



**Breakaway
Research**

February 2015

Grant Craighead | Research Manager
gcraighead@breakawayinvestmentgroup.com

Andrew McLeod | Research Analyst
amcleod@breakawayinvestmentgroup.com

Company Information

ASX Code	SFX
Share Price	A\$0.80
Ord Shares	134.4M
Options	6.9M
Market Cap A\$	A\$107.5m
Cash (Dec 14)	A\$4.6M
Total Debt (Dec 14)	-
Enterprise Value	A\$102.9m

Directors & Management

Executive Chairman	Will Burbury
Managing Director	Bruce McQuitty
Technical Director	David Archer
Exploration Manager	David Boyd
Sustainability Manager	Wayne Groeneveld
Project Devl. Manager	Mark Teakle

Substantial Share Holders

Will Burbury	6.4%
Bruce McQuitty	6.4%
David Archer	6.4%
Top 20	36%

*As at October 2014

Company Details

Address	Level 1, 57 Havelock Street, West Perth, WA, 6005
Phone	+618 6424 8440
Web	www.sheffieldresources.com.au

1 Year Price Chart



Sheffield Resources (SFX)

*Resource upgrade further enhances calibre
of 'Tier 1' Thunderbird deposit*

Company Update
Recommendation: BUY

Key Points

- **Substantial increase of Thunderbird JORC resource to 3.2Bt @ 6.8% HM**
- **46% increase to 'high grade core' now at 1.08Bt @ 11.8% HM**
- **'High grade core' sufficient for +32 year mine life at targeted 20.8Mtpa production rate**
- **Project economics likely to be significantly enhanced following recent resource upgrade**
- **PFS expected in the coming weeks – DFS targeted for mid-2016**
- **Mining Lease Application submitted in Sept quarter 2014**

Sheffield Resources remains one of Breakaway's preferred exposures based on the calibre of the Thunderbird project and the quality of management. Significant positive news flow is expected in the coming weeks as the release of the PFS is likely to outline enhanced economics on an already economically robust project. Sheffield is well on the way to becoming a globally significant mineral sands producer.

Investment Thesis

Sheffield Resources continues to steadily advance its flagship Thunderbird deposit, putting the Company firmly on track to become a Tier 1 mineral sands producer. The 2014 Scoping Study already demonstrated robust project economics; however, following the latest resource upgrade the project economics are expected to be strongly enhanced. Details will be outlined with the release of the PFS, scheduled in the current quarter. Assuming a positive outcome in the PFS, Sheffield will undertake a Definitive Feasibility Study, expected by mid-2016, with first production targeted as early as Q4 2017.

The Thunderbird Resource now stands at 3.2Bt @ 6.8% HM (3% HM cut off) containing 95Mt of HM, including 19.3Mt of zircon, making it one of the largest accumulations of zircon in the world. Within the broader Thunderbird resource, Sheffield has identified a 'high grade' core which hosts 1.1Bt @ 11.8% HM (7.5% HM cut off) of which +88% is in the Measured and Indicated category. This 'high grade' resource is sufficient for at least 32 years of production at the targeted 20.8Mtpa rate.

Sheffield is on track to become a globally significant zircon and ilmenite producer, which will be important to support future funding requirements and placing the Company firmly on the radar for potential corporate activity.



Company Update

In late 2014, Sheffield Resources announced a significant resource upgrade at the Company's flagship Thunderbird project.

Thunderbird Deposit Resource (Dec 2014)

3.2Bt @ 6.8% HM

High grade core of
1.08Bt @ 11.8% HM

Resource Category	Mineral Resource			In-Situ HM (Mt)	Heavy Mineral Assemblage			
	Cut-off HM %	Million tonnes (Mt)	HM %		Zircon %	HiTi Leuc. %	Leucoxene %	Ilmenite %
Measured	3.0	75	7.9	6	9.3	2.7	2.7	30
Indicated	3.0	2,550	7.0	180	8.9	2.9	3.6	28
Inferred	3.0	580	5.6	32	8.8	3.0	4.1	28
Total	3.0	3,205	6.8	218	8.9	2.9	3.7	28
Measured	7.5	35	12.7	4	8.7	2.6	2.2	30
Indicated	7.5	920	11.9	110	7.9	2.4	2.2	28
Inferred	7.5	125	10.8	14	7.7	2.4	2.2	28
Total	7.5	1,080	11.8	128	7.9	2.4	2.2	28

Source: Sheffield Resources

Applying a 3.0% HM cut-off, the resource now stands at **3.205Bt @ 6.8% HM** and compares to the previous resource of 2.62Bt @ 6.5% HM.

Within this resource, Sheffield has identified a coherent 'high grade core' containing **1,080Mt @ 11.8% HM** containing 10.0Mt of zircon, 3.1Mt of high-titanium leucoxene, 2.8Mt of leucoxene and 36Mt of ilmenite (at the higher grade 7.5% HM cut off). The upgrade represents a 46% increase to the previous 'high grade' component of the resource, incorporating an increase in both tonnes and grade.

46% resource increase
to 'high grade core'

19.3Mt in-situ zircon
makes Thunderbird
one of the largest
zircon accumulations
in the world

Thunderbird Deposit: Contained Valuable HM (VHM)

Resource Category	Cut off (HM %)	Zircon (kt)	HiTi Leucoxene (kt)	Leucoxene (kt)	Ilmenite (kt)	Total VHM (kt)
Measured	3.0	500	200	200	1,800	260
Indicated	3.0	15,900	5,200	6,500	50,400	78,100
Inferred	3.0	2,800	1,000	1,300	9,000	14,100
Total	3.0	19,300	6,300	8,000	61,100	94,800
Measured	7.5	400	100	100	1,300	1,800
Indicated	7.5	8,600	2,600	2,400	30,700	44,300
Inferred	7.5	1,100	300	300	3,800	5,400
Total	7.5	10,000	3,100	2,800	35,700	51,500

Source: Sheffield Resources

The upgraded resource was the second during 2014 and a significant achievement for the Company, further cementing its place as a globally significant mineral sands project.

Zircon is the highest value mineral in the Thunderbird mineral assemblage (Scoping Study assumes US\$ 1,475/t vs current pricing of ~US\$ 1,146/t) and is expected to be a key factor in delivering significant Company earnings.

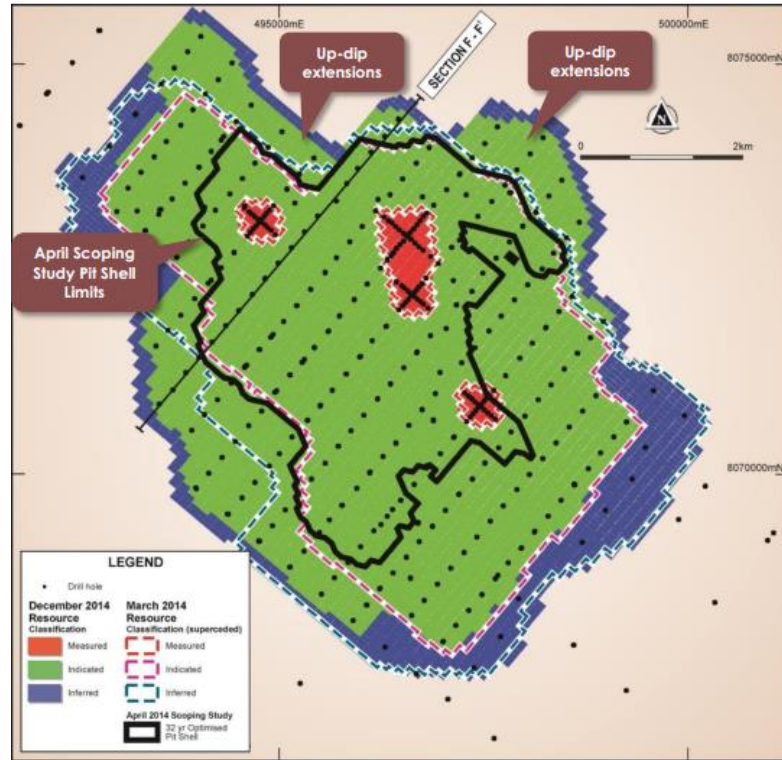


Thunderbird Deposit Characteristics

Mineralisation is coherent and shallow dipping

The HMS mineralisation largely occurs in a unit referred to as the Thunderbird Formation, characterised by loose sands (free dig) up to 90m thick. The mineralised horizon occurs as a laterally extensive, thick sheet like body, and has been defined for a distance of between 2.5km and 5.5km down dip (NE/SW), and 8km along strike (NW/SE).

Thunderbird Deposit: 32-year pit shell, resource classification



High grade core lies within large lower grade halo

Source: Sheffield Resources

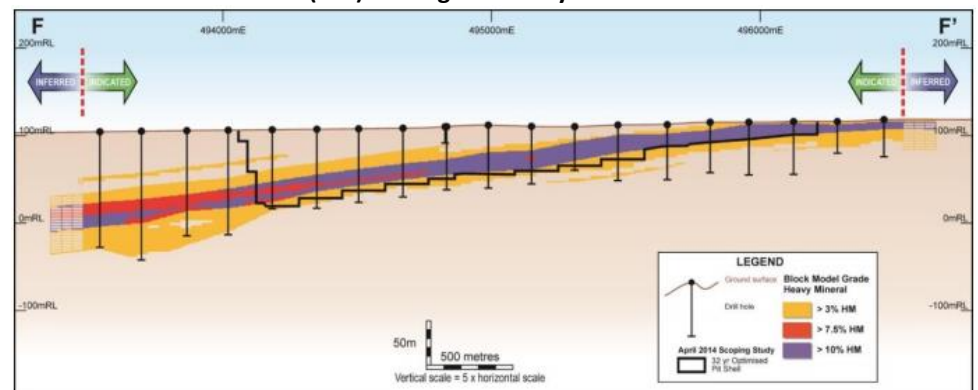
The average thickness of high grade zone (+7.5% HM) is 15m, encased with a halo of lower grade (+3% HM) mineralisation averaging 43m, with an average depth to the top of 21m. Around 32% of the resource area is within 6m of the surface, with mineralisation (still) open in multiple directions.

Resource still open in multiple directions

In the north-east sector of the deposit, the upper part of the mineralised sequence has been eroded, leaving an extensive zone of high grade mineralisation with minimal overburden. Sheffield anticipates prioritising this area of the deposit during the early years of production.

Thunderbird Cross Section (F-F'): Strong continuity of mineralisation

Low overburden areas to be targeted in early years of production



Source: Sheffield Resources



As indicated in the previous cross section, the continuity of mineralisation is strong with high grade zircon and titanium mineralisation occurring as coherent bodies.

PFS Underway

PFS due in coming weeks

Following the highly encouraging outcomes of the April 2014 Scoping Study (see Breakaway's April 2014 report), Sheffield embarked on a Pre-Feasibility Study which is due for completion in the current quarter.

Breakaway anticipates the PFS will outline significantly improved economics for the Thunderbird Project. These improvements will be primarily driven by two key factors;

Economics of Thunderbird certain to be enhanced

- The identification of further shallow high grade resources which, subject to optimisation studies, are likely to add additional years of high grade feed to the front end of the mining schedule. This is likely to result in increased early cash flow, positively impacting the Project valuation.
- The Scoping Study excluded all Inferred Resources; however, most of these resources have now been upgraded to the 'Indicated' category and will be incorporated into the PFS.

The PFS will also include the results from the full scale processing test work undertaken, as well as the mine-to-port infrastructure study.

Mining Lease Application submitted

Following delivery of the PFS, Sheffield anticipates advancing to a Definitive Feasibility Study, targeted for completion in mid-2016, which may also be used support funding activities (equity, conventional debt, possible JV partners and/or off-take agreements). A Mining Lease Application was submitted in the Sept quarter 2014 and subject to financing, Sheffield are ambitiously targeting first production as early as Q4 2017.

The Fraser Range Nickel Project

Fraser range exploration viewed by Breakaway as a 'free option'

Sheffield is actively exploring its Fraser Range tenements, with the Red Bull Ni-Cu Project, the most advanced, being located 20km from Sirius' Nova-Bollinger discovery.

The Red Bull target is an 8km long anomalous trend in a layered mafic-ultramafic sequence. Aircore drilling has identified three anomalies in the north of the project area, including intervals up to 5m at 0.73% Ni (plus anomalous PGE, copper and cobalt).

Moving loop EM surveys, scheduled for Q1 2015, have been designed to better define drill targets ahead of possible further drill campaigns.

Sheffield has also recently identified a second target called 'Big Bullocks' which straddles the major regional gravity ridge associated with the Fraser Complex. A 100m spaced aeromagnetic survey has been completed which highlighted several magnetic lows, which may represent ultramafic intrusions. An aircore drilling program has been scheduled for Q1 2015 to test these anomalous zones.



Analyst Verification

We, Grant Craighhead and Andrew McLeod, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

Disclosure

Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of Sheffield Resources and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

Disclaimer

Any observations, conclusions, deductions, or estimates of figures that have been made by Breakaway Research and the Breakaway Investment Group in this report should not be relied upon for investment purposes and the reader should make his or her own investigations. This publication has been issued on the basis that it is only for the information and exclusive use of the particular person to whom it is provided. Any recommendations contained herein are based on a consideration of the securities alone. In preparing such general advice no account was taken of the investment objectives, financial situation and particular needs of a particular person. Before making an investment decision on the basis of this advice, investors and prospective investors need to consider, with or without the assistance of a securities adviser, whether the advice is appropriate in light of the particular investment needs, objectives and financial circumstances of the investor or the prospective investor. Although the information contained in this publication has been obtained from sources considered and believed to be both reliable and accurate, no responsibility is accepted for any opinion expressed or for any error or omission that may have occurred therein.

Breakaway Investment Group
AFSL 290093 ABN 84127962387
T+61292621363
F+61292792727
PO Box H116 Australia Square
Sydney, NSW 2001
Suite 505, 35 Lime Street,
Sydney, NSW 2000