne (FOB)^{1,2} for premium zircon and US\$208/tonne for LTR ilmenite (FOB)^{1,2}
 - Spot price (October 2018): US\$1,640/tonne (CIF China)³ for premium zircon

All key permits now in place, Thunderbird is construction ready to commence

- Mining Lease granted
- Federal and State environmental approvals in place
- Co-existence agreement agreed with Traditional Owner Negotiating Committee and signed by Sheffield⁴

EPC contract significantly de-risking project execution

- Engineering, Procurement and Construction ("EPC") contract in place with GR Engineering Services Limited ("GRES")
- Lump sum, fixed price contract covering approximately 80% of estimated Stage 1 project capital costs, with GRES assuming substantial performance responsibility
- Approximately 30% of design and engineering completed as at end of September 2018

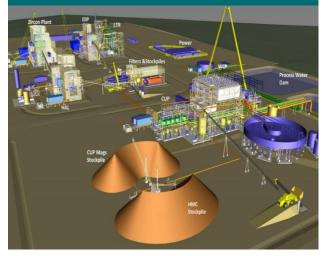
Funding strategy well advanced

- US\$175m debt facility provided by Taurus⁵
- Northern Australia Infrastructure Fund ("NAIF") Board has made an Investment Decision to provide long term debt facilities totalling A\$95m^{5,6}

Note: Freight on Board ("FOB") is price payable to a seller which includes the cost of transporting the goods to the nearest port and loading them onto the ship, but the buyer is responsible for the shipping to the final destination. Cost Insurance and Freight ("CIF") is price payable to a seller which includes the cost of the freight to send the goods to its final destination, also including the cost of insurance

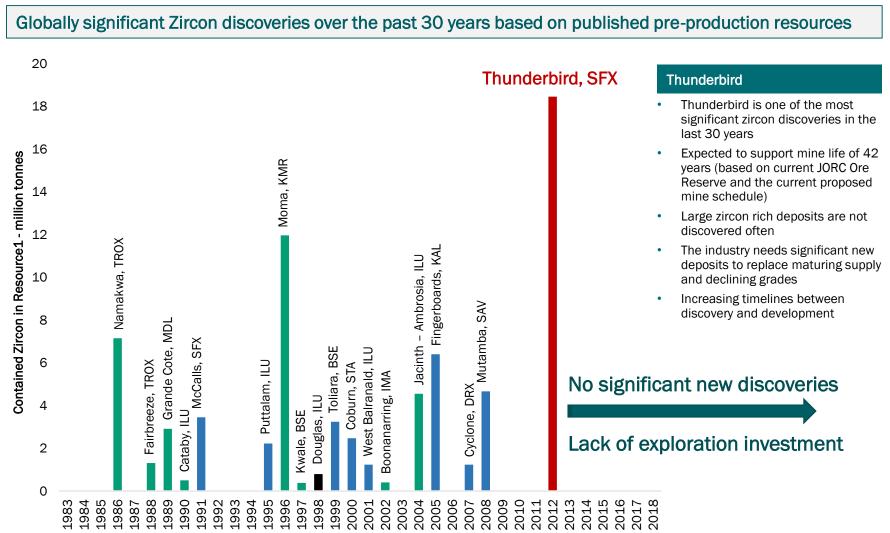
- 1. Pricing on a FOB basis
- 2. TZMI's most recent published long-term price assumptions for Thunderbird products, as at March 2018
- 3. Pricing is on a CIF China basis, which includes freight costs. Sheffield estimates zircon freight costs from Broome to China on a break bulk basis to be US\$32-45/tonne, based on a quote from a broker and is for discharge in the port of Xiamen
- 4. The Co-Existence Agreement will become binding on the Traditional Owners once it is signed by them. This will only happen if it is approved at an Authorisation Meeting to be convened by the Kimberly Land Council to consider and approve the Agreement
- 5. Refer to Appendix A for details of debt facilities
- 6. Tenor and other terms for the NAIF facilities are non-binding and subject to definitive documentation being entered into

Final Thunderbird Plant Layout



A GLOBALLY SIGNIFICANT ZIRCON DISCOVERY



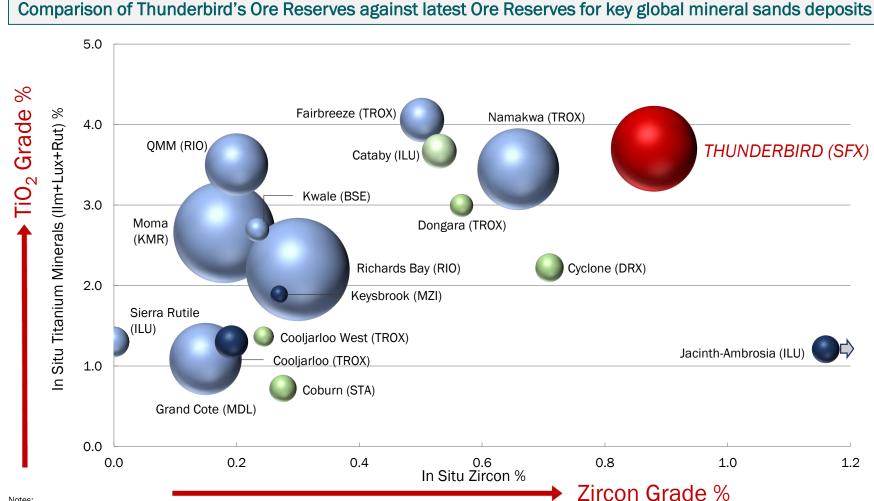


Note: Analysis comprises of Thunderbird and other pre-production published resources. Accordingly, in respect of the green projects referred to in the analysis, it does not set out the current resources for those projects and no account is made for any volumes of Zircon produced following the commencement of production.

 Thunderbird Mineral Resource as published on the ASX on 5 July 2016. Thunderbird Mineral Resource ranked against published pre-production Mineral Resources of current mineral sands operations and projects > 2M tonnes contained zircon plus selected deposits < 2Mt contained zircon under investigation globally. Data compiled by Sheffield from public sources. BLUE – projects yet to be developed, GREEN – projects in development/production, BLACK – projects mined out, RED - Thunderbird

A WORLD CLASS, HIGH GRADE ORE RESERVE

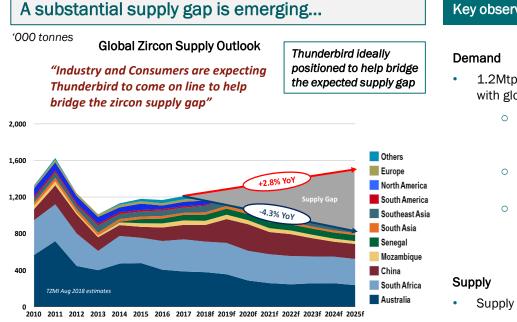




Notes:

- 1. Thunderbird Ore Reserve as published on the ASX on 3 October 2018
- Thunderbird Ore Reserves ranked against latest published Ore Reserves of current mineral sands operations and projects under investigation globally. Accordingly, for the blue projects, no account is 2. made for any volumes of product already produced
- З. Blue bubbles are operating mines, green bubbles are Ore Reserves reported but project is not operating. Light blue bubbles represent operating African mines' Ore Reserves
- 4. Bubble size proportional to tonnes of contained Valuable Heavy Mineral (VHM). Only Ore Reserves > 1.2Mt contained VHM shown
- Data compiled by Sheffield from public sources. This analysis does not illustrate the variance in product value between rutile, leucoxene and ilmenite 5.
- Fraser Institute survey of mining companies 2016 6.





A substantial supply gap supporting an expected robust price outlook for the Zircon Industry

Key observations

- 1.2Mtpa global market, expected to grow at 2.8% p.a. to 2026, in line with global GDP growth, driven by demand for ceramics
 - China and Europe represent 47% and 21% of global demand, respectively, driven by urbanisation, industrialisation and demand for ceramics
 - India represents ~10% of the global market, and will be a strong growth market due to urbanisation
 - Demand for ceramics represents ~50% of end-market usage. driven by demand for floor tiles in developing economies (which have the highest proportionate use of floor tiling and sanitary products)
- Supply decline of 4.3% per annum to 2026
 - Supply is dominated by Australia and Sub-Saharan Africa material supply deficit emerges from 2019, due to reserve depletion, jurisdictional risks and limited exploration success
 - Zircon supply deficit to increase from 2022 as demand outpaces supply growth (even with the onset of new projects)
- Thrifting and substitution have reached logical limits

Pricing

Reserve depletion of existing projects and jurisdictional risks associated with new projects are expected to tighten supply. supporting zircon's robust price outlook

TITANIUM FEEDSTOCK INDUSTRY DYNAMICS



TiO₂ feedstock demand and supply dynamics

('000 TiO₂ units)



Overall Feedstock Supply/Demand Balance to 2022

The pricing outlook for TiO_{2} feedstock remains upbeat

Key observations

Demand

- Approximately 7.3m TiO₂ units global market, expected to grow at 2.3% CAGR from 2017 to 2026, with pigment expected to lead demand growth (~85-90% of end market)
 - o Historically, demand growth is in line with global GDP growth
- Pigment output growth led by the chloride process, which will require an increase in chloride slag production
 - China produces pigment predominantly by the sulphate process, while the US and Europe predominantly use the chloride pigment process; however, increased demand for chloride slag and chloride pigment production is expected in China, due to tighter environmental controls

Supply

- Supply is expected to remain relatively flat in the short- to mediumterm, followed by a declining profile if no new supply is brought on stream
- Net sulphate ilmenite is expected to decline without further investment, as more product is utilised to produce chloride slag

Pricing

 Supply tightness is expected to lead to price appreciation in the medium-term, as new projects are needed to meet the forecast demand profile



Thunderbird's LTR Ilmenite product is ideally suited as a direct input to sulfate pigment and chloride slag '000 TiO₂ units 8.000 Thunderbird LTR Ilmenite (57% TiO₂) product Global Product Mix 2018¹ Unlike most global ilmenite supply, Thunderbird LTI ilmenite is suitable for feed to both chloride slag production and 7,000 sulfate pigment production Chloride slag based pigment capacity is increasing globally whilst sulfate based capacity remains static as a Chinese pigment consequence of environmental considerations capacity currently Offtake 6,000 Sulfate predominately Thunderbird is ideally positioned to take advantage of the Pending Ilmenite uses sulfate expected sulfate ilmenite supply deficit, and is positioned to process target the high growth chloride slag market 5,000 4.000 Offtake Chloride US & Europe Slag Bengbu pigment capacity predominately uses chloride 3,000 Synthetic Rutile process, however China plans to Major **Chloride Ilmenite** rapidly grow 2,000 chloride pigment Growth production Rutile Market 1,000 Sulfate Slag

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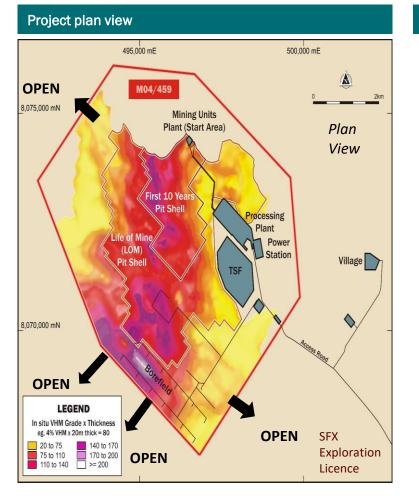
UGS

Leucoxene

Chloride Fines

HIGH GRADE CONTINUITY x DEPOSIT THICKNESS = VALUE





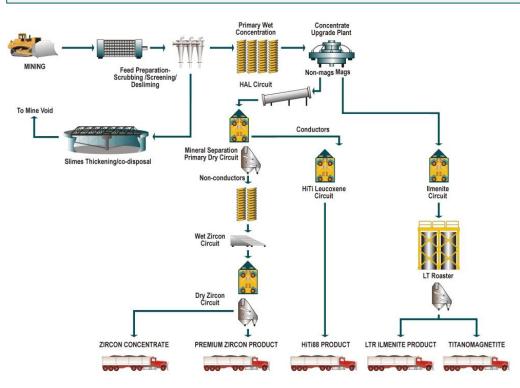
Overview

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- · Thunderbird contains a continuous high grade zone up to 46m thickness
- Strong continuity and very high Valuable Heavy Mineral ("VHM") grades
- Near-surface high grades to be targeted early in the production schedule
- High grade zone remains open in multiple directions
- Plan in place to seek to build Mineral Resource base and extend mine life
- Regional exploration results¹ are highly prospective and suggest an opportunity to define a new mineral sands province



Flowsheet producing five high grade, quality products



Flowsheet summary

- Conventional HM sands processing circuit¹
- Ilmenite upgrade via low temperature roast ("LTR")
- LTR upgrades to > 56% TiO₂ producing premium sulphate ilmenite, and chloride slag feed
- LTR ilmenite is low in chrome and alkalis with market-leading acid solubility
- Flowsheet produces premium zircon and zircon concentrate
- The flowsheet has been constant and stable since the 2015 PFS

Recoveries ²	BFS Test work
LTR Ilmenite	71.0%
Zircon Premium (66% ZrO ₂)	56.1%
Zircon Concentrate (44% ZrO ₂)	33.0%
Hi-Ti88 Leucoxene	35.3%

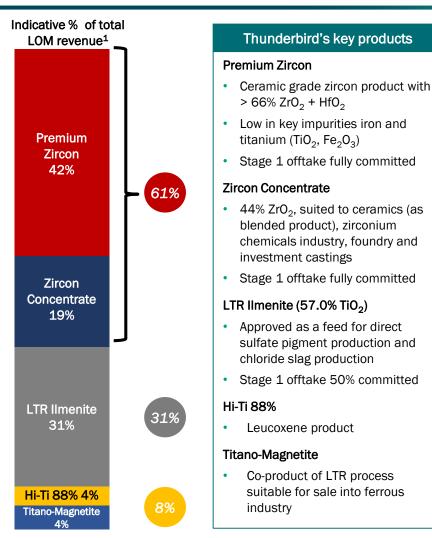
Notes:

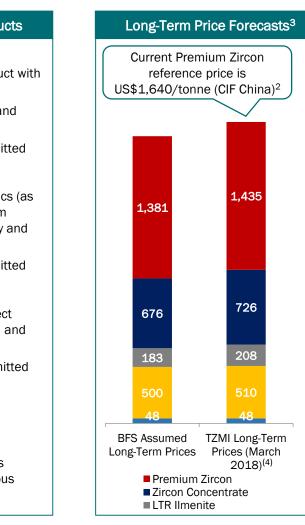
1. Process design by Hatch and Robbins Engineering, based on metallurgical testwork carried out on a 40t bulk sample using full scale & scalable equipment

2. Total recovery to products from BFS metallurgical test work - refer ASX announcement 12 October 2016

ATTRACTIVE PRODUCT MIX AND PRICING ENVIRONMENT







Cautionary statement: This slide sets out revenue information for Stage 1 and Stage 2 of the Thunderbird Project. Such information is derived from the financial model prepared by Sheffield for Stage 1 and Stage 2 of the Thunderbird Project. The financial model for Stage 1 has been provided to Taurus, NAIF and their respective advisers, to underpin the provision of debt finance by Taurus and NAIF for construction of Stage 1. These parties have undertaken detailed due detailed due detailed due due the input assumptions to, and outputs from, this model. The financial model for Stage 2 is based on current Sheffield management estimates, which will be confirmed prior to a Stage 2 investment decision and its implementation. Such estimates are based on, among other things, a detailed mine plan prepared as part of the BFS for the life of mine (including Stage 2) and other BFS assumptions for Stage 2, which, where relevant, have been adjusted to reflect contractual outcomes and the results of due diligence on Stage 1. Accordingly, the information set out in this slide is not and should not be interpreted as a forecast or other forward looking statement as to potential revenue. Sheffield does not currently have sufficient certainty (and therefore does not have a reasonable basis) from which to issue any revenue forecasts or other guidance as to potential future outcomes.

Chart displays the proportion of total Life Of Mine ("LOM") revenue represented by each product using TZMI's long-term prices estimates of premium zircon US\$1,435/t, zircon concentrate US\$726/t, LTR ilmenite US\$208/t, Hi-Ti 88 US\$510/t and titano-magnetite US\$48/t, calculated on a FOB basis

Pricing is on a CIF China basis, which includes freight costs. Sheffield estimates zircon freight costs from Broome to China on a break bulk basis to be US\$32-45/tonne, based on a quote from a broker and is for discharge in the port of Xiamen
 On FOB basis

TZMI's most recent published long-term price assumptions for Thunderbird products, as at March 2018



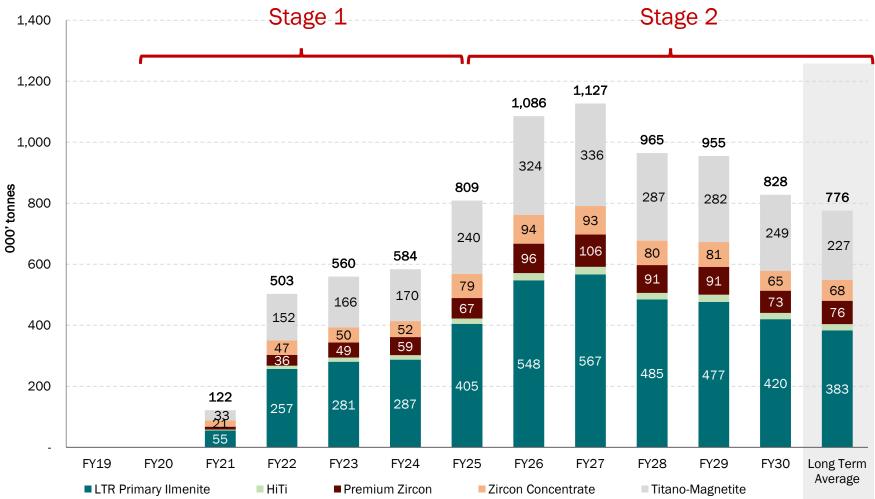
Robust demand for Thunderbird offtake

- Thunderbird aims to deliver a secure, consistent supply of high quality products over its expected 42 year mine life
- Thunderbird is located in a low risk jurisdiction, proximal to the largest emerging markets in Asia
- Binding offtake coverage meets condition precedent for debt financing under the Taurus syndicated facility agreement
- Binding, take-or-pay contracts, minimum 2 year tenor, > 90% with 5 year tenor, industry standard pricing by negotiation on a quarterly or six monthly basis with fall-back mechanism to benchmark pricing, no discounts based on quality of products
- Product samples supplied, assessed and fully approved by offtake partners

Offtake summary						
Product	% BFS Revenue	Binding Agreement (% of Stage 1 output)	Offtake Parties			
Premium Zircon	43%	100%	Sukaso, Ruby Ceramics, RZI, Qingyuan Jinsheng, Minchem, CFM, Other			
Zircon Concentrate	19%	100%	Hainan Wensheng, RZI			
LTR Ilmenite	29%	50%	Bengbu			
HiTi-88	5%	In Progress				
Titano-magnetite	4%	In Progress				

INDICATIVE MINE SCHEDULE





Cautionary statement: This slide sets out production profile information for Stage 1 and Stage 2 of the Thunderbird Project. Such information is derived from the financial model prepared by Sheffield for Stage 1 and Stage 2 of the Thunderbird Project. The financial model for Stage 1 has been provided to Taurus, NAIF and their respective advisers, to underpin the provision of debt finance by Taurus and NAIF for construction of Stage 1. These parties have undertaken detailed due diligence on the input assumptions to, and outputs from, this model. The financial model for Stage 2 is based on current Sheffield management estimates, which will be confirmed prior to a Stage 2 investment decision and its implementation. Such estimates are based on, among other things, a detailed mine plan prepared as part of the BFS for the life of mine (including Stage 2) and other BFS assumptions for Stage 2, which, where relevant, have been adjusted to reflect contractual outcomes and the results of due diligence on Stage 1. Accordingly, the production profile is not and should not be interpreted as a production target or any other projection of likely future outcomes. Actual volumes produced will be subject to a number of risks and uncertainties and therefore may vary materially from this current, indicative profile. Sheffield does not currently have sufficient certainty (and therefore does not have a reasonable basis) from which to issue any production targets in respect of the Thunderbird Project.

Cautionary statement: This slide sets out the sustaining capital per annum for Stage 1 and Stage 2 of the Thunderbird Project. Such information is derived from the financial model prepared by Sheffield for Stage 1 and Stage 2 of the

1. Average FY23-FY24 Stage 1 only

2. Bottom end of range is from BFS. Top end of range is a management estimate based on changes to Stage 1 capex, as set out on slide 19

3. Average FY26-FY29 assuming Stage 2 expansion occurs

STAGED APPROACH TO PROJECT DEVELOPMENT

Sheffield's approach

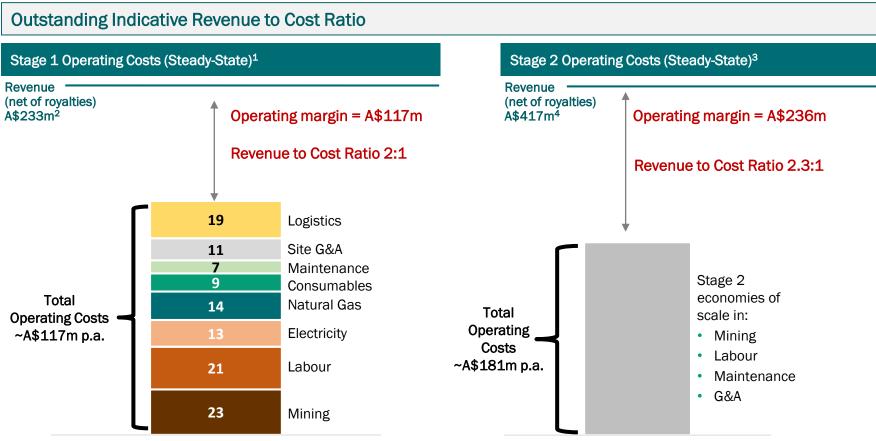
- Scale of ore body allows for multiple stage development leveraging shared infrastructure and operating footprint
- Current execution strategy is based on two stages of development phased to seek to minimise up front capital and delivery risk whilst leveraging the large-scale Thunderbird deposit
- Stage 1 involves construction of a process plant and all associated site and port infrastructure
- Stage 2 involves construction of a duplicate process plant and leveraging Stage 1 infrastructure to provide significant production capacity increase and unit cost reductions

	Stage 1	Stage 2
Timing	Construction readyFirst production expected in Q4 of 2020	 Following full ramp up of Stage 1 Expected to be 2023/2024
Scope	 Key items include: Mineral Separation Plant ("MSP") Low Temperature Roasting plant ("LTR") Power, gas storage, port, road and non-process related infrastructure Accommodation village All other logistics systems and infrastructure necessary to establish operations 	 Key items include: MSP duplication (excluding LTR) Mining Unit duplication Power station
Total development capital	A\$463m	 A\$195m - A\$240m² Management estimate based on BFS and EPC. To be confirmed prior to Stage 2 investment decision and implementation May be funded from internal cash flow and/or refinance of Stage 1 debt
Sustaining capital	~A\$4m p.a. ¹	~A\$2m p.a. ³



INDICATIVE OPERATING COSTS





Stage 1 FOB Operating Costs, A\$m

Stage 2 Operating Costs (Steady-State), A\$m

Cautionary Statement: This slide sets out revenue and operating cost information for Stage 1 and Stage 2 of the Thunderbird Project. Such information is derived from the financial model prepared by Sheffield for Stage 1 and Stage 2 of the Thunderbird Project. Such information is derived from the financial model prepared by Sheffield for Stage 1 and Stage 2 of the Thunderbird Project. Such information is derived from the financial model prepared by Sheffield for Stage 1 and Stage 2 of the Thunderbird Project. The financial model for Stage 1 has been provided to Taurus, NAIF and their respective advisers, to underpin the provision of debt finance by Taurus and NAIF for construction of Stage 1. These parties have undertaken detailed due diligence on the input assumptions to, and outputs from, this model. The financial model for Stage 2 is based on current Sheffield management estimates, which will be confirmed prior to a Stage 2 investment decision and its implementation. Such estimates are based on, among other things, a detailed mine plan prepared as part of the BFS for the life of mine (including Stage 2) and other BFS assumptions for Stage 2, which, where relevant, have been adjusted to reflect contractual outcomes and the results of due diligence on Stage 1. Accordingly, the information set out in this slide is not and should not be interpreted as a forecast or other forward looking statement as to potential revenue or cost outcomes. Sheffield does not currently have sufficient certainty (and therefore does not have a reasonable basis) from which to issue any operating cost or revenue forecasts or other guidance as to potential future outcomes.

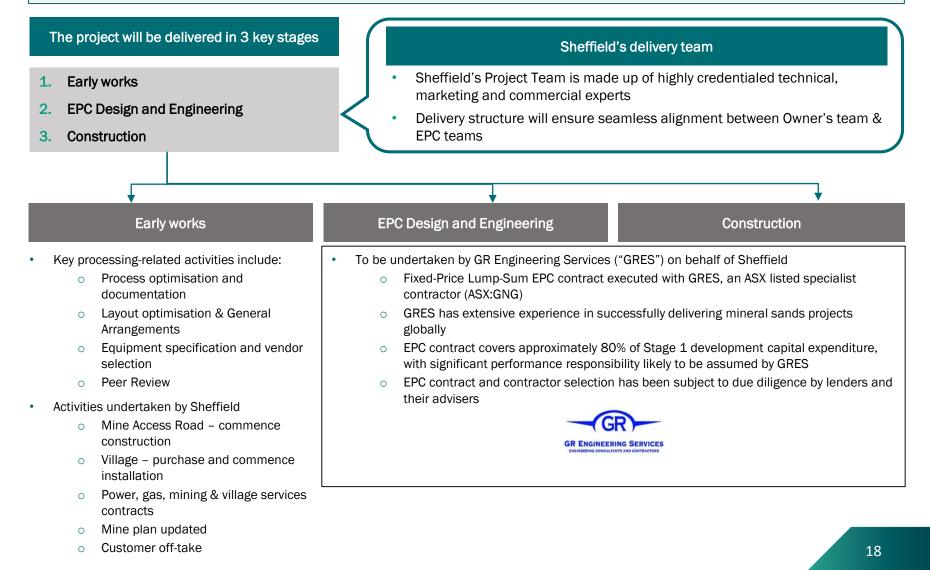
1. Average FY23-FY24 Stage 1 only on FOB basis

 FOB basis: Based on average Stage 1 production FY23-FY24 of premium zircon 51ktpa, zircon concentrate 53ktpa, LTR ilmenite 287ktpa, Hi-Ti 88 14ktpa and titano-magnetite 170ktpa, and TZMI's long-term price estimates of premium zircon US\$1,435/t, zircon concentrate US\$726/t, LTR ilmenite US\$208/t, Hi-Ti 88 US\$510/t and titano-magnetite US\$48/t

- 3. Average FY26-FY29 assuming Stage 2 expansion occurs on FOB basis
- 4. FOB basis: Based on average Stage 2 production FY26-FY29 of premium zircon 96ktpa, zircon concentrate 87ktpa, LTR ilmenite 519ktpa, Hi-Ti 88 23ktpa and titano-magnetite 307ktpa, and TZMI's long-term price estimates of premium zircon US\$1,435/t, zircon concentrate US\$208/t, Hi-Ti 88 US\$510/t and titano-magnetite US\$48/t



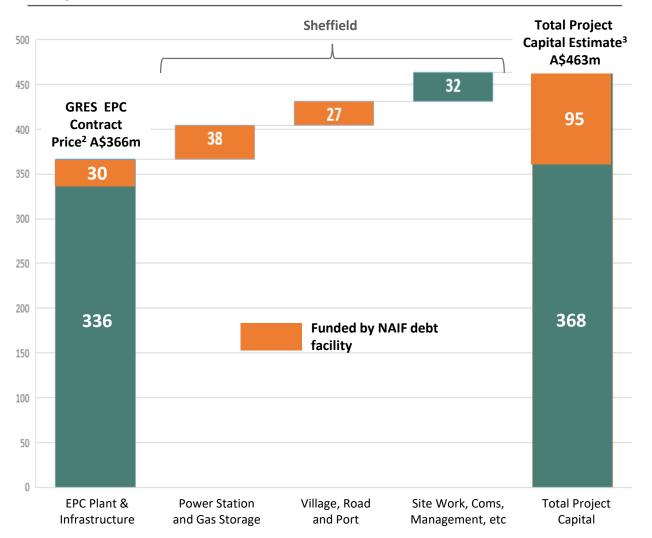
Sheffield is focused on minimising execution risk and ensuring successful project delivery



THUNDERBIRD CAPITAL EXPENDITURE

Sheffield Resources

Stage 1 Capex (A\$m)



Additional Funding Requirements

- In addition to Stage 1 capex, Sheffield will need to fund the following items during the 2 year construction period:
 - Start-up working capital requirements
 - Corporate overheads
 - Cost overrun provision (as required by lenders)
 - Financing fees, interest on debt drawn and debt services reserve accounts (as required by lenders)
- Sheffield will agree a minimum equity requirement with lenders as a conditions precedent to drawdown

1. BFS announcement dated 24 March 2017

2. Refer to EPC Contract

3. Refer to ASX announcement dated 19 October 2018, excludes working capital, corporate overheads, cost overrun provisions and financing fees



US\$175m Taurus facility

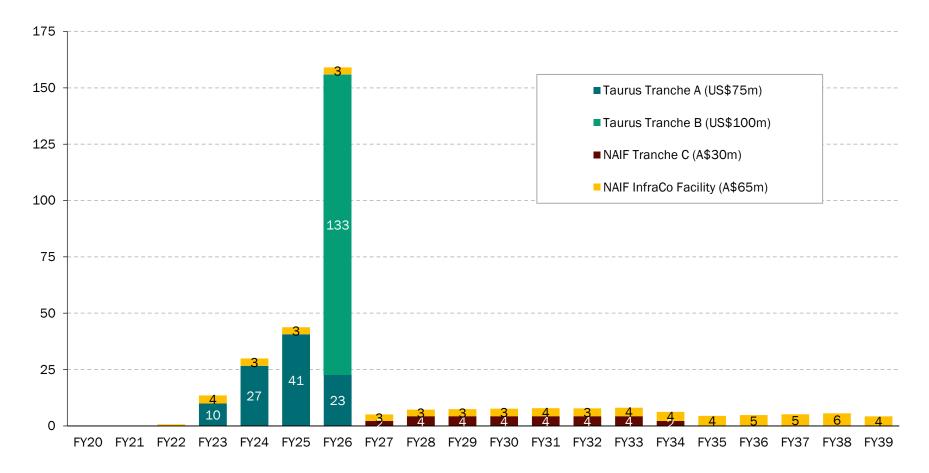
- Lender: Taurus Mining Finance Fund and Taurus Mining Finance Annex Fund
- Syndicated facility agreement executed
- Will be underwritten by Taurus, and subsequently expected to be syndicated
- Some terms are summarised below
- Tranche A:
 - Borrower: Thunderbird Operations Pty Ltd ("TOPL")
 - Amount: US\$75m
 - Interest rate: USD LIBOR + 4.5% p.a.
 - Commitment fees on undrawn amounts: 2% p.a.
 - Tenor: 7 years
 - Repayable between Year 3.5 and Year 7
 - Senior secured facility¹
- Tranche B:
 - Borrower: TOPL
 - Amount: US\$100m
 - Interest rate: 8.5% p.a.
 - Commitment fees on undrawn amounts: 2% p.a.
 - Tenor: 7 years
 - Repayable at end of Year 7
 - Senior secured facility¹
- Revenue royalty of 0.50% (Years 1 4) and 0.75% (Years 5 22.5)
- Conditions precedent to drawdown: customary for a facility of this nature including (but not limited to) final due diligence and agreed equity spend
- Upfront fee is customary for a facility of this nature (50% due upon signing and the balance due on satisfaction of certain conditions precedent to drawdown of the facility)

A\$95m NAIF loan facilities

- Lender: State of Western Australia, under back-to-back loan from Northern Australia Infrastructure Fund ("NAIF") Board
- Non-binding Term Sheet, approved by NAIF Board. Some terms are summarised below
- Tranche C:
 - Borrower: TOPL
 - A\$30m Project Development Facility
 - Tenor: 15 years (from the signing of TOPL Syndicated Facility Agreement)
 - Straight line amortisation between Years 9 15
 - Senior secured¹
 - Interest rate: Confidential
- Tranche D:
 - Borrower: Thunderbird InfraCo Pty Ltd
 - A\$65m Infrastructure Development Facility
 - Tenor: 20 years (from the signing of TOPL Syndicated Facility Agreement)
 - Approximate credit foncier repayment profile, payable semiannually, from the earlier of 12 months after Whole Project Completion Date and 3.5 years from signing the TOPL Syndicated Facility Agreement
 - Senior secured¹
 - To be used for on-site infrastructure, the upgrading of mine site roads, etc.
 - Interest rate: Confidential
 - Conditions precedent: customary for a facility of this nature







1. Tenor and other terms for the NAIF facilities are non-binding and subject to definitive documentation being entered into

2. Assumes AUD:USD of 0.75, excludes interest payments and fees. Repayment profile represents scheduled payments which remain subject to final agreement and definitive documentation. Profile shown assumes no cash sweep is triggered for Tranche A, B and C. InfraCo facility has a credit foncier repayment profile, profile shown assumes no debt acceleration is triggered

STAGE 1 DEVELOPMENT & COMMISSIONING TIMELINE



	uction and commissioning is expected to take approximately 2 years, of production ramp-up
Month O N D Early Works Complete village construction Upgrade 30km of road	2019 2020 2021 J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
EPC Design & Engineering Wet Plant Hot Acid Leach & Dry Plant Ilmenite Plants	
Procurement Mechanical Equipment Electrical Equipment & Materials Platework, tanks and vessels Structural steel Piping and Valves	
Construction Mobilisation Clear and grub plant and mine site Civils and concrete works Steel erection Mechanical and platework installation Piping installation Electrical and instrumentation installation	
Commissioning Wet Plant Hot Acid Leach & Dry Plant Ilmenite Plants	
1st Products Magneticas and non-magnetics stockpile Zircon HiTi Ilmenite Plants	
Ramp Up Ramp up and testing	

Source: Stage 1 development schedule based on Sheffield's current development plan as per EPC contract with GR Engineering Services

EXPERIENCED BOARD AND MANAGEMENT





Will Burbury Non-Executive Chairman

Previously Chairman of Warwick Resources Limited in 2009 and was formerly a director of Lonrho Mining Limited (ASX: LOM) and an executive of Nkwe Platinum Ltd (ASX: NKP)



Bruce McQuitty Non-Executive Director

35 years experience in the mining and civil construction industries and was previously Managing Director of Warwick Resources Limited



Jim Netterfield General Manager Process & Engineering

Mechanical engineer with a proven track record in successfully managing mineral development projects through to production



Geoff Williams General Manager Operations

Mining engineer with over 25 years mining experience in operational roles. A resident of Broome, having lived and worked in the Kimberley for many years





Bruce McFadzean Managing Director

Mining engineer with over 40 years experience leading the financing, development and operation of mines in Australia and overseas

Mark Di Silvio CFO / Company Secretary

CPA with over 25 years experience in the resources sector working across Africa and Australia

Neil Patten-Williams General Manager Manager

Experienced mineral sands marketing and operations manager with over 18 years experience in the mineral sands industry.

TBA Project Director

Oversee and hold to account, the delivery of the EPC contract for the process plant & other non-processing infrastructure construction works for the Thunderbird Project



David Archer Technical Director

Geologist with over 30 years experience Australian resources sector



Stuart Pether Chief Operating Officer

Mining engineer *with* over 25 years technical and operating experience in the resources industry, both in Australia and overseas



Vanessa Hughes General Manager People & Community

Qualified human resource executive with more than 25 years experience in Australia and Africa



Justin King Community Superintendent

A trusted community leader in the Kimberley region with experience as Aboriginal Liaison Officer within the mining sector & an abiding commitment to Aboriginal people



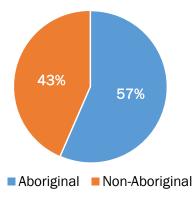
Our Pledge to the Kimberley Community

- Local Content Employment 280 local jobs
- Intergenerational Employment over expected 42 year mine life
- 40% Aboriginal Employment by Year 8 operations
- Aboriginal Training Fund
- Aboriginal Business \$5m/year from Year 5

Our Current Social Licence to Operate

- Active Group Training Program with Aboriginal participants transferring to permanent employment
- Kimberley spend on early works and local supply contracts >\$4m (6 mths to Sept '18) and an additional >\$3m by year end
- Local content strategies agreed with major contractors including EPC and Village
- Upholding high standards to safeguard the environment, water, diversity and Aboriginal heritage

Kimberley Workforce



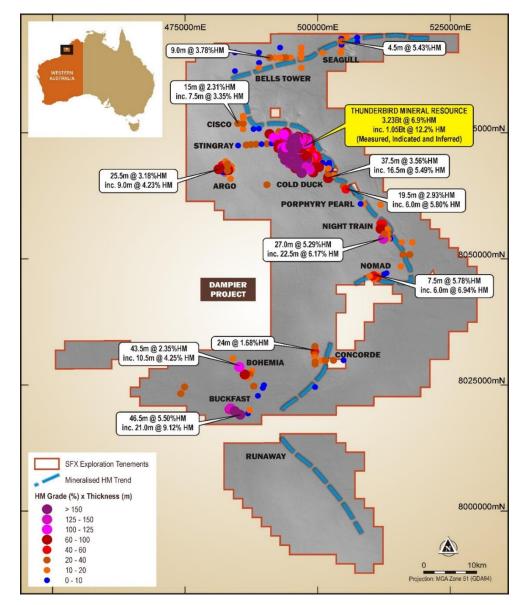






EXPLORATION CONFIRMS NEW MINERAL SANDS PROVINCE





Outstanding Exploration Drill Results

The latest results include the following broad, high grade intervals¹: **46.5m @ 5.50 % HM** from 57.0m (NLAC025),

including **21.0m @ 9.12% HM** from 64.5m (Buckfast) **33m @ 4.00% HM** from 61.5m (NLAC023),

including **21m @ 5.20% HM** from 66m (Buckfast)

37.5m @ 5.01% HM from 67.5m (NLAC027),

including 25.5m @ 5.74% HM from 75m (Buckfast) 43.5m @ 2.35% HM from 16.5m (NLAC018),

including 10.5m @ 4.25% HM from 25.5m (Bohemia)

- Three substantial new mineral sands discoveries outlined at Buckfast, Bohemia and Concorde
- Opens up an exciting new 60km long prospective corridor south of Thunderbird
- Results conclude a highly successful 2018 exploration drilling campaign:
- Multiple discoveries made along a 160km-long fertile trend
- Night Train confirmed as a major new mineral sands deposit
- Strategic value of Company's Dampier Project tenements demonstrated
- Numerous targets identified for follow-up drilling scheduled for Q2-Q3 2019
- New tenement applications lodged to cover additional 600km² of prospective ground



Appendix A Other information

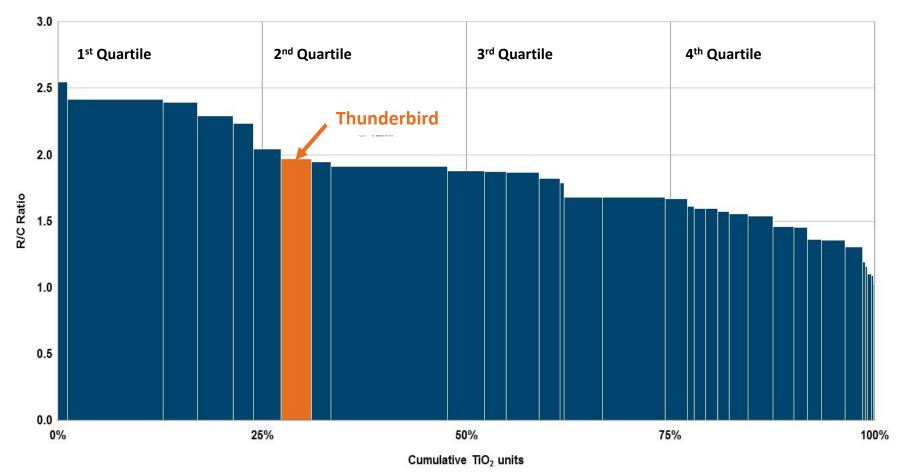


Sheffield is focused on development of the large scale, high quality Thunderbird mineral sands project Last twelve months share price performance \$1.30 Successful delivery of key project milestones has driven long term \$1.10 share price appreciation \$0.90 \$0.70 \$0.50 Jan-18 Mar-18 May-18 Jul-18 Nov-17 Sep-18 Nov-18

			,				
Capitalisation			Major Sha	reholders			
Share Price (6-Nov-2018)	A\$/sh	\$0.89			Institutio	BlackRock	6%
Ordinary shares outstanding	т	230		26%	nal	Colonial First	C 0/
Market capitalisation	A\$m	\$204				State	6%
			62%	12%	Directors &	Other Institutions	14%
(+) Debt	A\$m	nil			Manage	Walter Yovich	6%
(-) Cash (30-Sept-2018)	A\$m	14.0			ment	Walter fourth	070
Enterprise value	A\$m	\$190					



TZMI assess Thunderbird to have a competitive revenue to cost ratio



Notes:

- 1. Cautionary Statement: Thunderbird's cost position is as estimated by TZMI and based on the March 2017 Thunderbird BFS, and assuming a 4 year production period following Stage 1 ramp-up (Year 3 to Year 7 of operation) based on Sheffield BFS. Accordingly, the information set out in this slide is not and should not be interpreted as a forecast. Sheffield does not have sufficient certainty (and therefore does not yet have a reasonable basis) in order to issue any cost or revenue forecasts)
- 2. 2020 Cost Curve as presented by TZMI

3. Note that several of the competitors presented here are integrated producers of downstream feedstock and associated by products



Royalties ¹			
State government	 WA State govt. royalty = 5% of Total Sales Revenue 	Taurus ³	 Royalty (Years 1 to 4, starting on first sale) = 0.5% of Total Sales Revenue on FOB basis or equivalent Royalty (Years 5 onwards for a period of to 22.5 years) = 0.75% of Total Sales Revenue on FOB basis or equivalent
Native title royalty	 Calculated as a percentage of total sales revenue (ranges from 0.5% to 1%) 	Miscellaneous	 Calculated as a percentage (less than 0.1%) of total sales revenue

Tax Regime

Company tax:

- Australian company tax rate is 30%. There is no tax-free threshold for a company business structure
 - o Tax payable is calculated by applying the company tax rate on positive taxable income
- Sheffield Resources Limited and its wholly-owned Australian controlled entities have implemented the tax consolidation legislation. As a consequence, these entities are taxed as a single entity and the deferred tax assets and liabilities of these entities are set off in the consolidated financial statements²

Available tax losses:

• The Company has tax losses arising in Australia. The tax benefit of these losses of ~\$14m as at 30-Jun-2018 is available indefinitely for offset against future taxable profits of the companies in which the losses arose, subject to ongoing conditions for deductibility being met²

- 1. Source: Sheffield management
- 2. Sheffield Resources Annual Report, 30-Jun-2018
- 3. Royalty period extended for any substantial suspension or abandonment of Thunderbird Project (to the extent it exceeds 3 consecutive months). Royalty can be terminated and Thunderbird Operations Pty Ltd required to pay termination payment (calculated on net present value of projected royalty) on occurrence of certain material default events



NAIF facility highlights

- NAIF is a corporate Commonwealth entity that was established under the NAIF Act 2016 to provide assistance to the states of Queensland, Western Australia and the Northern Territory for the construction of infrastructure to benefit Northern Australia
- Subject to definitive documentation being entered into and customary conditions precedent to drawdown (including State of Western Australia approval), the NAIF facilities will include:
 - A\$30m Project Development Facility ("Tranche C")
 - A\$65m Infrastructure Development Facility ("Tranche D")
- Facilities would provide ultra long tenor (15 and 20 years for Tranche C and Tranche D respectively)¹
- · Competitive cost of funding (commercial terms confidential, but based on customary market rates)
- · The Sheffield decision represents the single largest NAIF investment decision to date
- Sheffield expects to complete definitive documentation in relation to the NAIF facility in the December quarter 2018

Enhanced economics via infrastructure ownership

- BFS contemplated the provision of on-site power generation and accommodation facilities by third parties on an outsourced Build-Own-Operate ("BOO") basis, requiring payment of capital recovery charges to third party service providers
- The NAIF facility would enable the Company to now acquire power generation, gas storage, accommodation facilities and other key infrastructure (approximate additional capital expenditure A\$65m)² and reduce overall operating costs following removal of BOO related capital recovery charges
- Would be expected to reduce project operating costs by an amount equal to the BOO capital recovery charge (estimated at A\$7.5m for each of Stage 1 and Stage 2)

Improvements in project scope

- Fixed price turn key EPC contract includes scope changes which are intended to result in a more robust project
- Key improvements include upgrades to throughput, utilisation, inter-plant operability and stockpile management which together materially de-risk the project
- Scope changes expected to result in additional capital expenditure of approximately A\$50m²

Additional funding proposed to be provided by NAIF facilities likely to substantially cover total expected increase in capital expenditure

• Total expected increase in capital cost of approximately A\$115m would be approximately 80% covered by the proposed A\$95m NAIF facilities



Appendix B Product details



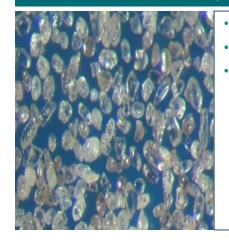
Product overview

- Ceramic Grade Zircon: > 66% ZrO₂
- Good Opacity
- Low levels of impurities
 - Low Fe₂O₃
 - Low TiO₂
 - Very Low Al₂O₃
 - Moderate U+Th
- Off-take 100% complete

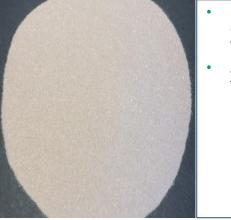
Product comparison

Composition	Thunderbird's Premium Zircon	Typical
ZrO ₂ +HfO ₂	66.2 - 66.6%	66.3%
TiO ₂	0.09 - 0.18%	0.14%
Fe ₂ O ₃	0.06 - 0.08%	0.08%
SiO ₂	32.5 - 33.5%	32.5%
Al ₂ O ₃	0.10 - 0.15%	0.15%

Thunderbird's Premium Zircon product



- Low levels of impurities
- No iron staining
- Good whiteness important for making a good opacifier



- Meets premium classification for use in the ceramics sector
- Approved after extensive testing by offtake partners

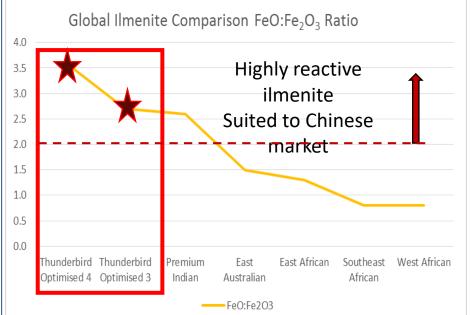
LTR ILMENITE¹



Product overview

- Exceptional Grade: 56–58% TiO₂
- Suitable for chloride slag production
- Premium feedstock for sulfate pigment production
- High acid solubility
- Good reactivity rate
- Low levels of impurities
- Outstanding FeO:Fe₂O₃ ratio
- Low Fe20₃ (<13%)
- Low Levels of Cr₂O₃
- Very low CaO and MgO

Global ilmenite comparison: FeO: Fe₂O₃ ratio



Composition (%)	Thunderbird Optimise 4 ilmenite	Thunderbird Optimise 3 ilmenite	Premium Indian ilmenite	East Australian ilmenite	East African ilmenite	Southeast African ilmenite	West African ilmenite
TiO ₂	58.5	57.9	51.5	50.7	48.2	52.4	53.2
FeO	29.9	28.1	33.5	25-29	25.5	21.4	18.9
Fe ₂ O ₃	8.4	10.3	13	16-19	20	27.9	23.3
FeO:Fe ₂ O ₃	3.6	2.7	2.6	1.5	1.3	0.8	0.8
Cr ₂ O ₃	0.05	0.05	0.04	0.3	0.09	0.09	0.16



Appendix C Reserves and resources



Thunderbird deposit ore reserves^{1,4}

Valuable Heavy Mineral (VHM) in-situ grade

Ore Reserve Category	Ore Tonnes	In-situ HM Tonnes (millions)	HM Grade -	Valuable HM Grade (In-situ) ²				Slimes	Osize	
	(millions)		(%)	Zircon %	HiTi Leuc %	Leuc %	Ilmenite %	(%)	(%)	
Proved	235.8	31.4	13.3	1.00	0.29	0.26	3.55	16.5	13.7	
Probable	444.8	45.4	10.2	0.80	0.26	0.26	2.85	15.2	11.0	
Total	680.5	76.8	11.3	0.87	0.27	0.26	3.10	15.7	12.0	

Mineral assemblage as percentage of HM grade

Ore Reserve Category	Ore Tonnes	In-situ HM	HM Grade – (%)	Mineral Assemblage ³				Slimes	Osize
	(millions)	Tonnes (millions)		Zircon (%)	HiTi Leuc (%)	Leuc (%)	Ilmenite (%)	(%)	(%)
Proved	235.8	31.4	13.3	7.5	2.2	1.9	26.7	16.5	13.7
Probable	444.8	45.4	10.2	7.8	2.5	2.6	28.0	15.2	11.0
Total	680.5	76.8	11.3	7.7	2.4	2.3	27.4	15.7	12.0

1. Ore Reserves are presented both in terms of in-situ VHM grade, and HM assemblage. Tonnes and grades have been rounded to reflect the relative accuracy and confidence level of the estimate, thus the sum of columns may not equal. Ore Reserve is reported to a design overburden surface with appropriate consideration of modifying factors, costs, mineral assemblage, process recoveries and product pricing.

2. The in-situ grade is determined by multiplying the HM Grade by the percentage of each valuable heavy mineral within the heavy mineral assemblage.

3. Mineral Assemblage is reported as a percentage of HM Grade, it is derived by dividing the in-situ grade by the HM grade.

4. Ore Reserves reported for the Dampier Project were prepared and first disclosed under the JORC Code (2012), refer to Sheffield's ASX announcement dated 16 March 2017 for further detail.

MINERAL RESOURCES



THUNDERBIRD DEPOSIT MINERAL

		Material Tonnes				Valuable HM G	rade (In-situ) ⁴		01/2014	0-1
Cut-off (HM%)	Mineral Resource Category	(millions)	In-situ HM Tonnes (millions)	HM Grade ³ (%)	Zircon (%)	HiTi Leuc (%)	Leuc (%)	llmenite (%)	Slimes (%)	Osize (%)
	Measured	510	45	8.9	0.71	0.20	0.19	2.4	18	12
- 20/ LIM	Indicated	2,120	140	6.6	0.55	0.18	0.20	1.8	16	9
> 3% HM	Inferred	600	38	6.3	0.53	0.17	0.20	1.7	15	8
	Total	3,230	223	6.9	0.57	0.18	0.20	1.9	16	9
	Measured	220	32	14.5	1.07	0.31	0.27	3.9	16	15
7 50/ 1104	Indicated	640	76	11.8	0.90	0.28	0.25	3.3	14	11
>7.5% HM	Inferred	180	20	10.8	0.87	0.27	0.26	3.0	13	9
	Total	1,050	127	12.2	0.93	0.28	0.26	3.3	15	11
	Mineral Resource	Material Tonnes	In-situ HM Tonnes	HM Grade		Mineral Ass	emblage⁵		Climes	Qaina
Cut-off (HM%)	Category	(millions)	(millions)	(%)	Zircon (%)	HiTi Leuc (%)	Leuc (%)	Ilmenite (%)	Slimes (%)	Osize (%)
	Measured	510	45	8.9	8.0	2.3	2.2	27	18	12
> 3% HM	Indicated	2,120	140	6.6	8.4	2.7	3.1	28	16	9
> 570 T IW	Inferred	600	38	6.3	8.4	2.6	3.2	28	15	8
	Total	3,230	223	6.9	8.3	2.6	2.9	28	16	9
	Measured	220	32	14.5	7.4	2.1	1.9	27	16	15
>7.5% HM	Indicated	640	76	11.8	7.6	2.4	2.1	28	14	11
21.070110	Inferred	180	20	10.8	8.0	2.5	2.4	28	13	9
	Total	1,050	127	12.2	7.6	2.3	2.1	27	15	11

THUNDERBIRD DEPOSIT CONTAINED VALUABLE HM (VHM) IN MINERAL RESOURCES12.6

Cut-off (HM%)	Mineral Resource Category	Zircon Tonnes (thousands)	HiTi Leucoxene Tonnes (thousands)	Leucoxene Tonnes (thousands)	Ilmenite Tonnes (thousands)	Total VHM Tonnes (thousands)
	Measured	3,600	1,000	1,000	12,000	17,700
>3% HM	Indicated	11,800	3,800	4,300	39,100	59,000
>3% HM	Inferred	3,200	1,000	1,200	10,500	15,900
	Total	18,600	5,900	6,500	61,700	92,600
	Measured	2,300	700	600	8,400	12,000
>7.5% HM	Indicated	5,800	1,800	1,600	21,000	30,200
>7.3% FIN	Inferred	1,600	500	500	5,600	8,200
	Total	9,700	3,000	2,700	35,000	50,400

1. The Thunderbird Mineral Resources are reported inclusive of (not additional to) Ore Reserves. The Mineral Resource reported above 3% HM cut-off is inclusive of (not additional to) the Mineral Resource reported above 7.5% HM cut-off.

2. All tonnages and grades have been rounded to reflect the relative accuracy and confidence level of the estimate and to maintain consistency throughout the table, therefore the sum of columns may not equal.

3. Total heavy minerals (HM) is within the 38µm to 1mm size fraction and has been reported as a percentage of the total material quantity.

4. The Valuable HM in-situ grade is reported as a percentage of the total material quantity and is determined by multiplying the percentage of total HM by the percentage of each valuable heavy mineral within the HM assemblage at the resource block model scale.

5. The Mineral Assemblage is represented as the percentage of HM grade. Estimates of mineral assemblage are determined by screening and magnetic separation. Magnetic fractions were analysed by QEMSCAN for mineral determination as follows: >90% liberation and; llmenite 40-70% TiO₂; Leucoxene 70-94% TiO₂; High Titanium Leucoxene (HiTi Leucoxene) >94% TiO₂ and Zircon 66.7% ZrO₂+HfO₂. The non-magnetic fraction was analysed by XRF and minerals determined as follows: Zircon ZrO₂+HfO₂/0.667 and HiTi Leucoxene TiO₂/0.94.

6. The VHM inventory is derived from information in the Mineral Resource tables.

7. The Mineral Resource estimate was prepared and first disclosed under the JORC Code (2012), refer to Sheffield's ASX announcement dated 5 July 2016 for further detail.