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.

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

Please refer to page 14 for important disclosures and analyst certification, or on our website www.macquarie.com/research/disclosures.
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

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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

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

<table>
<thead>
<tr>
<th></th>
<th>Cut-off</th>
<th>Mt</th>
<th>HM %</th>
<th>Zircon %</th>
<th>Leucoxene %</th>
<th>Leucoxene %</th>
<th>Ilmenite %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured</td>
<td>3.0%</td>
<td>75</td>
<td>7.50</td>
<td>0.68</td>
<td>0.20</td>
<td>0.18</td>
<td>2.20</td>
</tr>
<tr>
<td>Indicated</td>
<td>3.0%</td>
<td>1,805</td>
<td>6.80</td>
<td>0.56</td>
<td>0.19</td>
<td>0.20</td>
<td>1.90</td>
</tr>
<tr>
<td>Inferred</td>
<td>3.0%</td>
<td>740</td>
<td>5.70</td>
<td>0.49</td>
<td>0.17</td>
<td>0.20</td>
<td>1.60</td>
</tr>
<tr>
<td>Total</td>
<td>3.0%</td>
<td>2,620</td>
<td>6.50</td>
<td>0.55</td>
<td>0.18</td>
<td>0.20</td>
<td>1.80</td>
</tr>
</tbody>
</table>

Source: Company data, Macquarie Research, November 2014

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.

Outperform rating and target price of $1.05/sh.

Global resource containing 14Mt of in-situ zircon

740Mt high grade sufficient to support a 32 year mine life
Fig 5  Thunderbird High-grade Resource

<table>
<thead>
<tr>
<th></th>
<th>Cut-off</th>
<th>Mt</th>
<th>HM %</th>
<th>Zircon %</th>
<th>Leucoxene %</th>
<th>Leucoxene %</th>
<th>Ilmenite %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured</td>
<td>7.5%</td>
<td>30</td>
<td>12.20</td>
<td>1.10</td>
<td>0.32</td>
<td>0.26</td>
<td>3.60</td>
</tr>
<tr>
<td>Indicated</td>
<td>7.5%</td>
<td>545</td>
<td>12.50</td>
<td>0.94</td>
<td>0.29</td>
<td>0.25</td>
<td>3.50</td>
</tr>
<tr>
<td>Inferred</td>
<td>7.5%</td>
<td>165</td>
<td>10.90</td>
<td>0.84</td>
<td>0.27</td>
<td>0.24</td>
<td>3.20</td>
</tr>
<tr>
<td>Total</td>
<td>7.5%</td>
<td>740</td>
<td>12.10</td>
<td>0.92</td>
<td>0.29</td>
<td>0.25</td>
<td>3.40</td>
</tr>
</tbody>
</table>

Source: Company data, Macquarie Research, November 2014

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

Recently identified shallow high-grade should enhance already robust economics

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**

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**

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, November 2014
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

<table>
<thead>
<tr>
<th>ZrO₂ %</th>
<th>Fe₂O₃ %</th>
<th>TiO₂ %</th>
<th>Al₂O₃ %</th>
<th>P₂O₅ %</th>
</tr>
</thead>
<tbody>
<tr>
<td>66.2</td>
<td>0.05</td>
<td>0.09</td>
<td>0.1</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Source: Company data, Macquarie Research, November 2014

**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 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

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
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

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

<table>
<thead>
<tr>
<th></th>
<th>2018e</th>
<th>2019e</th>
<th>2020e</th>
<th>2021e</th>
<th>2022e</th>
<th>2023e</th>
<th>2024e</th>
<th>2025e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mine Ebitda (A$m)</td>
<td>72.4</td>
<td>94.5</td>
<td>221.8</td>
<td>224.7</td>
<td>228.5</td>
<td>237.6</td>
<td>236.2</td>
<td>241.9</td>
</tr>
<tr>
<td>SFX Earnings (A$m)</td>
<td>2.1</td>
<td>10.1</td>
<td>76.3</td>
<td>78.9</td>
<td>81.8</td>
<td>88.5</td>
<td>87.3</td>
<td>90.8</td>
</tr>
</tbody>
</table>

Source: Macquarie Research, November 2014
**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.

**Fig 14  SFX’s Fraser Range tenements**

![Map of SFX’s Fraser Range tenements](image)

*Source: Company data, November 2014*

**Free option on a Nova style discovery**

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**

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 Mc Calls 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.
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Fig 15  Modelled production and costs

Fig 16  Estimated mine Ebitda and company earnings

Fig 17  Forecast cumulative cash flow

Fig 18  Forecast operating and free cash flow

Fig 19  Modelled revenue to cash cost ratio

Fig 20  SFX valuation breakdown

Source: Company data, Macquarie Research, November 2014

Source: Company data, Macquarie Research, November 2014

Source: Company data, Macquarie Research, November 2014

Source: Company data, Macquarie Research, November 2014
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

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

<table>
<thead>
<tr>
<th>NPV12</th>
<th>A$m</th>
<th>A$ps</th>
</tr>
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<tbody>
<tr>
<td>Thunderbird</td>
<td>289</td>
<td>1.04</td>
</tr>
<tr>
<td>Exploration</td>
<td>10</td>
<td>0.04</td>
</tr>
<tr>
<td>Unpaid capital</td>
<td>123</td>
<td>0.44</td>
</tr>
<tr>
<td>Corporate</td>
<td>(133)</td>
<td>(0.48)</td>
</tr>
<tr>
<td>Net cash (debt)</td>
<td>5</td>
<td>0.02</td>
</tr>
<tr>
<td>Net Equity Value (@ 12% WACC)</td>
<td>294</td>
<td>1.05</td>
</tr>
<tr>
<td>Price Target</td>
<td>(1.0x NPV)</td>
<td>1.05</td>
</tr>
</tbody>
</table>

Source: Company data, Macquarie Research, November 2014

USD exchange rate is a significant sensitivity

Fig 22  SFX earnings and valuation sensitivities

<table>
<thead>
<tr>
<th>Y/E Dec</th>
<th>FY18e</th>
<th>FY19e</th>
<th>FY20e</th>
<th>FY21e</th>
<th>FY22e</th>
<th>FY23e</th>
<th>FY24e</th>
<th>FY25e</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% change in Zircon</td>
<td>239%</td>
<td>68%</td>
<td>20%</td>
<td>21%</td>
<td>22%</td>
<td>21%</td>
<td>22%</td>
<td>23%</td>
<td>18%</td>
</tr>
<tr>
<td>10% change in HiTi</td>
<td>38%</td>
<td>10%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>10% change in Ilmenite</td>
<td>182%</td>
<td>43%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>14%</td>
<td>14%</td>
<td>10%</td>
</tr>
<tr>
<td>10% change in A$/US$</td>
<td>487%</td>
<td>135%</td>
<td>40%</td>
<td>41%</td>
<td>42%</td>
<td>41%</td>
<td>44%</td>
<td>44%</td>
<td>34%</td>
</tr>
</tbody>
</table>

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

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

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

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.

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...

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

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

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.

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.

Source: Company data, Macquarie Research, November 2014
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.
**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 15–25% in a year.

**Low** – stock should be expected to move up or down at least 10% in a year.

**Recommendations** – 12 months

**Note:** Quant recommendations may differ from Fundamental Analyst recommendations

**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

**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

**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 / epsowa
**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).

26 November 2014
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