Dr Chris Baker
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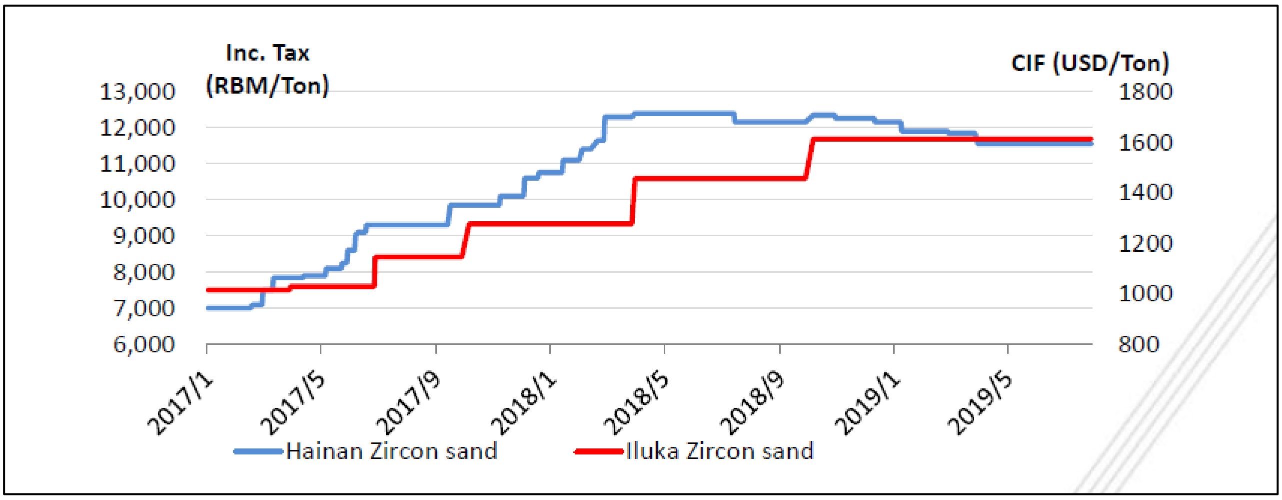
SHEFFIELD RESOURCES LTD (SFX AU, $0.42)

Equity raise allows SFX clear sight to the conclusion of the partnership process and into the start of construction of Thunderbird.

- SFX has raised $18m (before costs) with the issue of 46.2m new shares at A$0.39/share. This will enable the company to work through the strategic partnership process (SPP)– due for completion before the end of the year – and maintain modest expenditure on early works for the Thunderbird project.
- The company has now withdrawn from a US$10m bridging loan facility. Debt is a risky source of capital for small companies, and this facility came with a number of 'hooks'.
- We have therefore had to adjust our valuation for the recent raise. In previous reports we had considered two options for the outcome of the partnership process:
    1. The selldown of 25% interest at the project level perhaps to an end-user at a 50% discount to project NPV. Our valuation for SFX under this scenario is now A$1.69/share (previously $1.88).
    2. In incoming party (eg private equity) takes 49% of the project in exchange for fully funding the project (debt and equity). SFX's equity is then 51%. Our valuation under this scenario, post the recent raise is A$1.37/share (previously $1.74).
- We have no clarity regarding the likely outcome of the SPP. The scenarios presented above are two of many options. SFX is naturally very guarded regarding any disclosure other than to say that the company is expecting a conclusion to the process "during 2019".
- SFX's 100%-owned Thunderbird project is unquestionably the best fully permitted, undeveloped mineral sand opportunity globally. The project's Bankable Feasibility Study Upgrade (BFSU) was expected to be positive, but the recent release was significantly better than we had expected. Therefore we would expect the SPP to attracted a number of quality potential partners from industry and private equity. We would imagine there will be good pricing tension for this world class asset in the UBS-run negotiations.
- A positive outcome from these negotiations should re-start the rerating of SFX following a misstep nearly 12 months ago.
- Looking at the underlying commodity space, zircon prices remain robust, but the market senses modest short term pricing risk in response to softening demand out of China. Longer term, the outlook for zircon is as strong as it's ever been. TiO2 feedstock prices are again on the way up, in response to a tight supply/demand balance.



Source: Ruidow "Outlook for the Chinese Zircon Market", ZIA conference, September 2019

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Commodity overview

Zircon

Market sentiment toward zircon turned down abruptly following Iluka's interim profit release. ILU is one of the major suppliers of zircon and has been for multi-decades. If ILU speaks, we should listen.

ILU's interim results were poor, down 23% half-on-half. This was largely driven by a large drop in product sales, zircon off 30%, rutile off 39% and syn-rutile down 24%. This was much worse than the market had expected. Furthermore, the outlook for ILU's December 2019 half looks to be fairly grim, with the company flagging flat zircon sales and declining price achievement.

Management have tried to soften the impact of these poor results by referring to a softening of the zircon market. This has certainly been picked up by the analysts, with all reports sighted focussing on zircon oversupply, rather than the poor prognosis for ILU. We find ILU's comments regarding zircon as fanciful.

The zircon market as a whole has been soft for 12 months as end user and producer inventories reached normal levels. (A reasonable supply/demand balance had been disrupted with the rapid decline of RBM in South Africa in 2017). Chinese demand began to weaken in 2H18 and into early 2019. Despite this, the price makers, ILU and Tronox, have been able to maintain their reference price for premium zircon at around the US$1600/t mark. ILU states that it will maintain its reference price at US$1580 until March 2020.

Industry sources have confirmed that ILU is having challenges achieving product quality to some of its customers. As the company itself states a declining price outlook is more related to ILU's product mix (ie increasing proportion of standard vs premium product) than it is to pricing. This scenario is actually positive for premium zircon products.

We believe that ILU is balancing the zircon market currently. Without the supply of concentrate from ILU's own Nangarlu tailings project (which they have flagged can produce ca. 50ktpa) the zircon market would be in deficit. We therefore see it as odd that the company would highlight that it is building zircon stocks. This is exactly what we would have expected from the swing supplier. And it always has the option of actually turning off the concentrator, if demand is slowing.

The cynic in us wonders whether ILU is sowing the seeds of negativity in zircon markets for two very important reasons: SFX's Thunderbird project and Kalbar's Fingerboard project, both promising to be major zircon producers, are looking for significant amounts of debt and equity capital. To sow the seeds of doubt on the demand side should be of no harm to ILU. But it has certainly damaged the ILU share price with the stock down strongly since the result. Some might say this was a bit of an "own goal".

All this noise has even driven industry consultants TZMI to question the future. In most presentations we've seen from this group, the outlook statements are quite clear. The 'outlook' slide at the recent ZIA conference was less bullish than in the past, but does seem to be focussed on the very short term.

Source: ZIA Conference, September 2019

While we wouldn't read too much into spot pricing, it's interesting that Richards Bay (RBM) are having to accept US$100/t less for their product than the prices quoted for Australian premium zircon. This we understand is down to the fact that RBM has little premium zircon remaining, as it scrabbles for reserves in old tailings dams. We wonder whether this trend will be evident in ILU's spot quotes shortly.

Origin	Specification	Price	Change	Destination	Remarks
Iluka in Australia	(Zr.Hf)O2≥66%,TiO2≤0.1%,Fe2O3≤0.1%	1610-1640	--	Xiamen,Tianjin, Shanghai,Zhanjiang, Guangzhou Port	CIF,USD/T
Tronox in Australia (Tiwest)	(Zr.Hf)O2≥66%,TiO2≤0.15%,Fe2O3≤0.07%	1640-1650	--	Xiamen,Tianjin, Shanghai,Zhanjiang, Guangzhou Port	CIF,USD/T
Indonesia	(Zr.Hf)O2≥66%,TiO2≤0.1%,Fe2O3≤0.1%	1460-1480	--	Xiamen,Tianjin, Shanghai,Zhanjiang, Guangzhou Port	CIF,USD/T
Tronox in South Africa(Namakwa)	(Zr.Hf)O2≥66%,TiO2<0.12%,Fe2O3<0.06%	1600-1620	--	Xiamen,Tianjin, Shanghai,Zhanjiang, Guangzhou Port	CIF,USD/T
RBM in South Africa	(Zr.Hf)O2≥66%,TiO2<0.15%,Fe2O3<0.1%	1530-1550	--	Xiamen,Tianjin, Shanghai,Zhanjiang, Guangzhou Port	CIF,USD/T
RBM in South Africa	(Zr.Hf)O2≥65%,TiO2<0.30%,Fe2O3<0.25%	1500-1510	--	Xiamen,Tianjin, Shanghai,Zhanjiang, Guangzhou Port	CIF,USD/T
Vietnam	(Zr.Hf)O2≥65%,TiO2≤0.15%,Fe2O3≤0.1%	1500-1550	--	Xiamen,Tianjin, Shanghai,Zhanjiang, Guangzhou Port	CIF,USD/T

Source: Ferroalloynet.com, 12/9/19

In summary, we see no reason to change our views (nor our commodity price forecasts) for zircon, nor ilmenite. As we have said on numerous occasions, the mineral sand industry is mature, mines are closing and production is in decline, and without new projects such as Thunderbird, there will be a huge gap in zircon supply by 2021.

Feedstock

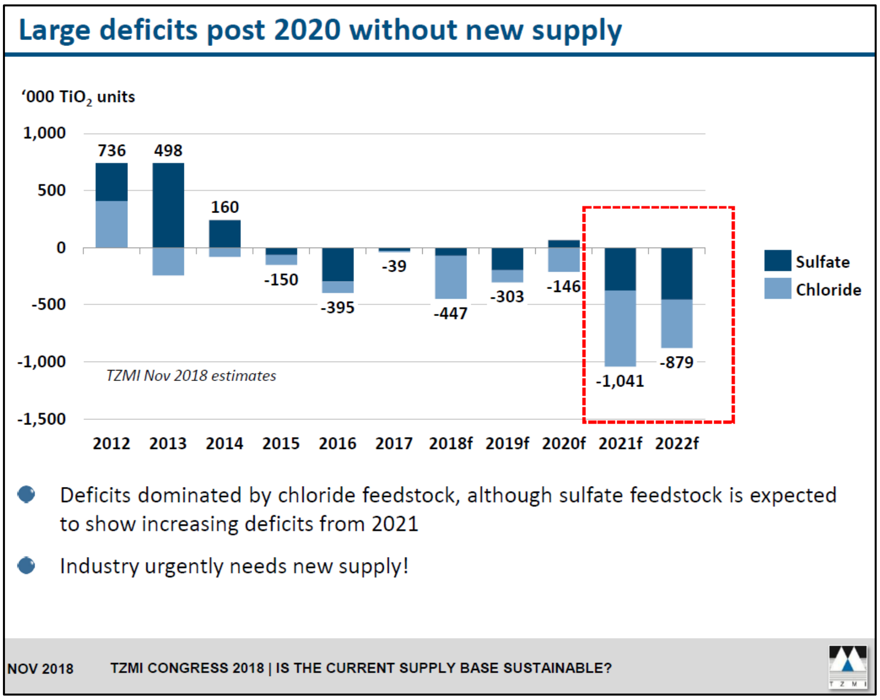
In previous reports we had flagged that pricing is starting to look quite positive for the likes of rutile and ilmenite. Tightness in the rutile market is undoubtedly down to ILU's woes in Sierra Leone, and closure of the Stradbroke operations. We are hearing prices of up to US$1200/t (CIF), 10-20% higher than just a few months ago.

This is starting to flow through to ilmenite pricing. We read in Industrial Minerals (9 September 2019) that a shortage of supply has translated to a pricing range of US$190-210/t, up $10/t on the previous week (47-49% TiO2 basis). Numbers of $220-230/t were also mentioned, but no firm deals have yet been confirmed.

IM specifically targeted declining production and lesser quality from Base Resources Kwale operation, in response to declining grades.

As we have previously reported recent presentations from consultants TZMI have pointed to the potential for increased supply constraints for titanium dioxide feedstock, especially of a quality suitable for the chloride pigment process. "Industry urgently needs new supply" are not our words, they come from a well-regarded mineral sand consultant.

No surprise then that Bengbu swooped on Thunderbird's iron-rich ilmenite concentrate. The emerging Chinese chloride pigment industry is proving to be quite positive for demand for feedstock.



Source: TZMI Mineral Sands Conference, 2018

Capital Structure

Sheffield Resources Ltd (SFX AU)		
Share price	A$	$0.42
Number of shares (fpo)	m	309
Market capitalisation	A$m	$129.8
Share options (av 13c)	m	16.2
Cash (post placement)	A$m	$18.0
Debt	A$m	$0.00
Top 50 shareholders, appr.		50%
Insitutional holding, appr.		35%
Directors, management		11%

Sensitivities

		EBIT (2022e)		Project NPV(10), post tax	
Change from base	*Base*	*+10%*	*-10%*	*+10%*	*-10%*
Capital costs (pre prod'n)	A$373m	0%	0%	-4%	4%
Opex	A$132/t	-15%	8%	-11%	11%
Zircon price	US$1550/t	15%	-15%	21%	-21%
Ilmenite conc. price	US$80/t	5%	-5%	6%	-6%
A$/US$	0.75	22%	-18%	30%	-25%

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Dr Chris Baker, an authorised representative of BCP, certifies that the advice in this report reflects his honest view of the company. He has 29 years investment experience in wholesale capital markets. He worked as a mining analyst for brokers BZW and UBS for 11 years and has a further 16 years' experience as a mining analyst and portfolio manager with Colonial First State and Caledonia Investments. He now provides independent financial advice on a part time basis. He may own securities in companies he recommends, but will declare this when providing advice. He currently owns shares in SFX. He is not paid a fee by BSCP for providing this report. BSCP are Corporate Advisors to SFX and have received fees from SFX for services provided. BSCP was co-lead manager and bookrunner in the recent $18m capital raise, and received fees for that.

Appendix 1

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