

# SHEFFIELD RESOURCES LIMITED (SFX)

### All of a sudden the world needs ilmenite again

Ilmenite prices have had a significant rally recently and anecdotes are for continuing rising pigment prices.

Sheffield Resources Ltd (SFX) has perhaps one of the best undeveloped mineral sands projects globally. It is well located in WA, which means low sovereign risk (most other large new mineral sands projects are in Africa), with a very long mine life, well located to port and with a large proportion of high value products (zircon and leucoxene) as well as significant volumes of high quality ilmenite, which means it could be strategically important.

At the early 2016 lows in mineral sands prices we estimate that Thunderbird was not attractively economic to develop (it would have had positive cash flow, but taken too long to recover capital). At current spot ilmenite prices though (US\$250-280/t), it all of a sudden becomes very viable.

### BFS completed

SFX recently released a BFS. The Company estimates a pre-tax NPV10 of \$676m (startup capex \$324m, plus \$194m expansion capex). The Company estimated valuation is based on mineral sands prices at the upper end of consensus (zircon US\$1381/t, ilmenite \$183/t). We note though, that spot ilmenite prices are well above US\$250/t, and hence potentially consensus will upgrade. Using ilmenite prices of \$280/t, our funded valuation is ~\$1.60/s.

Using our price assumptions (zircon ~US\$1200/t, ilmenite ~\$185/t), our valuation is ~78cps (assuming ~275m new shares for development funding).

### Offtakes arriving already, more expected

The project has five main product streams, which all require offtakes. The zircon appears an excellent product, but volumes are large at 76ktpa (initially ~50ktpa). The lower grade zircon concentrate volume is ~68ktpa (initially ~50ktpa). Ilmenite volumes of ~390ktpa (initially 265ktpa) are also large volumes to be placed into the market. SFX is already advanced in offtake discussions, and has signed several non-binding MoUs for combined ~70% of zircon and ~45% of the zircon concentrate. We expect further announcements over the coming months.

### Move to Speculative Buy (from Buy)

The Thunderbird project is very large, and with improving confidence in mineral sands prices there should be renewed interest in the stock.

We are moving our recommendation to Speculative Buy (from Buy). We are only in the early stages of the mineral sands recovery, and the Company is still unfunded for construction. The upside potential is significant for those with a positive view on zircon and ilmenite prices, and the speculative aspect is the risk around financing.

Fig. 1: Thunderbird reserve assemblage

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

Source: SFX

# Share Price \$0.57 Valuation \$0.78 Price Target (12 month) \$1.02

#### **Brief Business Description:**

Significant mineral sands developer (Thunderbird project in WA), plus a multi-commodity exploration portfolio (eg Fraser Range Ni).

#### Hartleys Brief Investment Conclusion

The Thunderbird project is large. On spot prices (ilmenite) it is now compelling.

#### Chairman & MD

Will Burbury (Non-Exec Chairman)

Bruce Mcfadzean (MD)

#### Top Shareholders

Blackrock 9.0% Walter Yovich 6.0%

### Company Address

Level 2, 41-47 Colin Street

West Perth, WA 6005

 Issued Capital
 181.0m

 - fully diluted (itm)
 197.1m

 Market Cap
 A\$103.2m

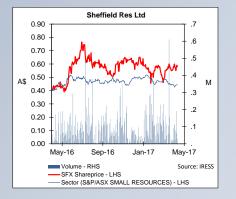
 - fully diluted
 A\$112.4m

 Cash (31 Mar 17a)
 A\$11.0m

 Debt (31 Mar 17a)
 A\$0.0m

 EV
 A\$92.2m

|                | FY19e | FY20e | FY21e |
|----------------|-------|-------|-------|
| EBITDA         | -9.3  | 50.2  | 89.4  |
| Op Cash Flw    | -19.3 | 26.3  | 67.9  |
| Norm NPAT      | -32.5 | 13.0  | 48.8  |
| CF/Share (cps) | -4.4  | 6.0   | 15.6  |
| EPS (cps)      | -7.4  | 3.0   | 11.2  |
| P/E            | -7.7  | 19.1  | 5.1   |



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Hartleys has assisted in the completion of a capital raising for Sheffield Resources Limited ("Sheffield") in the last 12 months for which it has earned fees.

| SFX                               |                 |                  |                | Sha       | re Price<br>\$0.570 |                                    |                     |                 |             | ay 2017<br>Speculat | tive I         |
|-----------------------------------|-----------------|------------------|----------------|-----------|---------------------|------------------------------------|---------------------|-----------------|-------------|---------------------|----------------|
| Key Market Information            |                 |                  |                |           |                     | Directors                          |                     |                 | Co          | mpany In            | fo <u>rm</u> a |
| Share Price                       |                 |                  |                |           | \$0.570             | Will Burbury (Non-Exec Chairman    |                     |                 |             | , 41-47 Co          |                |
| Market Capitalisation - ordina    | ary             |                  |                |           | A\$103m             | Bruce Mcfadzean (MD)               |                     |                 |             | est Perth,          |                |
| let Debt (cash)                   | •               |                  |                |           | -\$11m              | David Archer (Technical Director)  |                     |                 |             | +61 8               | ,              |
| Narket Capitalisation - fully of  | diluted         |                  |                |           | A\$112m             | Bruce McQuitty (Non-exec. Directo  | or)                 |                 |             |                     |                |
| V                                 |                 |                  |                |           | A\$94m              |                                    |                     |                 |             |                     |                |
| V inc. assumed new capita         | ıl              |                  |                |           | A\$464m             | l <u></u> .                        |                     |                 | www.she     | ffieldresou         | ırces.         |
| ssued Capital                     |                 |                  |                |           | 181.0m              | Top Shareholders                   |                     |                 |             | n shares            |                |
| Options                           |                 |                  |                |           | 16.1                | Blackrock                          |                     |                 |             | 16.3                |                |
| ssued Capital (fully diluted in   | nc. all options | )                |                |           | 197.1m              | Walter Yovich                      |                     |                 |             | 10.9                |                |
| ssued Capital (fully diluted in   | nc. all options | and new capital) |                |           | 475.3m              | Reserves & Resources               |                     | Bt              | Grade N     | Metal (Mt)          | A              |
|                                   |                 |                  |                |           |                     | Thunderbird (cut-off >3%)          |                     | 3.24            | 6.9%        | 223.6               | 100            |
| /aluation                         |                 |                  |                |           | \$0.78              | - high grade (cut-off >7.5%)       |                     | 1.09            | 11.9%       | 129.7               | 100            |
| 12month price target              |                 |                  |                |           | \$1.02              | - Reserve                          |                     | 0.68            | 11.3%       | 76.9                | 100            |
|                                   | Unit            | 30 Jun 18        | 30 Jun 19      | 30 Jun 20 | 30 Jun 21           | Eneabba                            |                     | 0.30            | 2.2%        | 6.6                 | 100            |
|                                   | A\$m            | 0.0              | 0.0            | 125.7     | 204.4               | - high grade                       |                     | 0.17            | 3.0%        | 5.2                 | 100            |
|                                   | A\$m            | -8.8             | -9.3           | -75.5     | -115.0              | McCalls                            |                     | 4.43            | 1.2%        | 53.2                | 100            |
|                                   | A\$m            | -8.8             | -9.3           | 50.2      | 89.4                | Production Summary                 | Unit                | Jun 18          | Jun 19      | Jun 20              | Jı             |
| - margin                          |                 | -                | -              | 40%       | 44%                 | Mill Throughput                    | Mt                  | 0.00            | 0.00        | 8.50                |                |
| -                                 | A\$m            | -3.5             | -13.1          | -23.0     | -25.6               | Strip Ratio                        | X                   | 0.00            | nm          | 0.20                |                |
|                                   |                 | -12.3            | -22.3          | 27.2      | 63.8                | 151                                |                     |                 | 11111       |                     | 4              |
|                                   | A\$m<br>A\$m    | -12.3<br>-3.9    | -22.3<br>-10.1 | -14.1     | -15.0               | HM grade                           | %                   |                 | 0.007       | 15.0%               | 1:             |
|                                   |                 |                  |                |           |                     | Zircon Recovery                    | %                   |                 | 0.0%        | 75.0%               | 7              |
|                                   | A\$m            | -16.2            | -32.5          | 13.0      | 48.8                | Total VHM production               | kt                  |                 |             | 218.8               | - :            |
|                                   | A\$m            | 0.0              | 0.0            | 0.0       | 0.0                 | Zr production                      | kt                  |                 |             | 32.5                |                |
|                                   | A\$m            | -16.2            | -32.5          | 13.0      | 48.8                | Zr concentrate                     |                     |                 |             | 28.2                |                |
|                                   | A\$m            | 0.0              | 0.0            | 0.0       | 0.0                 | Leuc. / Hi-Ti production           | kt                  |                 |             | 6.1                 |                |
| Reported Profit                   | A\$m            | -16.2            | -32.5          | 13.0      | 48.8                | Sulph. Ilmenite production         | kt                  |                 |             | 180.2               | 2              |
| Minority                          | A\$m            | 0.0              | 0.0            | 0.0       | 0.0                 | Magnetite                          |                     |                 |             | 118.1               | 1              |
| Profit Attrib                     | A\$m            | -16.2            | -32.5          | 13.0      | 48.8                | Total product volumes              |                     |                 |             | 365.1               |                |
|                                   |                 |                  |                |           |                     | Revenue to Cost ratio              | yr                  |                 |             | 2.1                 |                |
| Balance Sheet                     | Unit            | 30 Jun 18        | 30 Jun 19      | 30 Jun 20 | 30 Jun 21           | Mine Life                          | Mt                  |                 |             | 54.5                |                |
|                                   | A\$m            | 286.0            | 30.7           | 24.4      | 86.5                |                                    |                     |                 |             |                     |                |
|                                   | A\$m            | 0.7              | 0.8            | 26.9      | 43.1                |                                    |                     |                 |             |                     |                |
|                                   | A\$m            | 286.8            | 31.5           | 51.3      | 129.6               | Costs                              | Unit                | Jun 18          | Jun 19      | Jun 20              | Ji             |
|                                   | A\$m            | 57.7             | 276.7          | 318.1     | 295.5               | Rev milled tonne                   | \$A/t               |                 |             | 14.8                | JU             |
|                                   | A\$m            | 34.3             | 38.3           | 41.4      | 44.2                | Cost per milled tonne              | \$A/t               |                 |             | 10.6                |                |
|                                   | A\$m            | 0.0              | 0.0            | 0.0       | 0.0                 | 1.5                                |                     |                 |             |                     |                |
|                                   | A\$m            | 92.1             | 315.0          | 359.6     | 339.8               | EBITDA / tonne milled ore          | \$A/t               |                 |             | 5.9                 |                |
|                                   |                 |                  |                |           |                     | C1: Operating Cash Cost = (a)      | \$A/t final product |                 |             | 283                 |                |
| Ulai ASSEIS                       | A\$m            | 378.9            | 346.5          | 410.8     | 469.4               | (a) + Royalty = (b)                | \$A/t final product |                 |             | 300                 |                |
| Phort Torre Dawn '                | 1 ¢m            |                  |                |           |                     | C2: (a) + depreciation & amortisat |                     |                 |             | 388                 |                |
| -                                 | A\$m            | -                | -              | 40.7      | -                   | (a) + actual cash for development  |                     |                 |             | 283                 |                |
|                                   | A\$m            | 2.3              | 2.4            | 18.7      | 28.5                | C3: (c) + Royalty                  | \$A/t final product |                 |             | 406                 |                |
|                                   | A\$m            | 2.3              | 2.4            | 18.7      | 28.5                | (d) + Royalty                      | \$A/t final product |                 |             | 300                 |                |
|                                   | A\$m            | 166.2            | 166.2          | 201.2     | 201.2               | Price Assumptions                  | Unit                | Jun 18          | Jun 19      | Jun 20              | Ju             |
|                                   | A\$m            | -                | -              | -         | -                   | AUDUSD                             | A\$/US\$            | 0.75            | 0.76        | 0.76                |                |
|                                   | A\$m            | 166.2            | 166.2          | 201.2     | 201.2               | Ilmenite                           | US\$/t              |                 |             | 185                 |                |
|                                   | A\$m            | 168.5            | 168.6          | 220.0     | 229.7               | Zircon                             | US\$/t              |                 |             | 1138                |                |
|                                   | A\$m            | 210.3            | 177.9          | 190.9     | 239.7               | Rutile                             | US\$/t              |                 |             | 918                 |                |
| Net Debt                          | A\$m            | -119.8           | 135.5          | 176.8     | 114.7               | Leucoxene                          | US\$/t              |                 |             | 551                 |                |
|                                   |                 |                  |                |           |                     | Avg selling price / VHM produced   | A\$/t               |                 |             | 574                 |                |
|                                   | Unit            |                  | 30 Jun 19      | 30 Jun 20 | 30 Jun 21           | Sensitivity Analysis               |                     |                 |             |                     |                |
|                                   | A\$m            | -8.8             | -9.2           | 40.4      | 82.9                |                                    |                     | Valuation       |             | F                   | FY20 I         |
|                                   | A\$m            | 0.0              | 0.0            | 0.0       | 0.0                 | Base Case                          |                     | 0.78            |             |                     | 13             |
|                                   | A\$m            | -3.9             | -10.1          | -14.1     | -15.0               | Spot Prices                        |                     | 1.60 (105.3%)   |             | 39.7                | 7 (204         |
| Operating Activities              | A\$m            | -12.6            | -19.3          | 26.3      | 67.9                | Spot USD/AUD 0.74, Ilmenite \$28   |                     |                 |             |                     |                |
|                                   |                 |                  |                |           |                     | AUDUSD +/10%                       | 0.37 / 1.22 (-      | 53.0% / 56.3%)  | 1.9 / 26.   | 7 (-85.8%           | / 104          |
|                                   | A\$m            | -61.0            | -232.0         | -64.5     | -3.0                | Ilmenite +/10%                     |                     | 8.0% / -18.8%)  |             | 8.6 (33.8%          |                |
|                                   | A\$m            | -2.0             | -4.0           | -3.1      | -2.8                | Zircon +/10%                       |                     | 27.9% / -30.1%) |             | 6.3 (51.4%          |                |
|                                   | A\$m            | 0.0              | 0.0            | 0.0       | 0.0                 | Rutile +/10%                       | 0.78 / 0.7          | 8 (0.0% / 0.0%) | 13.0        | / 13.0 (0.0         | 0%/0           |
| nvestment Activities              | A\$m            | -63.0            | -236.0         | -67.6     | -5.8                | Leucoxene +/10%                    | 0.80 / 0.76         | (2.8% / -2.8%)  | 13.5 /      | 12.6 (3.5           | % / -3         |
|                                   |                 |                  |                |           |                     | Operating Costs +/10%              | 0.54 / 1.00 (-      | 30.7% / 28.5%)  | 6.8 / 19    | 9.3 (-47.9%         | % / 47         |
| Borrowings                        | A\$m            | 166.2            | 0.0            | 35.0      | 0.0                 | Unpaid Capital                     |                     |                 |             |                     |                |
|                                   | A\$m            | 203.2            | 0.0            | 0.0       | 0.0                 | Year Expires No. (m)               | \$m Avg price       | % ord           |             |                     |                |
|                                   | A\$m            | 0.0              | 0.0            | 0.0       | 0.0                 | 30-Jun-17 1.2                      | 0.0 0.00            | 1%              |             |                     |                |
|                                   | A\$m            | 369.4            | 0.0            | 35.0      | 0.0                 | 30-Jun-18 0.0                      | 0.8                 | 0%              |             |                     |                |
| •                                 |                 |                  |                |           |                     | 30-Jun-19 1.9                      | 1.5 0.81            | 1%              |             |                     |                |
| Net Cashflow                      | A\$m            | 293.8            | -255.3         | -6.3      | 62.1                | 30-Jun-20 7.7                      | 2.7 0.35            | 4%              |             |                     |                |
|                                   | Unit            |                  |                |           | 30 Jun 21           | 30-Jun-21 5.3                      | 2.1 0.39            | 3%              |             |                     |                |
|                                   | m               | 436.6            | 436.6          | 436.6     | 436.6               | 30-Jun-22 0.0                      | 0.0 0.00            | 0%              |             |                     |                |
|                                   | m               | 309.1            | 436.6          | 436.6     | 436.6               | 30-Jun-23 0.0                      | 0.0 0.00            | 0%              |             |                     |                |
|                                   | m               | 309.1            | 436.6          | 436.6     | 436.6               | TOTAL 16.1                         | 7.1 0.44            | 9%              |             |                     |                |
|                                   | Unit            |                  |                |           | 30 Jun 21           | 101AL 10.1                         | 0.44                | 3/0             |             |                     |                |
|                                   |                 |                  |                |           |                     | Valuation                          |                     |                 | /shr        |                     |                |
|                                   | A\$ cps         | -4.1<br>-14.0v   | -4.4<br>-12.0v | 6.0       | 15.6                |                                    | so rate of 199/\    | \$m             |             |                     |                |
|                                   | Х               | -14.0x           | -12.9x         | 9.5       | 3.7                 | 100% Eneabba (pre-tax NAV at di    |                     | 0               | 0.00        |                     |                |
|                                   | х               | -37.7x           | -20.8x         | 17.1x     | 7.3x                | 100% Dampier (pre-tax NAV at dis   |                     | 538             | 1.13        |                     |                |
| (   /-                            | Х               | -52.5x           | -50.0x         | 9.2x      | 5.2x                | 100% McCalls (pre-tax NAV at dis   | c. rate of 14%)     | 0               | 0.00        |                     |                |
| Earnings Per Share                | A\$ cps         | -5.2             | -7.4           | 3.0       | 11.2                | Other Assets/Exploration           |                     | 5               | 0.01        |                     |                |
| Price to Earnings Ratio           | x               | -10.9x           | -7.7x          | 19.1      | 5.1                 | Forwards                           |                     | 0               | 0.00        |                     |                |
| Dividends Per Share               | AUD             | -                | -              | -         | -                   | Corporate Overheads                |                     | -70             | -0.15       |                     |                |
|                                   | %               | 0.0%             | 0.0%           | 0.0%      | 0.0%                | Net Cash (Debt)                    |                     | 11              | 0.02        |                     |                |
|                                   |                 | -132%            | 43%            | 48%       | 32%                 | Tax (NPV future liability)         |                     | -114            | -0.24       |                     |                |
| Net Debt / Net Debt + Equity      | X               | na               | na             | 1.9       | 4.3                 | Options & Other Equity             |                     | 2               | 0.00        |                     |                |
|                                   | %               | na               | na             | 7%        | 20%                 | Total                              |                     | 372             | 0.78        |                     |                |
| nterest Cover                     |                 |                  | . 164          | . 70      | 2070                |                                    |                     | 0,2             | 0.70        |                     |                |
| nterest Cover                     | 70              |                  |                |           |                     |                                    |                     |                 |             |                     |                |
| nterest Cover<br>Return on Equity | 70              |                  |                |           |                     |                                    |                     |                 |             |                     |                |
| nterest Cover                     | 70              |                  |                |           |                     |                                    |                     | Last U          | Jpdated: 07 | 7/04/2017           |                |

Fig. 2: Company BFS assumptions

| Production<br>(Average tonnes per annum) | Financial Year<br>2019 – 2023 <sup>6</sup> | Financial Year<br>2024 – 2033 <sup>8</sup> | LOM <sup>8</sup> |
|--|--|--|------------------|
| Premium Zircon                           | 51,500                                     | 88,700                                     | 76,100           |
| Zircon Concentrate                       | 49,100                                     | 80,100                                     | 68,500           |
| LTR Ilmenite                             | 264,500                                    | 481,600                                    | 387,800          |
| Hi-Ti88                                  | 12,800                                     | 23,000                                     | 20,300           |
| Titano-magnetite                         | 156,600                                    | 285,300                                    | 229,800          |

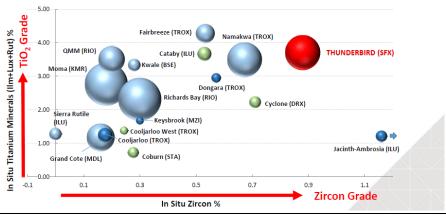
| Commodity Prices (US\$) <sup>4</sup> | Financial Year<br>2019 – 2023 <sup>6</sup> | Financial Year<br>2024 – 2033 <sup>8</sup> | LOM <sup>8</sup> |
|--------------------------------------|--|--|------------------|
| Premium Zircon                       | 1,282                                      | 1,387                                      | 1,381            |
| Zircon Concentrate                   | 659  | 677  | 676              |
| LTR Ilmenite                         | 183  | 183  | 183              |
| Hi-Ti88                              | 500  | 500  | 500              |
| Titano-magnetite                     | 48   | 48   | 48               |

Source: SFX

Fig. 3: Deserves to be developed in next mineral sands cycle

# **WORLD CLASS, HIGH GRADE ORE RESERVE**





Source: SFX

Fig. 2: Model assumptions

|   | DFS Study<br>(Mar 2017) | PFS Study<br>(14 October<br>2015) | PFS Study<br>(14 May 2015) | Scoping Study<br>(14 April 2014) | Hartleys New<br>Base Case | Hartleys using<br>spot prices |
|---|-------------------------|-----------------------------------|----------------------------|----------------------------------|---------------------------|-------------------------------|
| Mining inventory                              |                         |                                   |                            |                                  |                           |                               |
| Mining inventory                              | 680.5Mt                 | 685.0Mt                           | 580.0Mt                    | 669.0Mt                          | 944.1Mt                   |                               |
| Mining inventory grade                        | 11.3%                   | 11.3%                             | 11.7%                      | 10.2%                            | 11.0%                     |                               |
| Mining & processing                           |                         |                                   |                            |                                  |                           |                               |
| Average Mining Rate                           | 16.0Mt pa               | 17.1Mt pa                         | 18.0Mt pa                  | 20.8Mt pa                        | 17.2Mt pa                 |                               |
| Peak Mining Rate                              | 17.0Mt pa               | 18.0Mt pa                         | 18.0Mt pa                  | 20.8Mt pa                        | 18.0Mt pa                 |                               |
| Strip ratio LOM                               | 0.78x                   | 0.66x                             | 0.68x                      | 0.64x                            |                           |                               |
| Mine Life                                     | 42.0yrs                 | 40.0yrs                           | 32.0yrs                    | 32.0yrs                          | 55.0yrs                   |                               |
| HMC processed                                 | 1831kt pa               | 1935kt pa                         | 2121kt pa                  | 2132kt pa                        | 1886kt pa                 |                               |
| Production Zircon Production Zircon Con.      | 76.1kt pa<br>68.5kt pa  | 100.2kt pa                        | 114.0kt pa                 | 118.2kt pa                       | 74.9kt pa<br>64.9kt pa    |                               |
| Production Leuc./HiTi                         | 20.3kt pa               | 26.2kt pa                         | 30.0kt pa                  | 21.7kt pa                        | 23.6kt pa                 |                               |
| Production Ilmenite                           | 387.8kt pa              | 396.4kt pa                        | 439.0kt pa                 | 545.0kt pa                       | 398.1kt pa                |                               |
| Production Titano-magnetite                   | 229.8kt pa              | 000 pu                            | 100.0.11 pu                | 0 1010111 pa                     | 272.4kt pa                |                               |
| Total production saleable product             | 782.5kt pa              | 522.8kt pa                        | 583.0kt pa                 | 684.9kt pa                       | 834.0kt pa                |                               |
| Financials                                    |                         |                                   |                            |                                  |                           |                               |
| Zircon selling price                          | US\$1381/t              | US\$1371/t                        | US\$1375/t                 | US\$1475/t                       | US\$1199/t                | US\$1150/t                    |
| Zircon Con. Selling price                     | US\$676/t               | 000101111                         | 00010101                   | 0001110/1                        | US\$587/t                 | US\$563/t                     |
| Leuc/Hiti selling price                       | US\$500/t               | US\$700/t                         | US\$580/t                  | US\$870/t                        | US\$579/t                 | US\$504/t                     |
| Ilmenite selling price                        | US\$183/t               | US\$183/t                         | US\$155/t                  | US\$185/t                        | US\$185/t                 | US\$280/t                     |
| Titano-magnetite                              | US\$48/t                |                                   |                            |                                  | US\$50/t                  | US\$50/t                      |
| AUD/USD                                       | 0.75cents               | 0.74cents                         | 0.78cents                  | 0.90cents                        | 0.78cents                 | 0.74cents                     |
| Zircon contribution to revenue                | 62%                     | 59%                               | 68%                        | 62%                              | 56%                       | 47%                           |
| - premium                                     | 43%                     |                                   |                            |                                  | 39%                       | 33%                           |
| - zircon con.                                 | 19%                     | 00/                               | 20/                        | 00/                              | 17%                       | 14%                           |
| Leuc/Hiti contribution to revenue             | 9%                      | 8%<br>33%                         | 3%<br>29%                  | 2%                               | 12%<br>32%                | 10%<br>43%                    |
| Ilmenite contribution to revenue - ilmenite   | 29%<br>24%              | 33%                               | 29%                        | 36%                              | 32%<br>26%                | 43%<br>38%                    |
| - titano-magentite                            | 5%                      |                                   |                            |                                  | 6%                        | 5%                            |
| LOM revenue                                   | A\$12,779m              | A\$11,829m                        | A\$9.479m                  | A\$10.010m                       | A\$16,145m                | \$19.301m                     |
| Unit Revenue                                  | \$388.8/t               | \$565.7/t                         | \$508.1/t                  | \$456.7/t                        | \$352.0/t                 | \$420.8/t                     |
| EBITDA  | A\$122.5 pa             | A\$135.0 pa                       | A\$120.0 pa                | A\$140.0 pa                      | A\$71.8 pa                | \$129.1m                      |
| - first 10 years                              | n/a                     | n/a                               | \$148m pa                  | \$187m pa                        | \$136.5m                  | \$193.9m                      |
| - first 6 years                               | n/a                     | n/a                               | n/a                        | n/a                              | \$114.8m                  | \$162.1m                      |
| Unit cash costs                               | \$232.3/t               | \$307.5/t                         | \$302.3/t                  | \$252.3/t                        | \$265.9/t                 | \$266.0/t                     |
| Unit cash costs / t ore                       | -\$11.2/t               | -\$9.4/t                          | -\$9.7/t                   | -\$8.3/t                         | -\$12.9/t                 | -\$12.9/t                     |
| Unit cash costs                               | -\$182m pa              | -\$161m pa                        | -\$176m pa                 | -\$173m pa                       | -\$222m pa                | -\$222m pa                    |
| Unit EBITDA margins                           | 40.3%                   | 45.7%                             | 40.5%                      | 44.8%                            | 24.5%                     | 36.8%                         |
| Rev./Cost Ratio                               | 1.7x                    | 1.8x                              | 1.7x                       | 1.8x                             | 1.3x                      | 1.6x                          |
| Pre-production capex (inc conting. & studies) | \$348.0m                | \$305.0m                          | \$409.0m                   | \$309.2m                         | \$380.2m                  | \$380.2m                      |
| Stage 2 Capex                                 | \$195.0m                | \$64.0m                           | nm                         | m                                | \$196.4m                  | \$196.4m                      |

Source: SFX, Hartleys Research

# PRICE TARGET

Fig. 3: SFX price target

| Price Target Methodology                          | Weighting | Today   | 12 mth out |
|---|-----------|---------|------------|
| NPV <sub>12</sub> base case prices                | 75%       | \$0.78  | \$0.86     |
| NPV <sub>12</sub> at spot commodity and fx prices | 10%       | \$1.60  | \$1.81     |
| Takeover (20% disc. to NPV, no more dilution)     | 5%        | \$1.14  | \$1.30     |
| 8.0x FY20 (EV + capital) / EBIT                   | 3%        | \$1.69  | \$1.69     |
| NPV <sub>8</sub> base case prices                 | 5%        | \$1.34  | \$1.45     |
| Net cash backing                                  | 2%        | \$0.06  | \$0.06     |
| Risk weighted composite                           |           | \$0.92  |            |
| 12 Months Price Target                            |           | \$1.02  |            |
| Shareprice - Last                                 | _         | \$0.570 |            |
| 12 mth total return                               |           | 78.6%   |            |

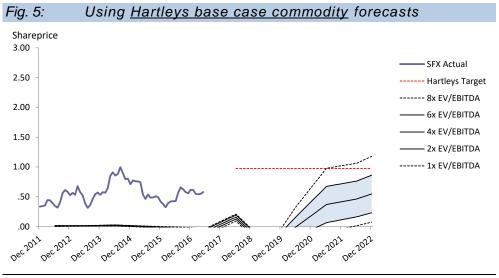
Source: Hartleys Estimates

| Fia 4. k   | Kev assum | ntions and | l risks t | or val | luation |
|------------|-----------|------------|-----------|--------|---------|
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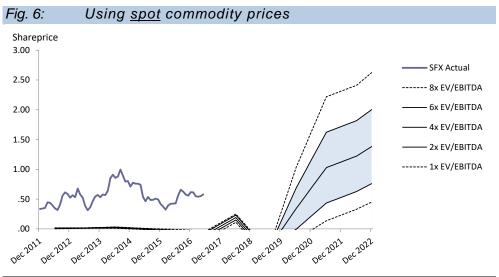
| Assumption  | Risk of not realising assumption | Downside risk to<br>valuation if<br>assumption is<br>incorrect | Comment   |
|---|----------------------------------|--|---|
| First production in late CY19 for Thunderbird       | High                             | Moderate   | This appears reasonable provided funding is arranged.   |
| Zircon prices rise, ilmenite prices fall            | Moderate                         | Significant  | There is a wide dispersion of consensus price forecasts at the moment.  |
| 55 year mine life                                   | Moderate to high                 | Moderate   | Seems reasonable given very large resource. We have a high strip ratio assumption in outer years and hence impact on valuation is low |
| Capex for Thunderbird is 50:50 debt/equity          | Moderate                         | Moderate   | Capital requirements are large for a company of this size and there is risk that SFX will not be able to raise sufficient funds.      |
| Operating costs                                     | Moderate                         | Moderate   | We assume operating costs in line with the BFS.   |
| No sell down in project interest to help fund capex | High                             | Upside   | We assume SFX has to fund all the capex   |
| No value for other projects                         | High                             | Upside   | Our valuation is based only on the Thunderbird project  |
| Conclusion  |                                  | nsequential reduction to                                       | nable, we consider some assumptions as moderate to our valuation would be significant if they were not hieved.                        |

Source: Hartleys

## **EV/EBITDA BANDS**



Source: Hartleys Estimates, IRESS



Source: Hartleys Estimates, IRESS

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### **Hartleys Recommendation Categories**

| Buy | Share price appreciation anticip | oated. |
|-----|----------------------------------|--------|
|     |                                  |        |

Accumulate Share price appreciation anticipated but the risk/reward is

not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a

price level at which it may become a "Buy".

Neutral Take no action. Upside & downside risk/reward is evenly

balanced.

Reduce / It is anticipated to be unlikely that there will be gains over

Take profits the investment time horizon but there is a possibility of

some price weakness over that period.

Sell Significant price depreciation anticipated.

No Rating No recommendation.

Speculative Share price could be volatile. While it is anticipated that, Buy on a risk/reward basis, an investment is attractive, there

on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the

investment is considered high risk.

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