



AUSTRALIA



SFX AU Outperform

Price (at 05:11, 25 Nov 2014 GMT) A\$0.76

Valuation	A\$	1.05
- DCF (WACC 12.0%)		
12-month target	A\$	1.05
12-month TSR	%	+38.2
GICS sector		Materials
Market cap	A\$m	102
30-day avg turnover	A\$m	0.0
Number shares on issue	m	134.4

Investment fundamentals

Year end 30 Jun		2014A	2015E	2016E	2017E
Revenue	m	0.0	0.0	0.0	0.0
EBIT	m	-3.8	-6.0	-6.2	-10.7
Reported profit	m	-2.6	-4.1	-3.5	-8.3
Adjusted profit	m	-2.6	-4.1	-3.5	-8.3
Gross cashflow	m	-0.6	-2.1	-1.4	-6.1
CFPS	¢	-0.4	-1.4	-0.8	-2.2
CFPS growth	%	nfmf	-213.3	44.7	-187.2
EPS adj	¢	-1.9	-2.7	-1.8	-3.0
EPS adj growth	%	nfmf	-42.8	34.9	-66.7
Total DPS	¢	0.0	0.0	0.0	0.0
Total div yield	%	0.0	0.0	0.0	0.0
ROA	%	-14.5	-12.5	-4.9	-4.1
ROE	%	-10.2	-10.9	-3.7	-6.0
EV/EBITDA	x	-49.0	-26.7	-47.6	-23.0
Net debt/equity	%	-36.9	-42.3	-62.2	102.7
P/BV	x	3.4	2.7	1.5	1.6

Source: FactSet, Macquarie Research, November 2014
(all figures in AUD unless noted)

Analyst(s)

Ben Crowley

+61 8 9224 0839

ben.crowley@macquarie.com

Hayden Bairstow

+61 8 9224 0838

hayden.bairstow@macquarie.com

26 November 2014

Macquarie Securities (Australia) Limited

Sheffield Resources

First world mineral sands exposure

Commencing coverage with an Outperform rating

We are commencing coverage of Sheffield Resources (SFX AU) with an Outperform rating and a target price of \$1.05/sh. SFX's Thunderbird Project in Western Australia is shaping up to be a Tier 1 mineral sands development project. The project has already demonstrated strong economics in a scoping study and since then the resource has continued to grow.

32 year mine life on current high-grade resource

The Thunderbird global resource currently stands at 2.6Bt containing over 14Mt of in-situ zircon. Thunderbird also contains a significant ilmenite resource and mix of high titanium (HiTi) leucoxene minerals. Within this global resource Thunderbird has a high-grade core of 740Mt at a Heavy Mineral grade of 12.1%, containing 6.8Mt of zircon, 2Mt of HiTi minerals and 25Mt of ilmenite.

Currently ~80% of this high-grade resource is in the Measured and Indicated category. This is sufficient to support a mine with globally significant production levels for at least 32 years. The Thunderbird resource continues to grow with further drilling and SFX expects to release a revised resource in the coming weeks. In a significant development, recent drilling has identified up-dip extensions to the high-grade portion of the resource which should further enhance the project's economics.

Thunderbird could produce 10% of world zircon demand

SFX has completed a Scoping Study at Thunderbird which indicates the project can achieve significant scale. The study envisages a 20Mtpa operation utilising simple dry mining techniques to produce ~120Kt of premium grade zircon, ~545kt of ilmenite and ~20kt of HiTi products annually over the life of the mine. Products would most likely be trucked to Broome or Derby for shipping to customers in Asia. Mining costs at Thunderbird are expected to be in the 1st quartile for the style of mining and we estimate the mine will generate annual Ebitda in the order of A\$200m.

A Pre-Feasibility study for Thunderbird is expected in 1Q15; this should incorporate the expanded resource and will also include the results of full scale processing test work and a mine-to-port infrastructure study. A Definitive study for the project is expected in mid-2016 with first production in 4Q17.

Thunderbird's forecast zircon production is equivalent to around 10% of the current global market and we would therefore expect the project to attract significant interest from off-takers and potential financiers. Introducing such a large amount of new supply could have ramifications for zircon pricing and suggests the development of the project could also attract the interest of existing producers.

Wildcard Fraser Range nickel potential

SFX has a number of tenements in the Fraser Range nickel province of Western Australia. Originally pegged for mineral sands, and expanded upon over the last 12 months, this exploration ground is in our view a free option on the possibility of discovering another Nova. SFX has tested a number of geophysical targets on its Fraser Range tenements without intersecting meaningful nickel sulphides. However the geology is favourable and regional exploration is ongoing.

Inside

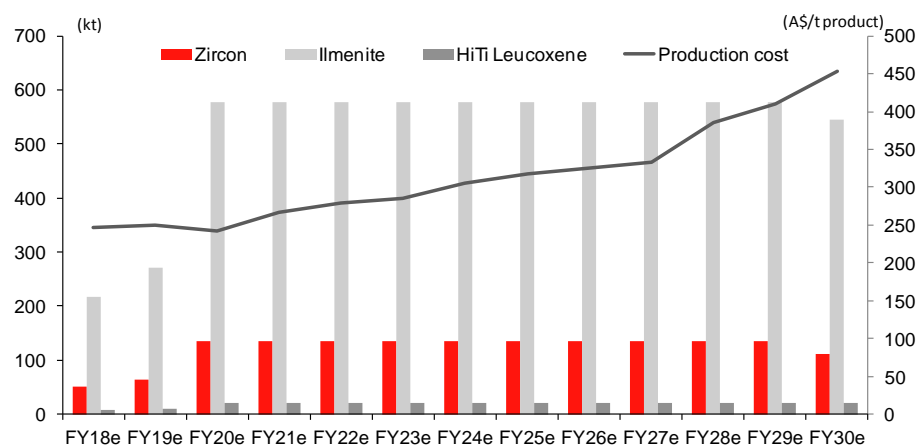
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Sheffield Resources

Company profile

- Sheffield Resources is a Perth based exploration company with a number of exploration assets in Western Australia. The company's key asset is the Thunderbird Mineral Sands Project in the Dampier Peninsula of northern Western Australia. The company has other mineral sands projects at Eneabba and McCall's both to the north of Perth, WA. SFX's other Western Australian projects cover a range of commodities including nickel, iron ore and potash.
- SFX's three member board have a track record of early identification of assets with significant potential. The team previously ran Warwick Resources which identified a number of iron ore assets that were sold to Atlas Iron in 2009 for \$80m.

Fig 1 Modelled Thunderbird production and costs



Source: Company data, Macquarie Research, November 2014

Fig 2 SFX AU vs Small Ordinaries, & rec history



Note: Recommendation timeline - if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.

Source: FactSet, Macquarie Research, November 2014

(all figures in AUD unless noted)

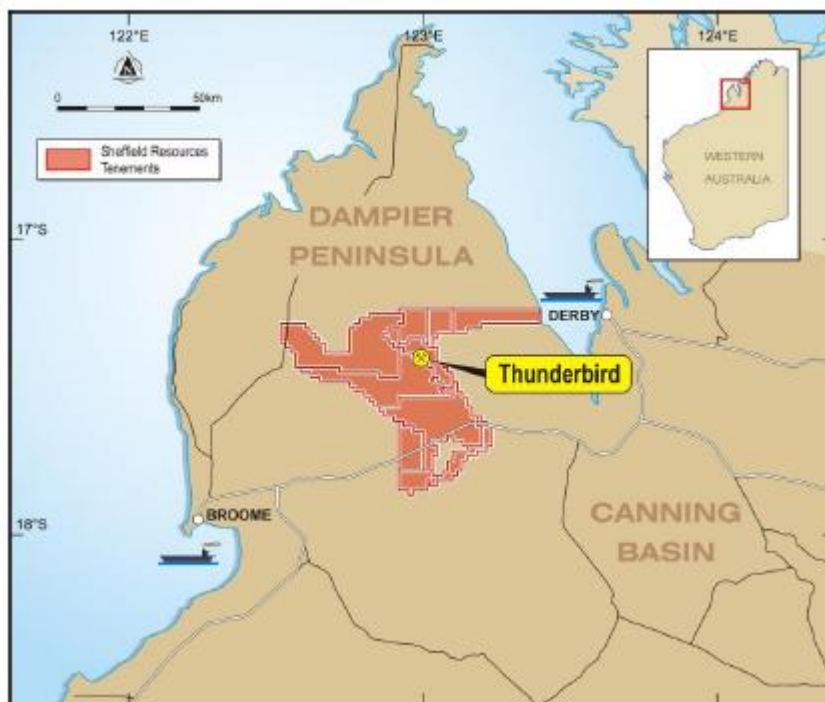
First world mineral sands exposure

Commencing coverage with an Outperform rating

**Outperform rating
and target price of
\$1.05/sh.**

We are commencing coverage of Sheffield Resources (SFX AU) with an Outperform rating and a target price of \$1.05/sh. SFX's Thunderbird Project in Western Australia is shaping up to be a Tier 1 mineral sands development project. The project has already demonstrated strong economics in a scoping study and since then the resource has continued to grow.

Fig 3 Thunderbird is located in the Dampier Peninsula of northern WA



Source: Company data, November 2014

32 year mine life on current high-grade resource

**Global resource
containing 14Mt of
in-situ zircon**

The Thunderbird global resource currently stands at 2.6Bt containing over 14Mt of in-situ zircon. Thunderbird also contains a significant ilmenite resource and mix of high titanium (HiTi) leucoxene minerals.

Fig 4 2.6Bt Thunderbird Global Resource

	Cut-off	Mt	HM %	Zircon %	HiTi Leucoxene %	Leucoxene %	Ilmenite %
Measured	3.0%	75	7.50	0.68	0.20	0.18	2.20
Indicated	3.0%	1,805	6.80	0.56	0.19	0.20	1.90
Inferred	3.0%	740	5.70	0.49	0.17	0.20	1.60
Total	3.0%	2,620	6.50	0.55	0.18	0.20	1.80

Source: Company data, Macquarie Research, November 2014

**740Mt high grade
sufficient to support
a 32 year mine life**

This global resource has been estimated at a Total Heavy Mineral (THM) cut-off grade of 3%. At 7.5% cut-off grade Thunderbird has a high-grade core of 740Mt at a Heavy Mineral grade of 12.1%, containing 6.8Mt of zircon, 2Mt of HiTi minerals and 25Mt of ilmenite. Currently ~80% of this high-grade resource is in the Measured and Indicated category.

Fig 5 Thunderbird High-grade Resource

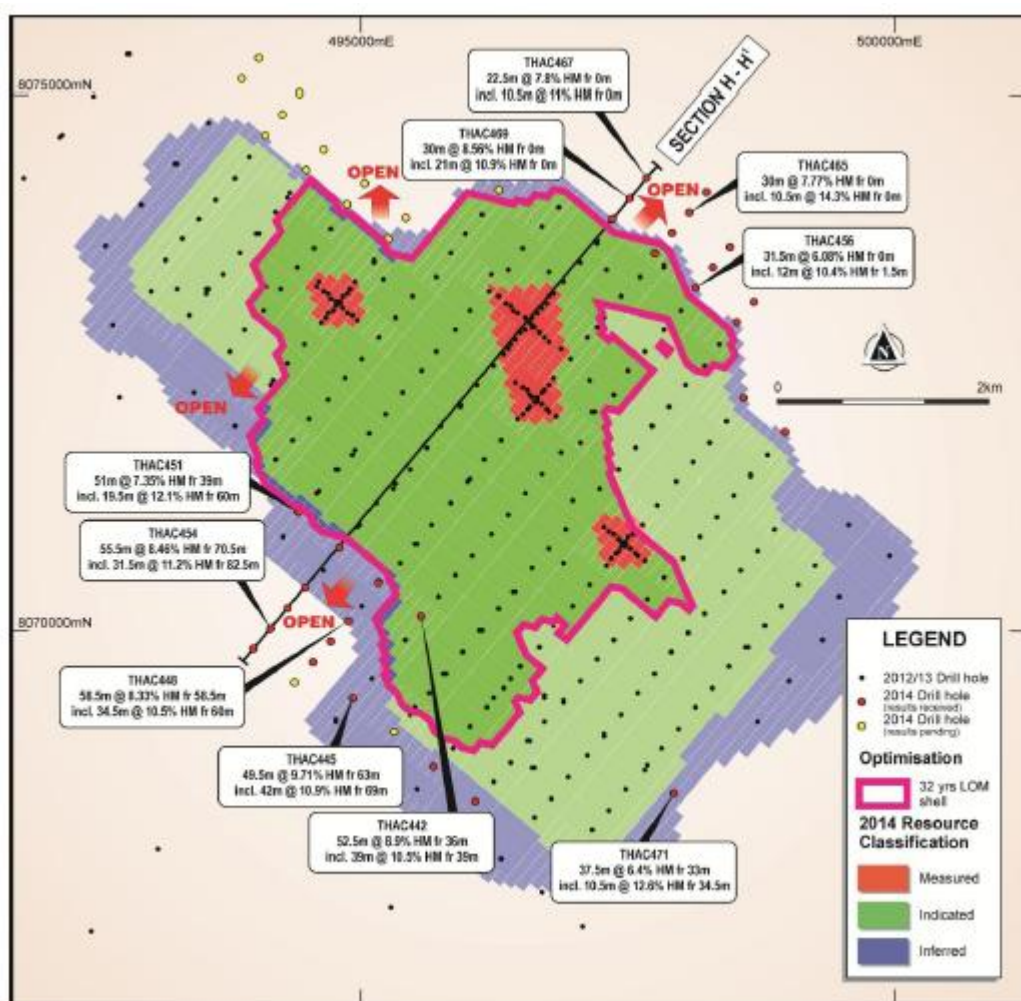
	Cut-off	Mt	HM %	Zircon %	HiTi		
					Leucoxene %	Leucoxene %	Ilmenite %
Measured	7.5%	30	12.20	1.10	0.32	0.26	3.60
Indicated	7.5%	545	12.50	0.94	0.29	0.25	3.50
Inferred	7.5%	165	10.90	0.84	0.27	0.24	3.20
Total	7.5%	740	12.10	0.92	0.29	0.25	3.40

Source: Company data, Macquarie Research, November 2014

Recently identified shallow high-grade should enhance already robust economics

SFX has continued to explore at Thunderbird and expects to release a revised resource in the coming weeks, we expect this to add both tonnes and grade to the existing resource. In a significant development, recent drilling has identified up-dip extensions to the high-grade portion of the resource which should further enhance project economics in the early years.

Fig 6 Thunderbird plan showing 32-year pit shell, resource classification and recent high-grade extensional drilling results



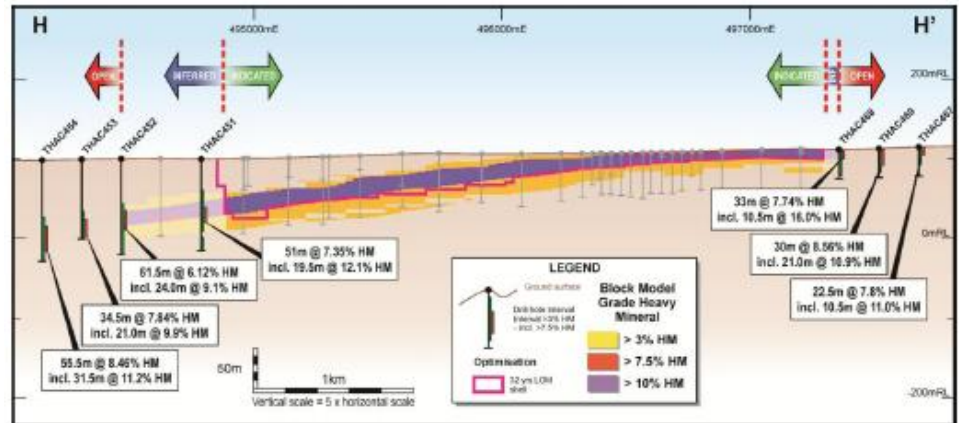
Source: Company data, November 2014

Some of the better results from the up-dip drilling include:

- ⇒ 30m @ 8.56% HM from 0m, including 21m @ 10.9% HM from 0m
- ⇒ 33m @ 7.74% HM from 0m, including 10.5m @ 16.0% HM from 1.5m
- ⇒ 30m @ 7.77% HM from 0m, including 10.5m @ 14.3% HM from 0m

Fig 7 Cross-section through the Thunderbird resource model

High-grade continues both up and down dip



Source: Company data, November 2014

And from the down-dip, infill and extensional drilling:

- ⇒ 58.5m @ 8.33% HM from 58.5m, including 34.5m @ 10.5% HM from 60m
- ⇒ 52.5m @ 8.90% HM from 36m, including 39m @ 10.5% HM from 39m
- ⇒ 49.5m @ 9.71% HM from 63m, including 42m @ 10.9% HM from 69m

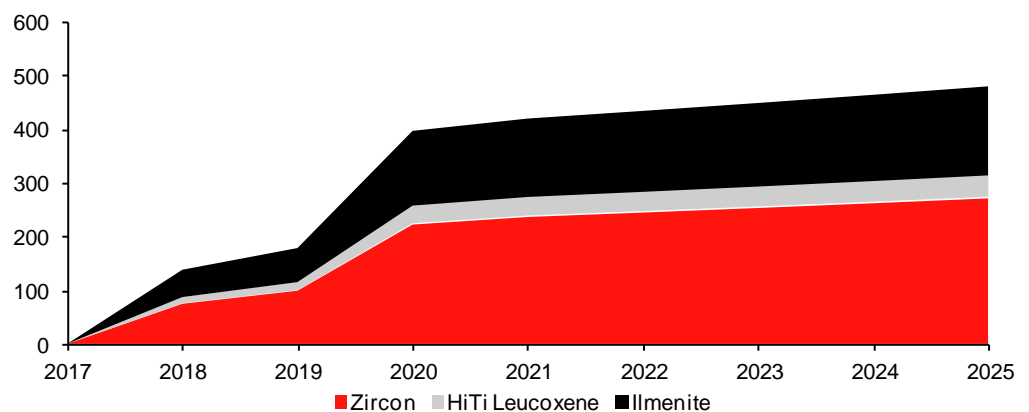
Evaluation of the mineral assemblage of these new zones is currently underway with results expected in 1Q15.

Zircon – the key revenue generator earnings driver for Thunderbird

Premium zircon the key revenue driver

Product assessment of samples from Thunderbird indicates it will produce a premium zircon product suitable for the ceramics industry. Zircon is the highest value mineral in the Thunderbird mineral assemblage and we expect zircon sales to be the key earnings driver for Thunderbird.

Fig 8 Forecast revenue by product



Source: Company data, Macquarie Research, November 2014

Ilmenite suitable for the sulphate process

The project's primary ilmenite product will be suitable for sulphate-route processing and should also be an attractive blending feedstock due to its low impurities. HiTi products will most likely be sold to the electric welding market.

Fig 9 Thunderbird Zircon specifications

ZrO ₂ %	Fe ₂ O ₃ %	TiO ₂ %	Al ₂ O ₃ %	P ₂ O ₅ %
66.2	0.05	0.09	0.1	0.14

Source: Company data, Macquarie Research, November 2014

Thunderbird could produce 10% of world zircon demand

Long life, low strip ratio, bulk tonnage dry mining

SFX has completed a Scoping Study at Thunderbird which indicates the project can achieve significant scale. The study envisages a 20Mtpa operation utilising simple dry mining techniques to produce an average of ~120Kt of zircon, ~545kt of ilmenite and ~22kt of HiTi products annually over the life of the mine. Production volumes in the first ten years are expected to be higher due to the higher mined grade, with average annual production of ~135kt of zircon and ~580kt of ilmenite. Products would most likely be trucked to Broome or Derby for shipping to customers in Asia.

Fig 10 SFX scoping study mining parameters

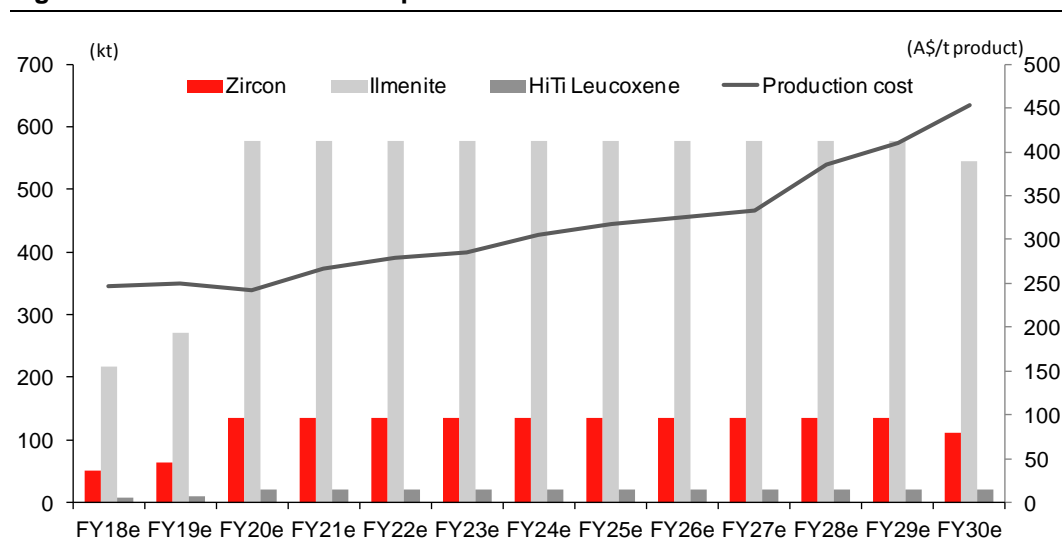
Mine life	32
Zircon production average LOM (ktpa)	118.2
Ilmenite production average LOM (ktpa)	545
HiTi production average LOM (ktpa)	21.7
LOM average Cash cost of production (A\$/t)	252
Sustaining capital (A\$m pa)	40
Pre-production capital (A\$m)	257
Strip Ratio (average LOM)	0.6:1
Strip Ratio (1st 10 years)	0.2:1

Source: Company data, November 2014

PFS expected in 1Q15, DFS in 2016 and first production in 2017

A Pre-Feasibility study for Thunderbird is expected in 1Q15; this should incorporate the expanded resource and will also include the results of full scale processing test work and a mine-to-port infrastructure study. A Definitive study for the project is expected in mid-2016 with first production in 4Q17.

Fig 11 Modelled Thunderbird production and costs

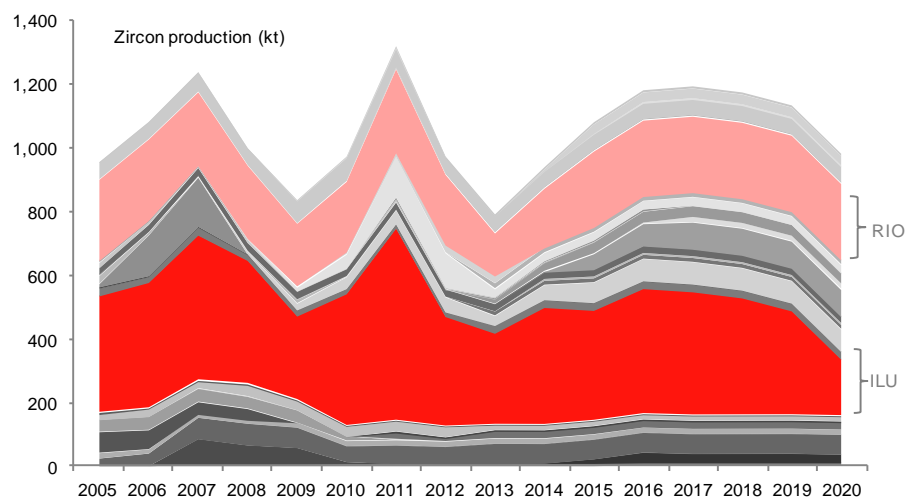


Source: Company data, Macquarie Research, November 2014

At full production rates Thunderbird will produce 10% of global supply.

Thunderbird’s forecast zircon production is equivalent to around 10% of the current global market and we would therefore expect the project to attract significant interest from off-takers and potential financiers. Introducing such a large amount of new supply could have ramifications for zircon pricing and suggests the development of the project could also attract the interest of existing producers.

Fig 12 Global zircon production is dominated by Rio and Iluka



Source: Company data, Macquarie Research, November 2014

Estimated annual mine Ebitda of ~\$200m

Mining costs at Thunderbird are expected to be in the 1st quartile for the style of mining, dredging is cheaper on a unit cost basis but requires substantially more capex. We estimate the mine will generate annual Ebitda in the order of A\$200m.

Fig 13 Estimated mine Ebitda and company earnings

	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
Mine Ebitda (A\$m)	72.4	94.5	221.8	224.7	228.5	237.6	236.2	241.9
SFX Earnings (A\$m)	2.1	10.1	76.3	78.9	81.8	88.5	87.3	90.8

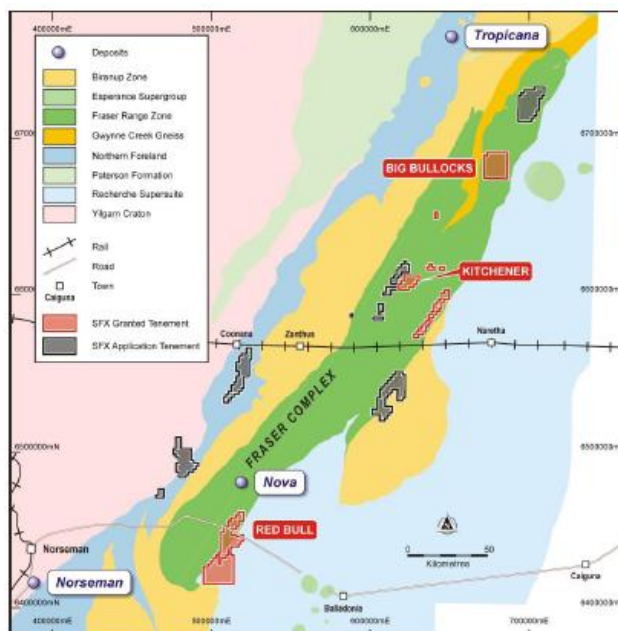
Source: Macquarie Research, November 2014

Wildcard Fraser Range nickel potential

**Free option on a
Nova style
discovery**

SFX has a number of tenements in the Fraser Range nickel province of Western Australia. Originally pegged for mineral sands, and expanded upon over the last 12 months, this exploration ground is in our view a free option on the possibility of discovering another Nova.

Fig 14 SFX's Fraser Range tenements



Source: Company data, November 2014

**Exploration ongoing
over two project
areas**

SFX has tested a number of geophysical targets on its Fraser Range tenements but has not yet intersected meaningful nickel sulphide mineralisation.

Exploration work at the Red Bull project in the south of the Fraser Range is focused on an 8km long package of mafic and ultramafic rocks that are anomalous in nickel, copper and cobalt. Aircore drilling has identified three anomalies in the north of the project area intersecting up to 5m at 0.73% Ni. Electromagnetic surveys are planned in 1Q15 for these northern targets with follow up drilling dependent on results.

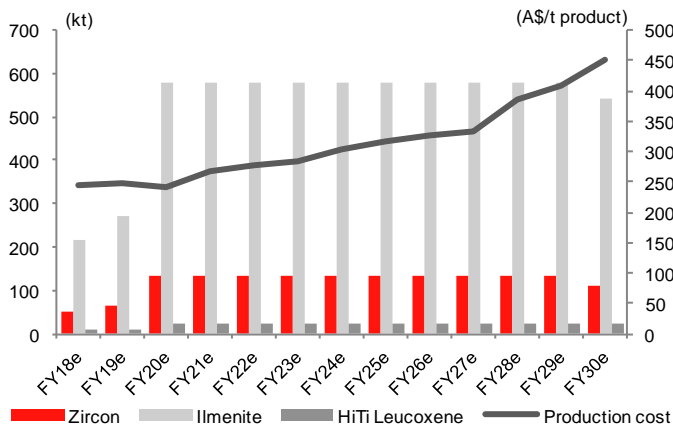
Further north in the Range is the Big Bullocks project. The project area straddles a major regional gravity feature associated with the Fraser Complex. A detailed Aeromagnetic survey was recently completed which highlighted several potential igneous complexes. Analysis and interpretation of these anomalies is ongoing with follow up targets being prioritised.

A multi commodity exploration portfolio

**Mineral sands,
nickel, iron ore,
potash and talc
projects all in WA**

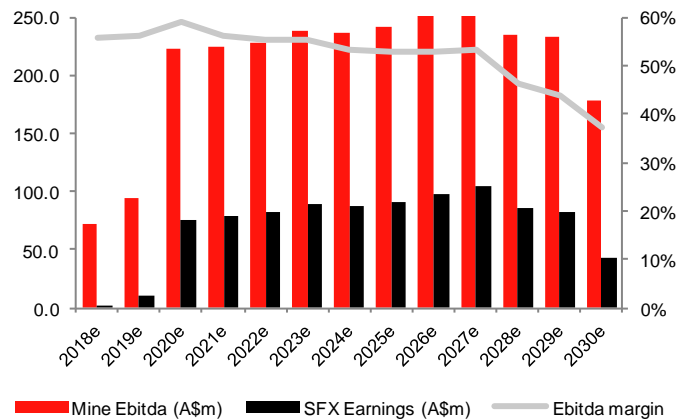
In addition to Thunderbird and the Fraser Range projects SFX has a diverse exploration portfolio of other projects in WA. These include mineral sands projects at McCalls and Eneabba to the north of Perth, iron ore exploration ground in the Pilbara and talc and potash projects in the Mid-west region of Western Australia.

Fig 15 Modelled production and costs



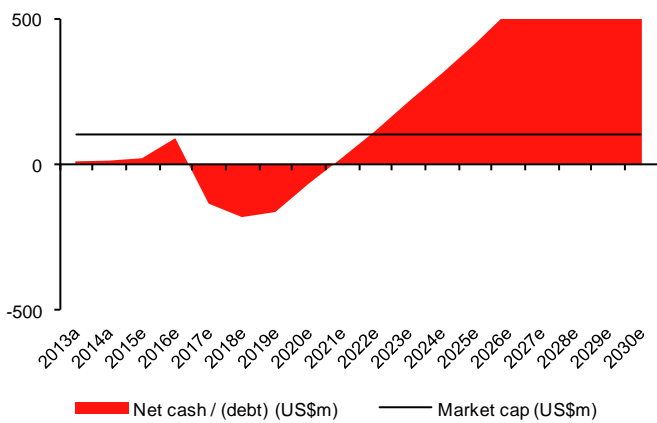
Source: Company data, Macquarie Research, November 2014

Fig 16 Estimated mine Ebitda and company earnings



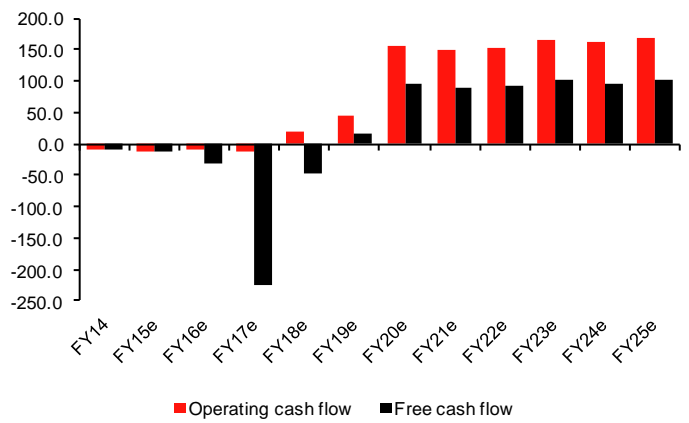
Source: Company data, Macquarie Research, November 2014

Fig 17 Forecast cumulative cash flow



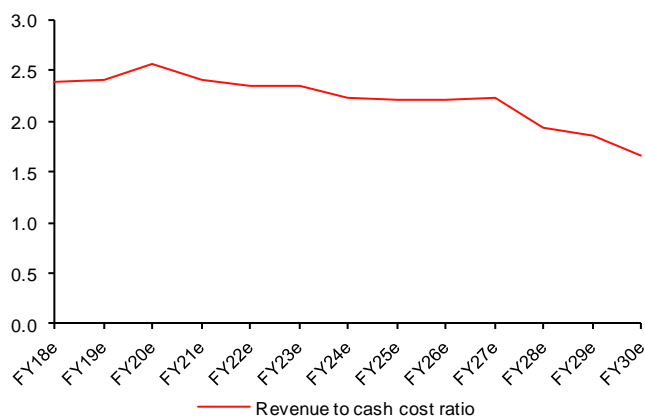
Source: Company data, Macquarie Research, November 2014

Fig 18 Forecast operating and free cash flow



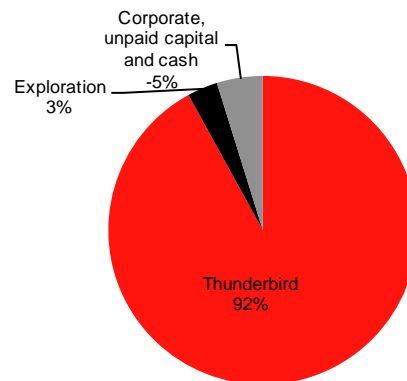
Source: Company data, Macquarie Research, November 2014

Fig 19 Modelled revenue to cash cost ratio



Source: Company data, Macquarie Research, November 2014

Fig 20 SFX valuation breakdown



Source: Company data, Macquarie Research, November 2014

Sheffield Resources

ASX: SFX Price: (A\$ps) 0.77 Year end: Jun Rating: Outperform Up/dn TSR
 Mkt cap: (A\$m) 214 Diluted shares (m) 278.6 Target: 1.05 36% 36%

ASSUMPTIONS		FY13	FY14	FY15e	FY16e	FY17e	FY18e	FY19e	ATTRIBUTABLE MINE OUTPUT								
Exchange Rate	A\$/US\$	1.01	0.91	0.88	0.87	0.90	0.88	0.87	Valuable Heavy Mineral Production (equity)								
Zircon	US/t	1780	1146	1215	1250	1250	1275	1350	Zircon	(kt)	51.5	64.4	134.3	134.3	134.3	134.3	134.3
HiTi Leucoxene	US/t	1825	967	911	1200	1263	1288	1313	HiTi Leucoxene	(kt)	8.1	10.2	21.5	21.5	21.5	21.5	21.5
Leucoxene	US/t	1825	967	933	1200	1263	1288	1313	Ilmenite	(kt)	217.6	272.0	578.0	578.0	578.0	578.0	578.0
Ilmenite	US/t	294	165	163	208	218	207	203	Total VHM production	(kt)	277.2	346.6	733.8	733.8	733.8	733.8	733.8

RATIO ANALYSIS		FY13	FY14	FY15e	FY16e	FY17e	FY18e	FY19e	Valuable Heavy Mineral Sales (equity)								
Diluted share capital	m	118.3	133.4	160.9	278.6	278.6	278.6	278.6	Zircon	(kt)	51.5	64.4	134.3	134.3	134.3	134.3	134.3
EPS (diluted and pre sig. items)	A¢	0.1	-1.9	-2.8	-1.8	-3.0	0.8	3.6	HiTi Leucoxene	(kt)	8.1	10.2	21.5	21.5	21.5	21.5	21.5
P/E	x	864.7x	-40.3x	-27.2x	-43.3x	-26.0x	101.5x	21.3x	Ilmenite	(kt)	217.6	272.0	578.0	578.0	578.0	578.0	578.0
CFPS	A¢	(5.4)	(6.3)	(7.3)	(3.6)	(4.5)	6.8	16.4	Total VHM production	(kt)	277.2	346.6	733.8	733.8	733.8	733.8	733.8
P/CF	x	-14.2x	-12.3x	-10.6x	-21.5x	-17.3x	11.3x	4.7x	Net Cash Cost	A\$/t	182.7	186.5	183.2	207.1	219.4	226.2	246.0
DPS	A¢	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Notional Cash Margin	A\$/t	315.2	329.5	358.7	366.1	373.3	386.6	387.6
Dividend yield	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	AISC cash cost	A\$/t	246.0	249.2	242.5	266.4	278.7	285.5	305.3
Franking Level	%	0%	0%	0%	0%	0%	0%	0%	Operational EBIT Contribution								
Book value per share	x	0.17	0.22	0.28	0.51	0.48	0.49	0.52	Thunderbird	A\$m	46.0	60.6	151.9	152.6	154.3	161.1	157.3
P/Book value	x	4.5x	3.5x	2.7x	1.5x	1.6x	1.6x	1.5x	Revenue to cash cost ratio	x	2.4	2.4	2.6	2.4	2.3	2.4	2.2
R.O.E. (pre sig items)	%	1%	-9%	-9%	-2%	-6%	2%	7%	OPERATIONAL OUTLOOK								
R.O.A. (pre sig items)	%	-3%	-12%	-9%	-3%	-3%	3%	6%									
Interest Cover	x	0.0x	0.0x	30.9x	5.2x	-9.7x	1.3x	2.5x									
EBITDA per share	A\$ps	0.00	-0.03	-0.04	-0.02	-0.04	0.14	0.21									
EV/EBITDA	x	-464.1x	-55.7x	-32.4x	-20.3x	-32.9x	10.3x	6.6x									

EARNINGS		FY13	FY14	FY15e	FY16e	FY17e	FY18e	FY19e
Sales Revenue	A\$m	0	0	0	0	0	138	179
Other Revenue	A\$m	1	0	0	0	0	0	0
Total Revenue	A\$m	1	0	0	0	0	138	179
Operating Costs	A\$m	0	0	0	0	0	(66)	(84)
Operational EBITDA	A\$m	1	0	0	0	0	72	94
Exploration Expense/Write-offs	A\$m	(0)	(2)	(2)	(2)	(4)	(3)	(3)
Corporate & Other Costs	A\$m	(1)	(2)	(4)	(4)	(9)	(30)	(34)
EBITDA	A\$m	(0)	(4)	(6)	(6)	(11)	39	58
D&A	A\$m	(0)	(0)	0	0	0	(26)	(34)
EBIT	A\$m	(1)	(4)	(6)	(6)	(11)	12	24
Net Interest	A\$m	0	0	0	1	(1)	(9)	(9)
Profit Before Tax	A\$m	(1)	(4)	(6)	(5)	(12)	3	14
Tax Expense	A\$m	1	1	2	2	4	(1)	(4)
Minorities	A\$m	0	0	0	0	0	0	0
Adjusted NPAT	A\$m	0	(3)	(4)	(4)	(8)	2	10
Significant Items (post tax)	A\$m	0	0	0	0	0	0	0
Reported NPAT	A\$m	0	(3)	(4)	(4)	(8)	2	10

CASHFLOW		FY13	FY14	FY15e	FY16e	FY17e	FY18e	FY19e
Net Profit	A\$m	0	(3)	(4)	(4)	(8)	2	10
Interest/Tax/D&A	A\$m	(7)	(8)	(8)	(6)	(4)	30	36
Working Capital/other	A\$m	1	2	0	0	0	(13)	(1)
Net Operating Cashflow	A\$m	(6)	(8)	(12)	(10)	(12)	19	46
Capex	A\$m	0	0	0	(21)	(213)	(65)	(28)
Investments	A\$m	1	(0)	0	0	0	0	0
Sale of PPE and Other	A\$m	0	0	0	0	0	0	0
Free cash flow	A\$m	(6)	(8)	(12)	(31)	(226)	(46)	17
Dividends Paid	A\$m	0	0	0	0	0	0	0
Debt	A\$m	0	0	0	20	160	40	(38)
Equity Issuance	A\$m	5	11	20	100	0	0	0
Other	A\$m	0	0	0	0	0	0	0
Net Financing Cashflow	A\$m	5	11	20	120	160	40	(38)
Net change in cash	A\$m	(1)	2	8	89	(66)	(6)	(20)

RESERVES AND RESOURCES (ATTRIBUTABLE)		In-situ VHM grade						
Thunderbird		HiTi						
		Cut-off	Mt	HM %	Zr %	Luc %	Luc %	Ilm %
Thunderbird Global Resource								
Measured	3.0%	75	7.50	0.68	0.20	0.18	2.20	
Indicated	3.0%	1805	6.80	0.56	0.19	0.20	1.90	
Inferred	3.0%	740	5.70	0.49	0.17	0.20	1.60	
Total		2620	6.50	0.55	0.18	0.20	1.80	
Thunderbird HG Resource								
Measured	7.5%	30	12.20	1.10	0.32	0.26	3.60	
Indicated	7.5%	545	12.50	0.94	0.29	0.25	3.50	
Inferred	7.5%	165	10.90	0.84	0.27	0.24	3.20	
Total		740	12.10	0.92	0.29	0.25	3.40	

BALANCE SHEET		FY13	FY14	FY15e	FY16e	FY17e	FY18e	FY19e	EQUITY DCF VALUATION		
Cash	A\$m	8	11	19	108	43	36	16	Projects	A\$m	A\$ps
PP&E & Mine Development	A\$m	0	0	2	28	241	280	274	Thunderbird	289	1.04
Exploration	A\$m	12	19	45	51	53	54	81	Exploration	10	0.04
Total Assets	A\$m	21	30	66	188	337	371	372	Unpaid capital	123	0.44
Debt	A\$m	0	0	0	20	180	220	183	Corporate	(133)	(0.48)
Total Liabilities	A\$m	1	1	21	46	204	235	226	Net cash (debt)	5	0.02
Total Net Assets / Equity	A\$m	20	29	45	142	134	136	146	Net Equity Value (@ 12% WACC)	294	1.05
Net Debt / (Cash)	A\$m	(8)	(11)	(19)	(88)	137	184	166	Price Target	(1.0x NPV)	1.05
Gearing (net debt/(rd + equity))	%	(70%)	(58%)	(73%)	(165%)	51%	58%	53%			
Gearing (net debt/equity)	%	(41%)	(37%)	(42%)	(62%)	103%	135%	114%			

Source: Company data, Macquarie Research, November 2014

Valuation, recommendation, risks

Commencing coverage with an Outperform rating and a \$1.05/sh target price

\$294m sum-of-parts DCF valuation

**Outperform rating
and target price of
\$1.05/sh.**

**\$294m DCF
valuation for the
company**

We value SFX at \$294m or \$1.05/sh based on a sum-of-parts DCF methodology with a nominal 12% WACC. Our price target is equal to our valuation diluted for our estimated \$123m in new equity raised at the current share price.

Thunderbird provides ~80% of our asset value for SFX and we value the project at \$289m or \$1.04/sh. We have ascribed a nominal \$10m valuation to SFX's other exploration assets. We model a total of \$123m in new capital, we estimate that an additional \$10-15m is required to complete the study of Thunderbird and commence early construction work. We assume \$100m in new equity will be raised to fund project contingency and preproduction working capital with the balance of the ~\$260m project capital funded through debt and off-take prepayments.

Fig 21 SFX sum-of-parts DCF valuation

NPV ¹²	A\$m	A\$ps
Thunderbird	289	1.04
Exploration	10	0.04
Unpaid capital	123	0.44
Corporate	(133)	(0.48)
Net cash (debt)	5	0.02
Net Equity Value (@ 12% WACC)	294	1.05
Price Target	(1.0x NPV)	1.05

Source: Company data, Macquarie Research, November 2014

USD exchange rate is a significant sensitivity

Fig 22 SFX earnings and valuation sensitivities

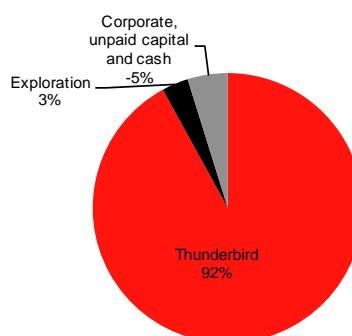
Y/E Dec	FY18e	FY19e	FY20e	FY21e	FY22e	FY23e	FY24e	FY25e	NPV
10% change in Zircon	239%	68%	20%	21%	22%	21%	22%	23%	18%
10% change in HiTi	38%	10%	3%	3%	3%	3%	3%	3%	2%
10% change in Ilmenite	162%	43%	13%	13%	13%	13%	14%	14%	10%
10% change in A\$/US\$	487%	135%	40%	41%	42%	41%	44%	44%	34%

Source: Company data, Macquarie Research, November 2014

**Sensitive to
commodity prices
and exchange rate**

Our valuation for SFX is of course sensitive to underlying commodity prices with a 10% change in zircon moving our average earnings forecast by ~25%. Our model's key sensitivity though is the AUD:USD exchange rate where a 10% moves our forecasts by ~40%.

Fig 23 Thunderbird makes up ~90% of our asset value for SFX



Source: Company data, Macquarie Research, November 2014

Pricing and market share a key risk

Mineral sands prices forecast to recover

We are bearish on the medium term outlook for minerals sands and zircon in particular. We see a number of headwinds for zircon pricing. That being said we do forecast a recovery in pricing from 2019-2020 shortly after Thunderbird is due to have come online, although our forecast pricing growth is in step with our expected 3-4% demand CAGR.

Fig 24 Actual and Macquarie forecast exchange rate and mineral sands pricing

ASSUMPTIONS		FY13	FY14	FY15e	FY16e	FY17e	FY18e	FY19e	FY20e	FY21e	FY22e	FY23e	FY24e	FY25e
Exchange Rate	A\$/US\$	1.01	0.91	0.88	0.87	0.90	0.88	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Zircon	US/t	1780	1146	1215	1250	1250	1275	1350	1453	1546	1600	1655	1713	1772
HiTi Leucoxene	US/t	1460	773	746	960	1010	1030	1050	1092	1154	1194	1236	1279	1323
Leucoxene	US/t	1825	967	933	1200	1263	1288	1313	1366	1443	1493	1545	1599	1654
Ilmenite	US/t	294	165	163	208	218	207	203	210	220	227	235	242	250

Source: Company data, Macquarie Research, November 2014

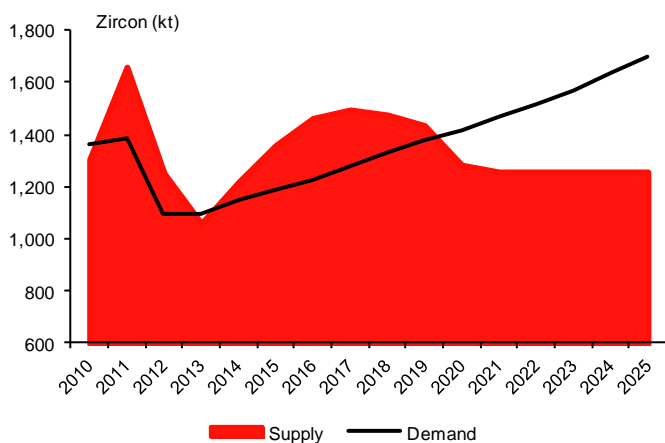
New projects and high stocks suppressing mid-term pricing

The zircon market is going through a period of recalibration. Despite positive underlying demand growth, high prices in 2011-2012 incentivised a number of projects and we see downside risk to prices as these come online. Compounding the mid-term view are the significant volumes of zircon rich concentrate that are available for processing by major producers; ILU currently has stockpiles equivalent to one year of demand.

China still the key swing factor

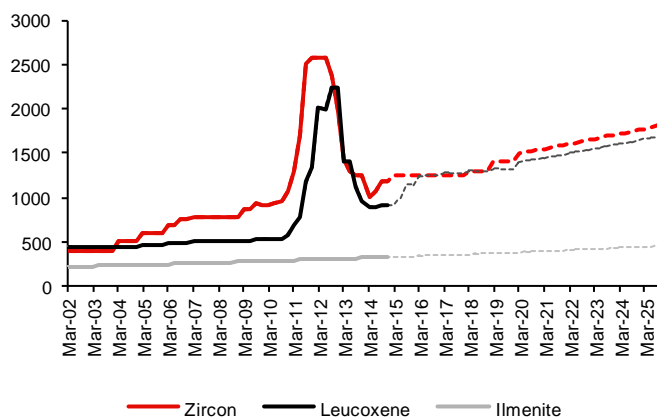
Longer term, Chinese floor space will remain a key swing factor in global supply and demand dynamics. Despite slowing urbanisation and falling home sizes, as a function of changing demographics we forecast that constructed floor space will grow by an average of ~1.6% to 2020. Above-trend demand growth for zircon will likely be dependent upon the ultimate take-up of digitally printed tiles and specialty chemicals. While substantial growth is possible in tiles manufactured by digital printing, use of zircon in digital printing is significantly lower than that used in bodies of porcelain tiles that they will be replacing as floor space is rebuilt.

Fig 25 We forecast a zircon surplus until 2019...



Source: Company data, Macquarie Research, November 2014

Fig 26 ...and expect prices across mineral sands to remain flat until demand reasserts itself.



While the zircon grade of deposits is falling, zircon is produced as a by-product and as such, demand has a limited impact on primary production. This can lead to rapid price increases when the market is perceived to be tight but there is also limited cost curve support as demand falls. The differing demand trajectories of TiO2 and zircon mean that an increasing amount of zircon will be produced by as a by-product of TiO2 production.

Thunderbird's potential market impact could force a proactive move to delay its market entry

Due to its large forecast zircon volumes Thunderbird could prolong the period of flat zircon pricing. A managed entry to the market will be required to maintain pricing whilst building market share for Thunderbird product. It is also possible that current market participants may feel it necessary to take a proactive role in the situation and stop the project from coming to market.

Appendices

Board

Will Burbury, Executive Chairman

Will Burbury practised as a corporate lawyer with a leading Australian law firm prior to entering the mining and exploration industry in 2003. During his career, he has been actively involved in the identification and financing of many Australian and African resources projects. He has held senior management positions and served on the boards of several private and publicly listed companies. Mr Burbury was previously Chairman of Warwick Resources Limited prior to its merger with Atlas Iron Limited in 2009. He was also formerly a director of Lonrho Mining Limited (ASX: LOM) and an executive of Nkwe Platinum Ltd (ASX: NKP).

Bruce McQuitty, Managing Director

Bruce McQuitty has 30 years experience in the mining and civil construction industries and was previously Managing Director of Warwick Resources Limited prior to its merger with Atlas Iron Limited in 2009. Prior to that he held senior positions with Consolidated Minerals Limited, Renison Goldfields Consolidated Limited and Gympie Gold Limited. Mr McQuitty has significant technical expertise in exploration, project generation, feasibility, underground mining and engineering geology and has managed exploration teams in Australia and overseas. Mr McQuitty holds a Masters of Economic Geology and a Bachelor of Science.

David Archer, Technical Director

David Archer is a geologist with 24 years experience in exploration and mining in Australia. He has held senior positions with major Australian mining companies, including Renison Goldfields Consolidated Limited, and has spent the last ten years as a director of Archer Geological Consulting specialising in project generation, geological mapping and project evaluation. Mr Archer was a consultant to Atlas Iron Limited (ASX: AGO) and Warwick Resources Limited and was responsible for significant iron ore discoveries for both companies in the Pilbara. He was also involved in the discovery of the Magellan lead mine and the Raleigh and Paradigm gold mines.

Key Management

David Boyd, Exploration Manager

Prior to joining Sheffield Resources in December 2010, Mr Boyd was General Manager of Geology at Consolidated Minerals where he managed exploration and resource development across that company's manganese, chromite and iron ore projects. David has a first class honours geology degree from University of Western Australia and his 20 year career includes senior positions with leading mining houses such as RGC/Goldfields, Placer Dome and Barrick.

Mark Teakle, Project Development Manager

Mr Teakle is a geologist with extensive experience in the mineral sands sector. During his 32 year career, Mark has held senior management positions with Aberfoyle Resources Ltd and Australian Zircon NL and was Executive Director at Mineral Sands Ltd (now Corvette Resources Ltd). Mark Teakle has been involved in the discovery and economic evaluation of mineral sands deposits in the Murray and Eucla Basins. Mark has provided consulting services to Sheffield since the Company's ASX listing.

Wayne Groeneveld, Sustainability Manager

Mr Groeneveld has over 30 years' experience in the mining industry, including senior positions with RGC Ltd, Pancontinental Mining Ltd, Goldfields Ltd, Placer Dome Australia Ltd and St Barbara Ltd. Most recently, Mr Groeneveld was General Manager – Sustainable Development at Xstrata Nickel. During his time with RGC Ltd, Mr Groeneveld successfully negotiated land access agreements with private landowners preceding the development of several Australian mineral sands operations. Over the course of his career, he has built lasting relationships with Native Title claimants in the Goldfields region of Western Australia, leading to the successful completion of comprehensive exploration and mining agreements.

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Recommendation definitions

Macquarie - Australia/New Zealand

Outperform – return >3% in excess of benchmark return
 Neutral – return within 3% of benchmark return
 Underperform – return >3% below benchmark return

Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield

Macquarie – Asia/Europe

Outperform – expected return >+10%
 Neutral – expected return from -10% to +10%
 Underperform – expected return <-10%

Macquarie First South - South Africa

Outperform – expected return >+10%
 Neutral – expected return from -10% to +10%
 Underperform – expected return <-10%

Macquarie - Canada

Outperform – return >5% in excess of benchmark return
 Neutral – return within 5% of benchmark return
 Underperform – return >5% below benchmark return

Macquarie - USA

Outperform (Buy) – return >5% in excess of Russell 3000 index return
 Neutral (Hold) – return within 5% of Russell 3000 index return
 Underperform (Sell) – return >5% below Russell 3000 index return

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high-highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low-medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.

* Applicable to Asia/Australian/NZ/Canada stocks only

Recommendations – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Financial definitions

All "Adjusted" data items have had the following adjustments made:

Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
 Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / epowa*

ROA = adjusted ebit / average total assets

ROA Banks/Insurance = adjusted net profit / average total assets

ROE = adjusted net profit / average shareholders funds

Gross cashflow = adjusted net profit + depreciation

*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 30 September 2014

	AU/NZ	Asia	RSA	USA	CA	EUR	
Outperform	48.73%	59.90%	35.63%	42.00%	60.28%	42.11%	(for US coverage by MCUSA, 6.09% of stocks followed are investment banking clients)
Neutral	33.76%	24.97%	39.08%	52.67%	36.17%	38.42%	(for US coverage by MCUSA, 8.12% of stocks followed are investment banking clients)
Underperform	17.52%	15.13%	25.29%	5.33%	3.55%	19.47%	(for US coverage by MCUSA, 0.51% of stocks followed are investment banking clients)

SFX AU vs Small Ordinaries, & rec history



(all figures in AUD currency unless noted)

Note: Recommendation timeline – if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.

Source: FactSet, Macquarie Research, November 2014

12-month target price methodology

SFX AU: A\$1.30 based on a DCF methodology

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Date	Stock Code (BBG code)	Recommendation	Target Price
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Research

Head of Equity Research

John O'Connell (Global)	(612) 8232 7544
Paul Checchin (Australia)	(612) 8232 4197

Retail / Consumer

Bryan Raymond	(612) 8232 2740
---------------	-----------------

Energy

Adrian Wood	(612) 8232 8531
Kirit Hira	(612) 8232 9692

ESG

Deana Mitchell	(612) 8232 4576
----------------	-----------------

Financials

Banks

Michael Wiblin	(612) 8232 6089
Anita Stanley	(612) 8232 9869

Insurance & Diversified Financials

Tim Lawson	(612) 8237 7332
Bryan Raymond	(612) 8232 2740

Healthcare / Food & Bev

Dr Craig Collie	(612) 8232 4130
Ben Tedder	(612) 8232 5387

Industrials

Capital Goods

John Purtell	(612) 8232 8633
--------------	-----------------

Infrastructure

Ian Myles	(612) 8232 4157
-----------	-----------------

Transportation

Sam Dobson	(612) 8232 9986
------------	-----------------

Chemicals, D&C, Packaging, Builders, Steel

John Purtell	(612) 8232 8633
Liam Farlow	(612) 8237 2313
Pelen Ji	(612) 8237 3523

Resources Leaders

Adrian Wood	(612) 8232 8531
Matthew Fist	(612) 8237 8521

Emerging Resources

Hayden Bairstow	(618) 9224 0838
Ben Crowley	(618) 9224 0839

Real Estate

Paul Checchin	(612) 8232 4197
Rob Freeman	(612) 8237 1152

Telcos / Media / Tourism & Leisure

Andrew Levy	(612) 8232 5165
Andrew Russell	(612) 8232 9390

Utilities

Ian Myles	(612) 8232 4157
-----------	-----------------

Commodities & Precious Metals

Colin Hamilton (Global)	(44 20) 3037 4061
Jim Lennon (London)	(44 20) 3037 4271
Graeme Train (Shanghai)	(8621) 2412 9035

New Zealand

Stephen Hudson	(649) 363 1414
Warren Doak	(649) 363 1416
Daniel Frost	(649) 363 1474
Nick Mar	(649) 363 1476
Andrew Levy (Telecommunications)	(612) 8232 5165

Emerging Leaders – Industrials

Adam Simpson	(612) 8232 4439
Andrew Wackett	(618) 9224 0867
Jodie Bannan	(612) 8232 2999
Peter Steyn	(612) 8232 5144
Jennifer Kruk	(612) 8232 6422
Michael Higgins	(612) 8232 3208

Quantitative

Gurvinder Brar (Global)	(44 20) 3037 4036
John Conomos (Australia)	(612) 8232 5157
Burke Lau (Hong Kong)	(852) 3922 5494
Jeremy Lamplough	(612) 8232 1060

Data Services

Sheridan Duffy	(612) 8232 9786
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Economics and Strategy

Tanya Branwhite (Strategy)	(612) 8232 7628
Richard Gibbs (Head of Economics)	(612) 8232 3935
Matthew Brooks (Global)	(612) 8237 0645
James McIntyre (Australia)	(612) 8232 8930
Rikki Bannan (Strategy)	(612) 8232 8676

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Hong Kong	800 96 2049
Japan	0053 161 6437
New York	1888 622 7862
Singapore	800 616 1037

Email addresses

FirstName.Surname@macquarie.com
eg. john.oconnell@macquarie.com

Sales

Equities

Dan Ritchie (Australia)	(612) 8232 3124
Dave Robertson (New Zealand)	(649) 363 1498

Sales

Matt Nacard (Head of Sales)	(612) 8232 8518
Kristen Edmond (Australia)	(612) 8232 3111
Gavin Maher (Australia)	(612) 8232 4151
Nick Rehak (Australia)	(612) 8232 4053
Charlotte Edelman (Australia)	(612) 8232 4565
Mike Johnson (Desk Head – Hong Kong)	(852) 3922 2050
Adam Millhouse (Hong Kong)	(852) 3922 2055
Dan Pittorino (Desk Head - London)	(44 20) 3037 4831
Andrew Haigh (London)	(44 20) 3037 4843
Clare McCartney (London)	(44 20) 3037 4833
Brendan Waller (Desk Head - Melbourne)	(613) 9635 8177
Leighton Patrick (Desk Head - New York)	(1 212) 231 2552
Rowly Hirst (New York)	(1 212) 231 2553
Michael McNair (New York)	(1 212) 231 2571

Sales Trading

Ben Clifford (Head of Sales Trading)	(612) 8232 4012
Sam Molina (Sydney)	(612) 8232 5935
John Ogle (Sydney)	(612) 8232 3118
Francis Sarks (Sydney)	(612) 8232 4458
Ben Suttie (Sydney)	(612) 8232 0912
Antony Kirwan (Sydney)	(612) 8232 4003
John Alessi (Melbourne)	(613) 9635 9183
Jon Holland (Auckland)	(649) 363 1471
Mike Keen (London)	(44 20) 3037 4905
Andrew Donald (Melbourne)	(613) 9635 8270

Trading

Tim Shaw (Desk Head – Sydney).	(612) 8232 4386
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Specialist Sales

Julia Thomas (Property)	(613) 9635 9323
Phil Zammit (Emerging Leaders)	(612) 8232 3122
Owen Johnston (Emerging Leaders)	(612) 8232 3328

Alternative Strategies

Kurt Dalton (Merger Arb)	(612) 8232 5943
Greg Mann (Equity Finance)	(612) 8232 1820
Shannon Donohoe (Stock Borrow & Loan)	(612) 8232 6997

Syndication

Paul Staines	(612) 8232 7781
Angus Firth	(612) 8232 4039
Kate Herfort	(612) 8232 5956

Fixed Income, Currencies & Commodities

James Mactier (Metals & Energy)	(618) 9224 0612
Will Richardson (Currencies)	(612) 8232 3666
Sarah Milne (Fixed Income)	(44 20) 3037 4625
David Castle (Fixed Income)	(612) 8232 8300
Ian Miller (Futures)	(612) 8232 3555