

THUNDERBIRD

The next major mineral sands project in the global development pipeline

DIGGERS & DEALERS
4 AUGUST 2015

Sheffield Resources
LIMITED

ASX: SFX

DISCLAIMER

PREVIOUSLY REPORTED INFORMATION

This report includes information that relates to Exploration Results which were prepared and first disclosed
under the JORC Code 2012. The information was extracted from the Company's previous ASX announcements as follows:

"THUNDERBIRD HIGH GRADE RESOURCE UPDATE" 31 July 2015

"QUARTERLY REPORT FOR PERIOD ENDING 30 JUNE 2015" 27 July 2015

"PRE-FEASIBILITY STUDY CONFIRMS THUNDERBIRD AS NEXT MAJOR MINERAL SANDS PROJECT IN GLOBAL DEVELOPMENT PIPELINE" 14 May 2015

"EXCEPTIONALLY HIGH GRADES FROM INFILL DRILLING AT THUNDERBIRD MINERAL SANDS PROJECT" 9 February, 2015

"THUNDERBIRD HIGH GRADE RESOURCE SURPASSES ONE BILLION TONNES" 12 December 2014

This report also includes information that relates to Mineral Resources which were prepared and first disclosed under the JORC Code 2004. The information has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The information was extracted from the Company's previous ASX announcements as follows:

"1MT CONTAINED HM INFERRED RESOURCE AT ELLENGAIL", 25 October 2011

"WEST MINE NORTH MINERAL RESOURCE ESTIMATE EXCEEDS EXPECTATIONS", 7 November 2011

"4.4 BILLION TONNE MAIDEN RESOURCE AT MCCALLS HMS PROJECT", 20 February 2012.

"ENEABBA PROJECT RESOURCE INVENTORY EXCEEDS 5MT HEAVY MINERAL", 28 August 2012

"LARGE HIGH GRADE MAIDEN RESOURCE FOR THUNDERBIRD HMS DEPOSIT", 18 December 2012

"YANDANOOKA RESOURCE UPGRADE AND METALLURGICAL RESULTS", 30 January 2013.

"1Mt HEAVY MINERAL RESOURCE ADDED TO ENEABBA PROJECT", 30 October 2013

These announcements are available to view on Sheffield Resources Ltd's website
www.sheffieldresources.com.au

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement

FORWARD LOOKING STATEMENTS

Some statements in this report regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward-looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected" "estimated" "may", "scheduled", "intends", "potential", "could" "nominal" "conceptual" and similar expressions. Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward looking statements may be affected by a range of variables that could cause actual results to differ from estimated results.

MINING INVENTORY

In this report the term "mining inventory" is used to report that part of the Mineral Resource that has been considered in the Pre-feasibility Study. The mining inventory does not meet the requirements of an Ore Reserve as defined under the 2012 edition of the JORC Code and should not be considered an Ore Reserve. There is no certainty that all or any part of the mining inventory will be converted into Ore Reserves.

INVESTMENT HIGHLIGHTS

Thunderbird

Tier 1 Mineral Sands Project

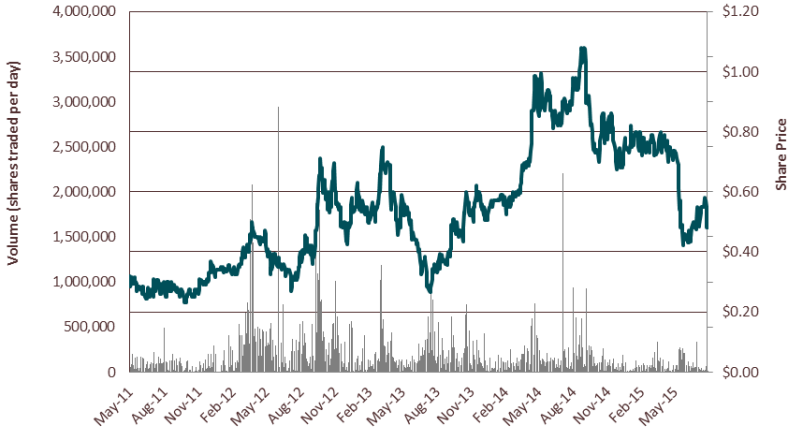
- Long life, high margin project in a stable jurisdiction
- Based on a very large, high grade, zircon-rich deposit
- Targeting 8% of global zircon and 4% of global TiO_2 feedstock markets
- Leveraged to multiple pricing cycles
- Planned ilmenite output could underpin a large pigment plant or titanium smelter
- Substantially de-risked through Pre-feasibility

Figure courtesy Robbins Project Engineering

COMPANY SNAPSHOT

Shareholder Split	
Top 20 Shareholders	43%
Directors	17.5%
Capital Structure	
Share price	48c
Shares on issue	134.4m
Employee Options (Ave. Ex Price 68c)	7.4
Market Cap (Undiluted)	$64.5m
Cash (30 June 2014)	$5.1m
Enterprise Value	$59.4m

ASX Code: SFX



BOARD AND MANAGEMENT

Will Burbury
Executive Chairman

Bruce McQuitty
Managing Director

David Archer
Technical Director

David Boyd
Exploration Manager

Mark Teakle
Project Development Manager

Wayne Groeneveld
Sustainability Manager

Proven Track Record

- History of successful Exploration and Corporate Transactions
- Taken Thunderbird from discovery to pre-feasibility in 3 years
- 40 years of collective mineral sands experience

Australian Mining Prospect Awards WINNER 2013 Explorer of the Year

Diggers & Dealers 2013 Diggers & Dealers Mining Forum Winner of The Best Emerging Company Award

PROJECT LOCATIONS (ALL 100% SFX)

Thunderbird HMS

Total Resource 3.24Bt @ 6.9% HM (93Mt VHM)[1]

including **1.09Bt @ 11.9% HM**

Eneabba HMS

Total Resource 172Mt @ 3.0% HM (4.5Mt VHM)[1]

McCalls HMS

Total Resource 4.4Bt @ 1.2% HM (50Mt VHM)[1]

Fraser Range (Nickel)

Emerging Ni Province

"Walk-up" drill targets

1. See Resources Tabulation Appendix 1

STRATEGIC LOCATION

Thunderbird

Position

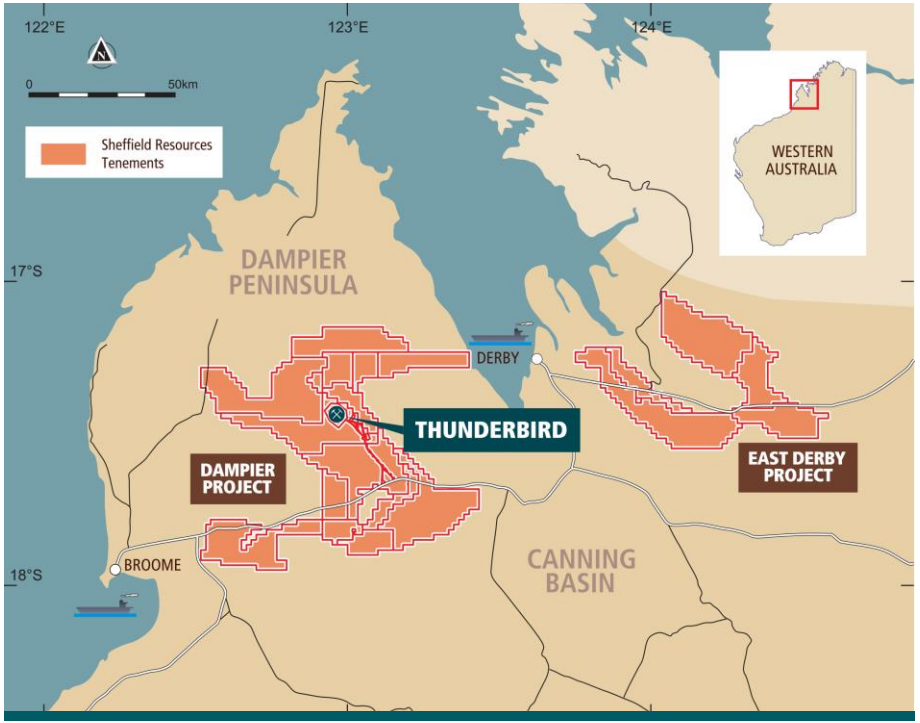
- 30km north of sealed Broome – Derby highway
- 140km by road to either Broome or Derby ports

Canning Basin

- New mineral sands province
- 5,800km^2 of exploration licences

Western Australia

- Stable jurisdiction
- Pool of skilled workers and expertise
- Established mineral sands industry



Large Scale, High Grade

Thunderbird Mineral Resource at 7.5% HM c/o 31 July 2015

	Mineral Resources [1]		Valuable HM Grade (in situ) [2]			
Resource	Material Mt	HM %	Zircon %	HiTi Leuc %	Leuc %	Ilmenite %
Measured	110	14.9	1.09	0.31	0.28	4.0
Indicated	850	11.8	0.90	0.28	0.25	3.3
Inferred	130	10.7	0.82	0.25	0.23	3.0
Total	**1,090**	**11.9**	**0.91**	**0.28**	**0.25**	**3.3**

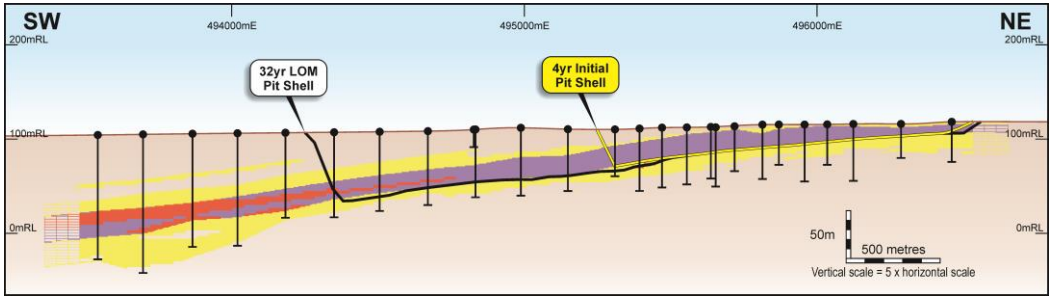
Refer to Appendices 1 & 2 for full Resources Tabulation

1. Tonnes have been rounded to reflect the relative uncertainty of the estimate.
2. The in situ grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage.

- Measured Resource (at 7.5%HM cut-off) trebled to **110Mt @ 14.9% HM**
- Very high in situ zircon grade of **1.09%**
- A large, high grade resource that can underpin a major mineral sands operation for many decades

Large Scale, High Grade

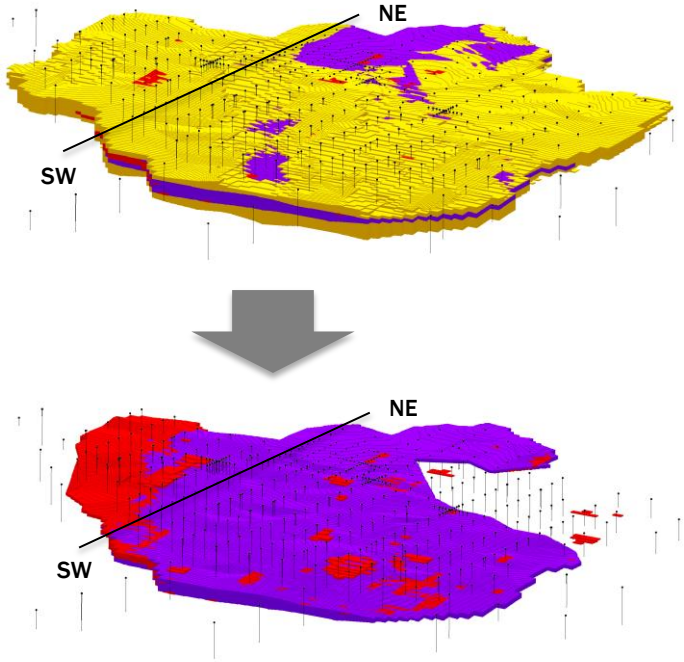
- Key to Thunderbird is continuous High Grade Zone
- This zone occurs at or near surface in the northern part of the deposit



LEGEND

Block Model Grade >3% HM >7.5% HM >10% HM

Total Resource: 3.24Bt @ 6.9% HM (at 3% HM cut-off)

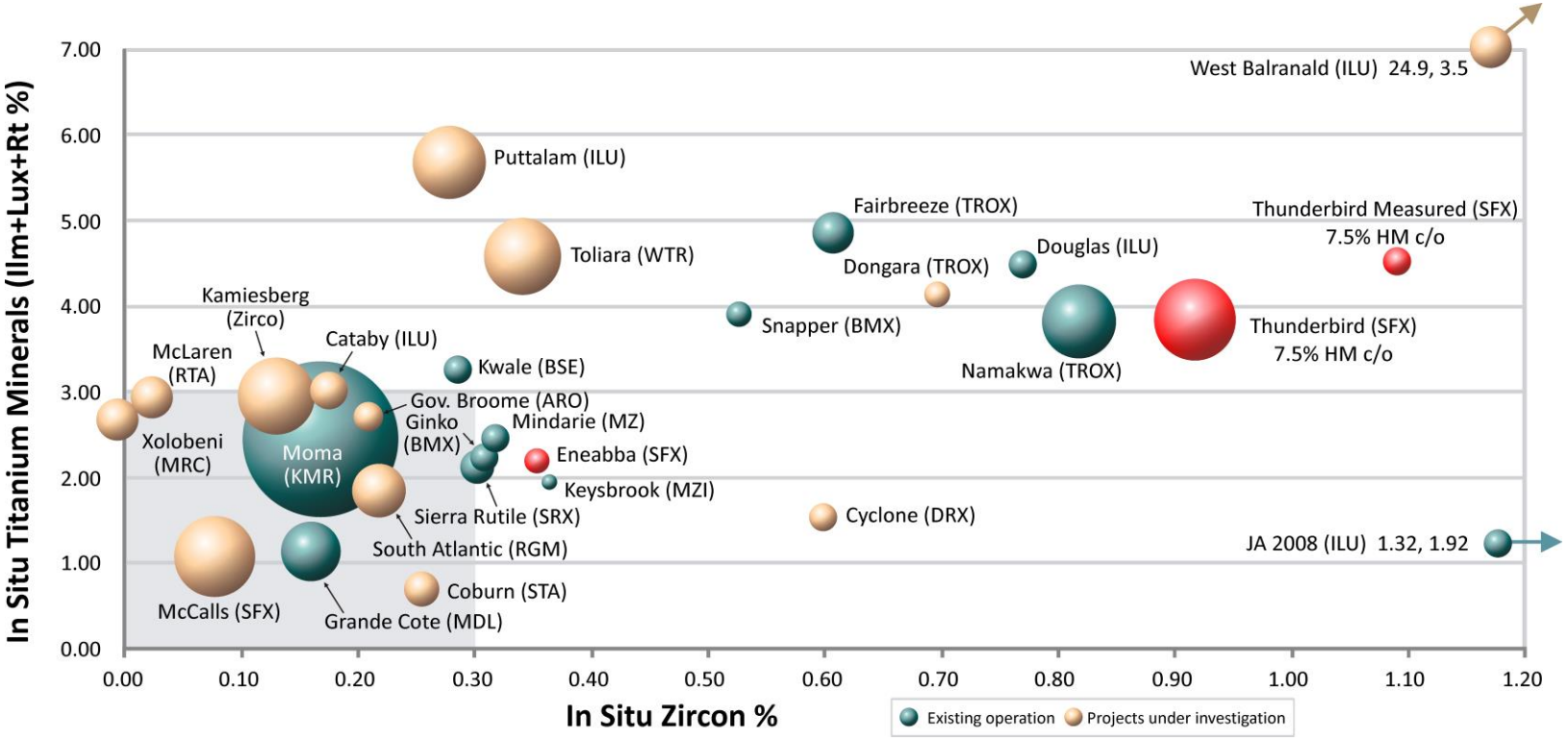


High Grade Zone: 1.09Bt @ 11.9% HM (at 7.5% HM cut-off)

THUNDERBIRD

Tier 1 Project

Amongst the world's largest and highest grade deposits



Bubble size proportional to contained VHM tonnes. Data compiled by SFX from open file sources Rio Tinto's deposits excluded (unable to be sourced)

THUNDERBIRD ANALOGY

Tronox's Namakwa Project[1]

- Commenced mining in 1994 (+30 year life)
- Reserves (2012) 432Mt @ 8.8% HM
- In situ grades: 0.80% zircon, 0.22% rutile, 0.48% leucoxene, 3.09% ilmenite
- 21Mtpa mining rate (truck & shovel)
- Annual production approximately 125kt zircon, 300kt ilmenite, 27kt rutile
- Ilmenite production feeds a large titanium smelter (250ktpa Ti slag, 120ktpa pig iron)

Thunderbird PFS Metrics

- +32 year mine life
- Mining Inventory[2] 580Mt @ 11.7% HM
- In situ grades: 0.92% zircon, 0.58% HiTi+leucoxene, 3.32% ilmenite
- 18Mtpa mining rate (dozer trap)
- Forecast annual production approximately 114kt zircon, 439kt ilmenite, 30kt HiTi84
- Ilmenite production could underpin a large titanium smelter or pigment plant

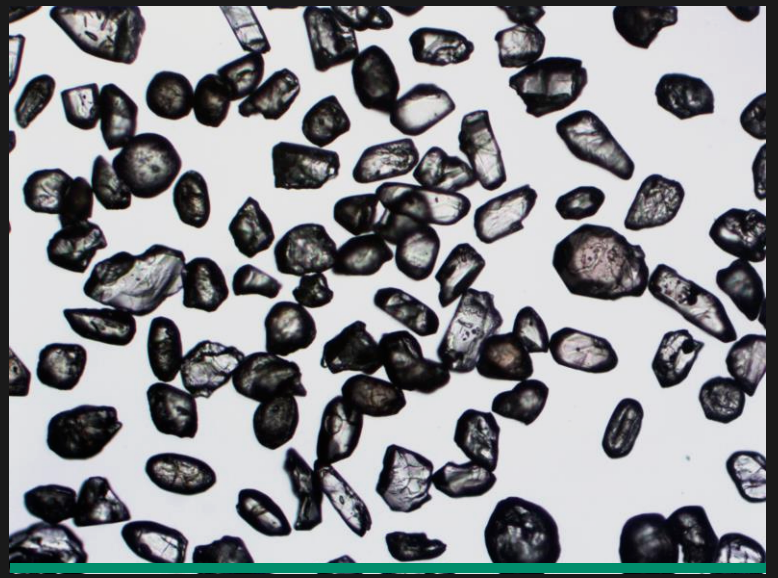
1. Source Exxaro Resources Ltd 2012 Annual Report
2. The term "mining inventory" is used to report that part of the Mineral Resource that has been considered in the Thunderbird Pre-feasibility Study. The mining inventory does not meet the requirements of an Ore Reserve as defined under the 2012 edition of the JORC Code and should not be considered an Ore Reserve. There is no certainty that all or any part of the mining inventory will be converted into Ore Reserves.

2015 Milestones

1	**Initial PFS**	*Completed May*
2	**Native Title negotiations**	*Commenced & ongoing*
3	**Derby Port negotiations**	*Commenced & ongoing*
4	**Mining lease**	*Application lodged*
5	**Water extraction licence**	*Application lodged*
6	**PFS Update H2 2015**	
	▪ Resource upgrade	*Completed July*
	▪ Lower start-up throughput	*Commenced & ongoing*
	▪ CAPEX/OPEX reduction	*Commenced & ongoing*
	▪ Ilmenite upgrade	*Commenced & ongoing*

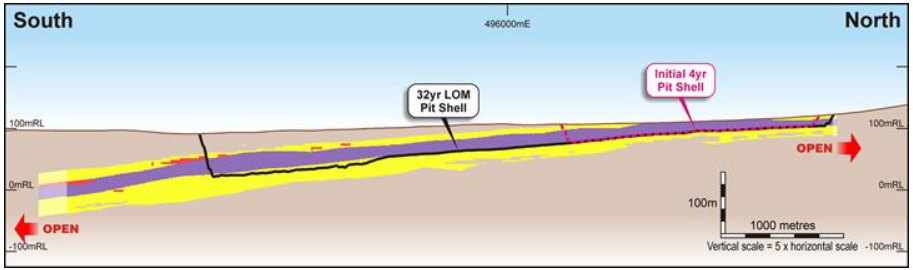
Summary

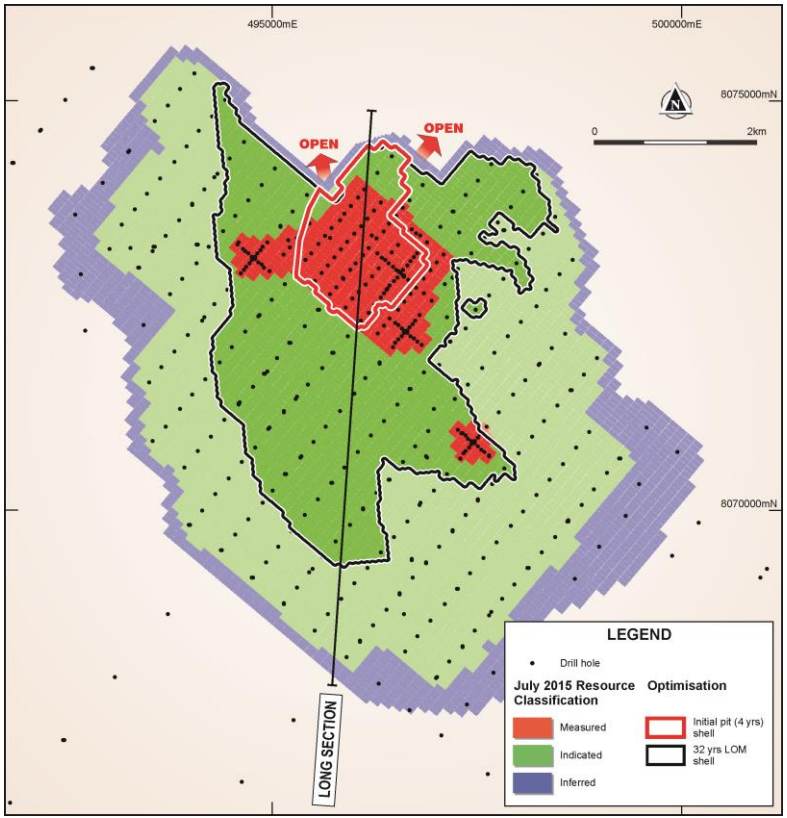
- Long initial mine life of 32 years
- Strong cash margins (LOM Annual EBITDA $120m)
- LOM operating cash flow $4.3 billion
- Significant de-risking of project
- Opportunities for project enhancement under investigation during current PFS update



Physicals

- 32+ year mine life (potentially 44 years)
- Average annual production at 18mtpa mining rate:
  - 114,000tpa zircon
  - 439,000tpa ilmenite
  - 30,000tpa HiTi84
- Very low strip ratio (0.22:1 in first 10 years)





Key Financials

LOM revenue	A$m	9,479
Average Operating Cash Flow[1] (first 10 yrs)	A$mpa	163
Average Operating Cash Flow[1] (LOM)	A$mpa	134
EBITDA (first 10 years)	A$mpa	148
EBITDA	A$mpa	120
EBIT (first 10 years)	A$mpa	134
EBIT	A$mpa	100
Revenue:Cost Ratio LOM		1.82:1
Revenue:Cost Ratio (first 10 years)		2.03:1
Pre-Production Capex[2]	A$m	367
Pre-Production Capex contingency	A$m	26
Pre-production Capex Payback	Years	3.6

Long Term Key Assumptions

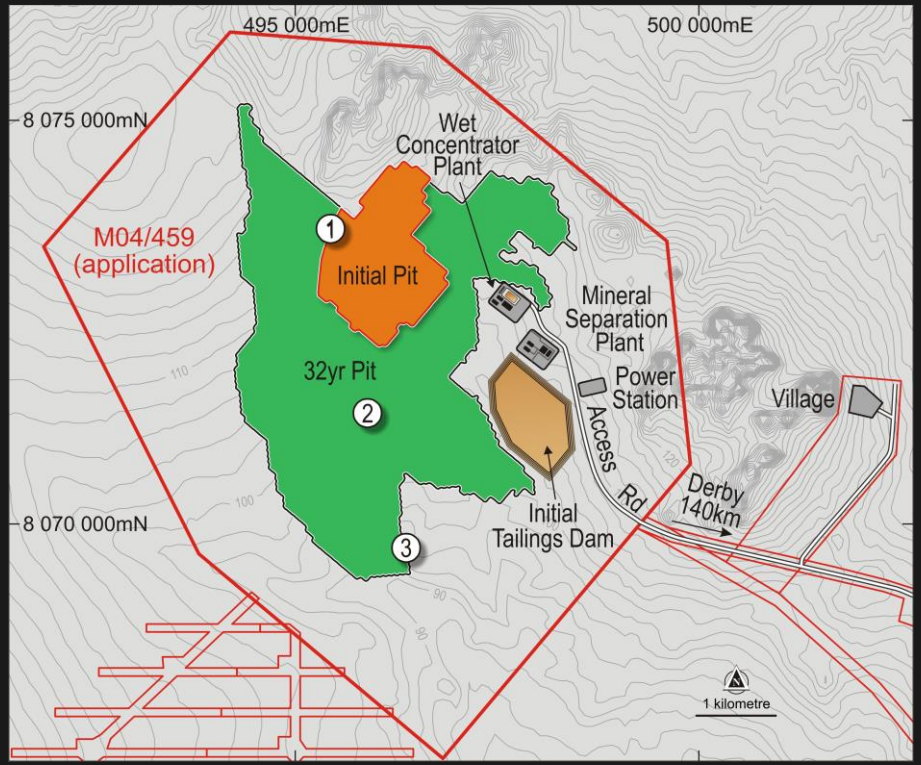
A$:US$ Exchange rate		0.78
Zircon Price	US$/tonne	1,375
Ilmenite Price	US$/tonne	155
HiTi 84 leucoxene Price	US$/tonne	580

- Revenue split: zircon 64%, ilmenite 30%, HiTi84 6%

1. Excluding taxes, royalties, closure costs, sale of capital equipment
2. Excluding estimated cost of DFS ($10m)

Mining & Site Infrastructure

- Dry mining at rate of 18mtpa with dozers & traps
- WCP, MSP, & initial tailings dam adjacent to deposit
- Mining commences in shallow northern sector of deposit



Robust Mine-to-Market logistics chain

1

Products to be trucked from mine to port in covered road trains

2

Product storage & loading at Derby Port

3

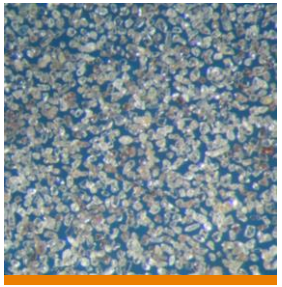
Barging & transhipment of products

4

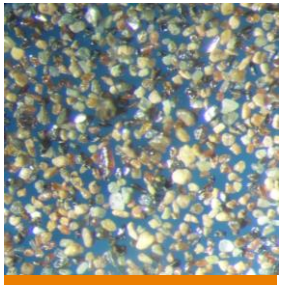
Close proximity to potential markets

Product Quality

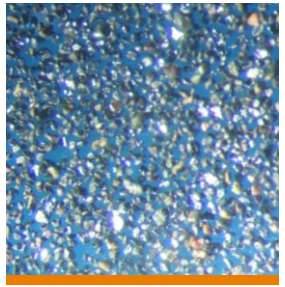
- Products derived from 12.5t bulk sample using conventional processing
- Product assessment by TZMI
- Primary zircon is suitable for ceramics (largest sector of zircon market)
- Primary ilmenite suitable for sulphate pigment process
- Primary ilmenite has low Cr_2O_3 and low alkalis – suitable blending feed
- Upgraded ilmenite product suitable for sulphate process and slag feedstock
- HiTi84 product suitable for welding rod market



Primary Zircon



HiTi 84



Primary Ilmenite

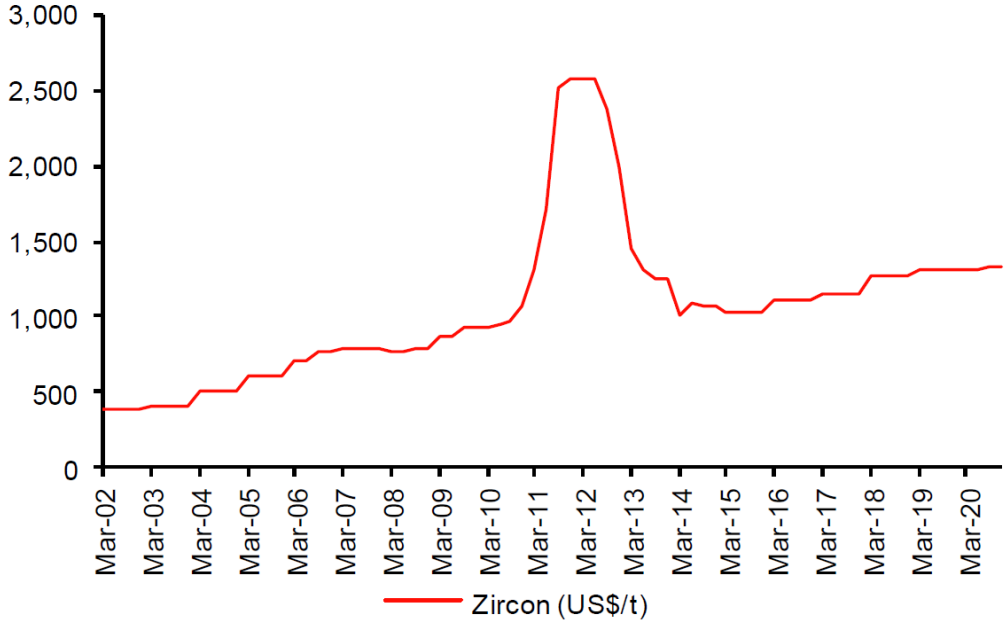
MARKET OUTLOOK

Zircon

- Prices now stable around US$1,100/t following 2011-12 spike
- Global demand is estimated grow at ~4% CAGR to ~1.3Mtpa by 2020
- Forecast growing supply deficit beyond 2018

Sulphate Ilmenite

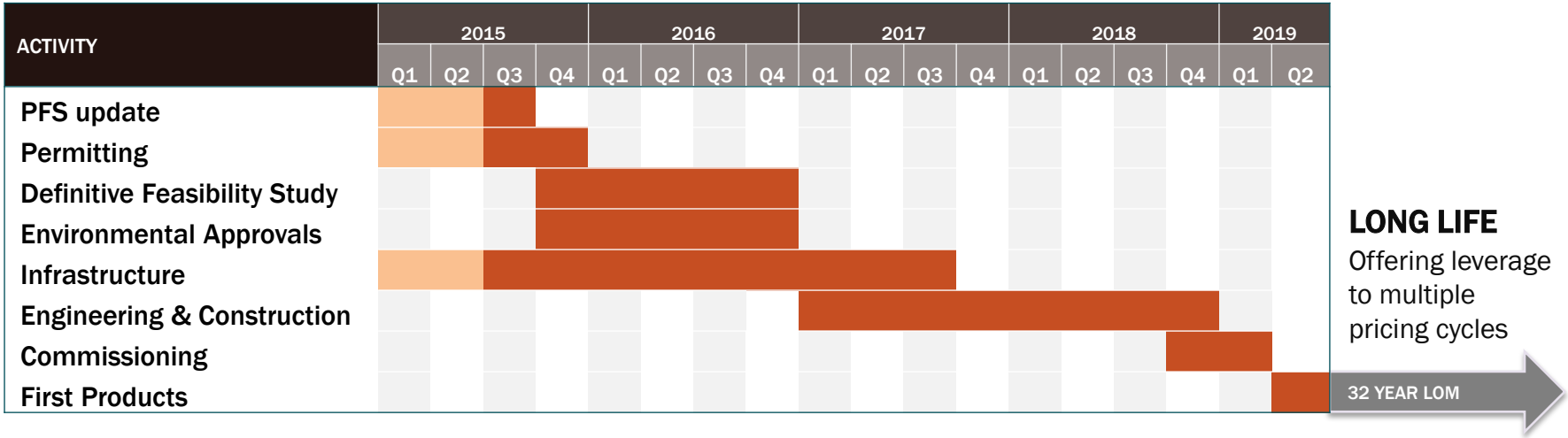
- Current price weakness due to oversupply
- Global demand is forecast to grow at ~3.7% CAGR
- Forecast growing supply deficit beyond 2018



Source: Macquarie Research

Upcoming Milestones

Targeting Production in 2019



SUMMARY

Advancing Thunderbird Towards Development

- World class, large scale, long life project
- One of very few large zircon-rich projects in the global development pipeline
- Strong cash margins with leverage to multiple pricing cycles
- Robust mine-to-market logistics
- PFS update due Q4 2015



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sheffieldresources.com.au

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APPENDIX 1: RESOURCE INVENTORY

Sheffield's contained valuable HM (VHM)* resource inventory at 31 July 2015

Deposit	Resource Category	Zircon ('000t)	Rutile ('000t)	HiTi Leuc. ('000t)	Leuc. ('000t)	Ilmenite ('000t)	Total VHM ('000t)
Thunderbird	Measured	1,700	-	500	500	5,800	8,400
Thunderbird	Indicated	14,000	-	4,500	5,300	46,700	70,500
Thunderbird	Inferred	2,800	-	900	1,200	9,300	14,200
Yandanooka	Measured	13	2	-	3	87	105
Yandanooka	Indicated	240	81	-	83	1,440	1,840
Yandanooka	Inferred	4	1	-	2	23	29
Durack	Indicated	144	29	-	52	703	928
Durack	Inferred	26	5	-	13	121	164
Drummond Crossing	Indicated	143	101	-	37	542	823
Drummond Crossing	Inferred	7	5	-	1	28	41
Ellengail	Inferred	92	90	-	19	658	859
West Mine North	Measured	18	33	-	42	200	293
West Mine North	Indicated	71	87	-	46	506	709
McCalls	Inferred	3,490	1,060	-	2,580	42,910	50,040
Total	Measured	1,700	35	500	500	6,100	8,800
Total	Indicated	14,600	300	4,500	5,500	49,900	74,800
Total	Inferred	6,400	1,200	900	3,800	53,000	65,335
Total	All	22,800	1,500	5,900	9,800	109,000	148,930

All tonnages have been rounded to reflect the relative uncertainty of the estimate, thus sum of columns may not equal. The contained VHM tonnages in the above table are derived from Mineral Resource Estimates for the Yandanooka, Ellengail, West Mine North, McCalls, Durack deposits (estimated using a 0.9% HM cut-off), the Drummond Crossing deposit (estimated using a 1.1% HM cut-off) and the Thunderbird deposit (estimated using a 3% HM cut-off) detailed in Appendix 2.
* Valuable Heavy Minerals are classified as zircon, rutile, HiTi leucoxene, leucoxene and ilmenite. See the compliance statements at the beginning of this presentation for important information relating to the reporting of these Mineral Resources.

APPENDIX 2: HMS MINERAL RESOURCES[1]

Inventory at 31 July 2015

Project	Deposit	Resource Category	Cut-off (% HM)[3]	Material (Mt)*	Bulk Density	HM %	Slimes %[3]	Osize %	In-situ HM (Mt)*	Zircon[2] %	Rutile[2] %	HiTi Leuc. %[2]	Leuc.[2] %	Ilmenite[2] %
THUNDERBIRD	Thunderbird	Measured	3.0	230	2.1	9.4	19	10	21	7.9	-	2.2	2.1	27
	Thunderbird	Indicated	3.0	2,410	2.0	6.9	16	8	167	8.4	-	2.7	3.1	28
	Thunderbird	Inferred	3.0	600	2.0	5.6	16	9	33	8.4	-	2.8	3.5	28
	Total Thunderbird	Total	3.0	3,240	2.1	6.9	16	9	222	8.3	-	2.7	3.1	28
ENEABBA	Yandanooka	Measured	0.9	3	2.0	4.1	15	14	0.1	11	1.9	-	2.2	72
	Yandanooka	Indicated	0.9	90	2.0	2.3	16	15	2.1	11	3.9	-	3.9	69
	Yandanooka	Inferred	0.9	3	2.0	1.2	18	21	0.03	11	3.9	-	4.6	68
	Yandanooka	Total	0.9	96	2.0	2.3	16	15	2.2	11	3.8	-	3.9	69
	Durack	Indicated	0.9	50	2.0	2.0	15	21	1.0	14	2.8	-	5.1	69
	Durack	Inferred	0.9	15	1.9	1.2	14	17	0.2	14	2.5	-	7.2	66
	Durack	Total	0.9	65	2.0	1.8	15	20	1.2	14	2.8	-	5.6	68
	Drummond Crossing	Indicated	1.1	49	2.0	2.1	16	9	1.0	14	10	-	3.6	53
	Drummond Crossing	Inferred	1.1	3	2.0	1.5	16	8	0.05	13	10	-	2.8	55
	Drummond Crossing	Total	1.1	52	2.0	2.1	16	9	1.1	14	10	-	3.5	53
	Ellengail	Inferred	0.9	46	2.0	2.2	16	2	1.0	8.9	8.7	-	1.9	64
	Ellengail	Total	0.9	46	2.0	2.2	16	2	1.0	8.9	8.7	-	1.9	64
	West Mine North	Measured	0.9	6	2.0	5.6	15	1	0.4	4.9	9.1	-	12	55
	West Mine North	Indicated	0.9	36	1.9	2.3	13	3	0.8	8.4	10	-	5.4	60
	West Mine North	Total	0.9	43	1.9	2.8	13	3	1.2	7.9	10	-	6.4	59
	Total	Measured	Var.	9	2.0	5.2	15	5	0.5	6.7	6.8	-	8.7	60
	Total	Indicated	Var.	225	2.0	2.2	15	13	5.0	12	6.0	-	4.4	64
	Total	Inferred	Var.	68	2.0	1.9	15	6	1.3	10	7.2	-	3.2	64
	Total Eneabba	All	Var.	302	2.0	2.2	15	11	6.8	12	6.3	-	4.2	64
MCCALLS	McCalls	Inferred	0.9	4,431	2.3	1.2	27	1.4	53	6.6	2.0	-	4.9	81
	Total McCalls	All	0.9	4,431	2.3	1.2	27	1.4	53	6.6	2.0	-	4.9	81

* All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate and maintain consistency throughout the table, thus sum of columns may not equal. 1 See the compliance statements at the beginning of this presentation for important information relating to the reporting of these Mineral Resources. 2 The Mineral Assemblage is represented as the percentage of the Heavy Mineral (HM) component of the deposit, determined by QEMSCAN for Eneabba & McCalls, with TiO2 minerals defined according to the following ranges: Rutile >95% TiO2; Leucoxene 85-95% TiO2; Ilmenite <55-85% TiO2; for Dampier the mineral assemblage was determined by screening and magnetic separation. Magnetic fractions were analysed by QEMSCAN for mineral determination as follows: Ilmenite: 40-70% TiO2 >90% Liberation; Leucoxene: 70-94% TiO2 >90% Liberation; High Titanium Leucoxene (HiTi Leucoxene): >94% TiO2 >90% Liberation; and Zircon: 66.7% ZrO2+HfO2 >90% Liberation. Non-magnetic fractions were submitted for XRF analysis and minerals determined as follows: Zircon: ZrO2+HfO2/0.667 and High Titanium Leucoxene (HiTi Leucoxene): TiO2/0.94. 3 West Mine North, Drummond Crossing, Durack and McCalls deposits are reported below 35% slimes cut-off.

APPENDIX 3: MINING METHOD

Thunderbird Mineral Sands Project – Schematic site layout