Mineral sands industry warns on high-grade deposit depletion

Zircon majors caution that exploration work may need higher prices to be incentivised in face of market growth

Leading zircon producers and exploration companies have suggested that higher prices may be required to incentivise exploration work, as the mineral sands industry grapples with declining valuable heavy mineral (HM) ore grades and work in higher risk jurisdictions.

Speaking at Informa’s Mineral Sands 2015 conference in Melbourne last month, Victor Hugo – Iluka’s general manager of exploration and geology – suggested that a global decline in valuable HM grades and decreasing zircon and rutile assemblages were some of the major challenges facing the mineral sands industry at present.

Iluka estimated that current global mineral sands operations had an average HM grade of just over 4%, with combined rutile and zircon assemblages comprising 13% of this – the main constituent being ilmenite. However, of the deposits under active investigation, Iluka estimated the zircon/rutile assemblages to be closer to 9%.

In addition, while ‘trash’ was estimated to comprise about an eighth of the HM grade in current operations, this rose to 50% in deposits that were under active investigation. Average zircon trade values from Australia, which typically reflect contract prices, were around US$1,000/t FOB in late 2014 and appear to be stabilised at lower levels. This compares to a peak of over US$2,500/t in mid-2012 after a surge in prices, driven by demand outpacing supply.

Sovereign risk to operations

Iluka highlighted the increased costs and challenges that came with more exploration work in countries with higher jurisdictional risks. Iluka is currently evaluating projects in Sri Lanka and a joint-venture with Vale SA in Brazil, in addition to potential new mineral sands sources in Australia and the USA where it already operates.

A host of new mineral sands projects have come on stream in the last decade, largely based in Africa. These have included Carnegie Minerals/Astron in The Gambia, Base Resources in Kenya, Rio Tinto subsidiary QMM in Madagascar, Kenmare Resources in Mozambique, TiZir in Senegal, and Mineral Commodities in South Africa.

Carnegie Minerals Gambia began mining two areas in The Gambia – Sanyang and Batukunku – in 2006, but mining was suspended in 2008 when the Gambian government revoked the company’s mining licence on the grounds that Carnegie had allegedly mined titanium feedstock minerals, uranium and iron ore without a permit. Carnegie filed for arbitration in 2008 but the final decision of this was not delivered until 2014. Although the arbitrators found in favour of Astron, which became sole owner of the operation in December 2008, the damages from the action are yet to be awarded – highlighting some of the issues that can arise from operating in countries with higher sovereign risk.
While jurisdictional risk is of concern to companies, such countries are relatively unexplored and are likely to be the main hosts of undeveloped high-grade mineral resources – and hence the main sources of potential new supply in the long-term.

**Zircon market prospects**

One of the more recent min sands projects to have come online is TiZir’s Grande Côte project in Senegal, owned 50:50 by Mineral Deposits Ltd of Australia and Eramet of France.

The Grande Côte project has the biggest single-dredge mineral sands operation in the world with a nameplate capacity of 575,000tpy ilmenite, 85,000tpy zircon and 16,000tpy rutile and leucoxene. Construction on the facility was completed in February 2014 and production ramp-up is on schedule for the third quarter of 2015.

Speaking about the operation’s products, Nic Limb – chairman of Mineral Deposits – suggested that while substitution and thrifting had impacted the zircon market, it still looked to be well-placed in the medium-term.

“While there are large supplies of inventory, these largely sit with the major suppliers – Rio Tinto and Iluka – who, to this point, continue to demonstrate supply discipline,” Limb commented.

Iluka also reported “encouraging” zircon sales volumes towards the end of 2014 and beginning of 2015, but commented that overall demand was stable and remained similar to 2013 levels. Hugo highlighted that recovery in the zirconium chemical sector was evident in the second half of 2014.

The zirconium chemicals market, which has been one of the highlights of the zircon sector in recent years, was discussed by Jessica Roberts, senior analyst at Roskill Information Services. The zirconium chemicals industry is a fast-growing consumer of zircon and is likely to see the highest demand increases out to 2019.

While zircon volumes used are around a third of those consumed in ceramics, which is the largest market for zircon, the use of some zirconium chemicals is forecast to grow by up to 5%py to 2019; compared to under 4%py for zircon used in ceramics, foundry and refractory markets.

Roskill believes that there is space for new producers in the zirconium chemicals and chemical zirconia markets, if they can compete with Chinese companies on cost. Production costs in China have increased as inputs such as salaries and energy have risen. In addition, the Chinese zirconium chemical industry continues to struggle with overcapacity, making some operations unprofitable.

##ENDS##

Note to editors

Roskill Information Services Ltd. of London, UK is a leading provider of multi-client and bespoke market research services to the minerals and metals industry.
Zirconium Concentrate: Global Industry Markets and Outlook report, profiles over 150 current and potential producers and processors of zircon sand and zirconium silicate. The Zirconium Oxide, Chemicals and Metal: Global Industry Markets and Outlook report provides an in-depth look at the downstream zirconium supply chain and markets. It profiles more than 150 current and potential producers of zirconia, zirconium chemicals, and zirconium metals and alloys. These reports build on Roskill’s 13 prior editions of the Zirconium report, focusing in even greater depth on international trade flows, demand, end-use applications and prices; providing a comprehensive review of the upstream and downstream zirconium market and its prospects. These latest editions are available to order by Telephone: +44 20 8417 0087, Fax +44 20 8417 1308 Email: christine@roskill.co.uk or Web: http://www.roskill.com/zirconium.

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