



# Australian Securities Exchange Notice

24 July 2018

ASX: ILU

## QUARTERLY REVIEW 30 JUNE 2018

### KEY FEATURES

- Positive mineral sands market conditions contributed to realisation of strong price increases
  - zircon/rutile/synthetic rutile (Z/R/SR) revenue up 21% to \$607 million in first half 2018, despite 3% lower sales volumes
  - first half zircon price (excluding concentrate) up 47% from first half 2017
  - first half rutile price up 20% from first half 2017
  - second half 2018 rutile price increase of 14%
  - all second half high grade feedstock either under contract or allocated to customers
- Z/R/SR production of 351 thousand tonnes, down 23% from first half 2017
  - no Murray Basin production, a reduction of 75 thousand tonnes from 2017, following completion of concentrate drawdown in October 2017
  - lower mining rates at Sierra Rutile reflecting extended commissioning of Lanti dry mine in-pit mining unit and downtime at Lanti dredge. Sierra Rutile's full year production guidance revised down 15 thousand tonnes to 145 thousand tonnes of rutile
  - reduced feed rate at Nangulu mineral separation plant increasing final product recoveries
- Cataby development is progressing on time and on budget
- Net debt reduced further to \$34 million, from \$183 million at 31 December 2017, reflecting strong free cash flow in the first half of \$226 million and payment of \$69 million for the 2017 final dividend.

### PRODUCTION AND SALES DATA

|                                       | Jun-17<br>Quarter | Mar-18<br>Quarter | Jun-18<br>Quarter | Jun-17<br>YTD | Jun-18<br>YTD | Jun-18<br>YTD vs<br>Jun-17<br>YTD |
|---------------------------------------|-------------------|-------------------|-------------------|---------------|---------------|-----------------------------------|
|                                       | kt                | kt                | kt                | kt            | kt            | %                                 |
| <b>Production</b>                     |                   |                   |                   |               |               |                                   |
| Zircon                                | 92.8              | 81.6              | 77.3              | 203.7         | 158.9         | (22.0)                            |
| Rutile                                | 82.0              | 44.4              | 38.5              | 149.8         | 82.8          | (44.7)                            |
| Synthetic Rutile                      | 46.1              | 55.5              | 53.8              | 99.6          | 109.3         | 9.7                               |
| <b>Total Z/R/SR Production</b>        | <b>220.9</b>      | <b>181.5</b>      | <b>169.6</b>      | <b>453.1</b>  | <b>351.0</b>  | <b>(22.5)</b>                     |
| Ilmenite                              | 123.4             | 99.0              | 111.9             | 228.1         | 210.8         | (7.6)                             |
| <b>Total Mineral Sands Production</b> | <b>344.3</b>      | <b>280.5</b>      | <b>281.4</b>      | <b>681.2</b>  | <b>561.8</b>  | <b>(17.5)</b>                     |
| <b>Sales</b>                          |                   |                   |                   |               |               |                                   |
| Zircon                                | 96.9              | 90.2              | 99.4              | 197.4         | 189.6         | (4.0)                             |
| Rutile                                | 61.8              | 60.5              | 75.6              | 118.4         | 136.1         | 14.9                              |
| Synthetic Rutile                      | 92.1              | 53.8              | 59.1              | 138.0         | 112.9         | (18.2)                            |
| <b>Total Z/R/SR Sales</b>             | <b>250.8</b>      | <b>204.5</b>      | <b>234.1</b>      | <b>453.8</b>  | <b>438.6</b>  | <b>(3.3)</b>                      |
| Ilmenite                              | 75.5              | 44.1              | 75.4              | 95.1          | 119.5         | 25.7                              |
| <b>Total Mineral Sands Sales</b>      | <b>326.3</b>      | <b>248.6</b>      | <b>309.5</b>      | <b>548.9</b>  | <b>558.1</b>  | <b>1.7</b>                        |

## REVENUE AND CASH COST DATA

|   | Jun-17<br>Quarter | Mar-18<br>Quarter | Jun-18<br>Quarter | Jun-17<br>YTD | Jun-18<br>YTD | Jun-18<br>YTD vs<br>Jun-17<br>YTD |
|---|-------------------|-------------------|-------------------|---------------|---------------|-----------------------------------|
|   |                   |                   |                   |               |               | %                                 |
| <i>\$ million</i>   |                   |                   |                   |               |               |                                   |
| Z/R/SR revenue  | 265.7             | 249.2             | 319.5             | 470.0         | 566.6         | 20.6                              |
| Ilmenite and other revenue <sup>1</sup>                           | 19.4              | 14.9              | 25.4              | 33.6          | 40.3          | 20.0                              |
| <b>Mineral Sands Revenue<sup>2</sup></b>                          | <b>285.1</b>      | <b>264.1</b>      | <b>344.9</b>      | <b>503.6</b>  | <b>606.9</b>  | <b>20.5</b>                       |
| <i>\$ million</i>   |                   |                   |                   |               |               |                                   |
| Production cash costs of Z/R/SR                                   |                   |                   |                   | 192.2         | 217.1         | 12.8                              |
| Ilmenite concentrate and by-product costs                         |                   |                   |                   | 7.9           | 7.8           | (1.3)                             |
| <b>Total Cash Costs of Production</b>                             |                   |                   |                   | <b>200.1</b>  | <b>224.9</b>  | <b>12.2</b>                       |
| <i>\$ per tonne</i>   |                   |                   |                   |               |               |                                   |
| Unit Cash Production Costs per tonne Z/R/SR Produced <sup>3</sup> |                   |                   |                   | 424           | 617           | 45.9                              |
| <b>Unit Cost of Goods Sold per tonne Z/R/SR Sold</b>              |                   |                   |                   | <b>772</b>    | <b>753</b>    | <b>(2.5)</b>                      |
| <b>Revenue per tonne Z/R/SR Sold</b>                              | <b>1,059</b>      | <b>1,219</b>      | <b>1,365</b>      | <b>1,036</b>  | <b>1,292</b>  | <b>24.7</b>                       |
| Average AUD:USD cents   | 75.1              | 78.7              | 75.7              | 75.4          | 77.2          | 2.4                               |

All currency is Australian dollar denominated unless otherwise indicated.

1. Ilmenite and other revenue include revenues derived from other materials not included in production volumes, including activated carbon products and iron concentrate. Iluka receives a royalty payment from its Mining Area C iron ore royalty. This is not reported as part of quarterly reports but is disclosed in the financial statements.
2. Represents FOB revenue.
3. Excludes ilmenite and by-products.

## PRODUCTION

Total Z/R/SR production in the second quarter was 170 thousand tonnes. First half Z/R/SR production was 351 thousand tonnes, 23% lower than first half 2017. Lower production for the first half was expected given the completion of processing of Murray Basin heavy mineral concentrate in October 2017, but also reflects other factors across Iluka's current operations, as noted below.

### Australian Operations

The Jacinth-Ambrosia mine in South Australia operated at capacity, producing 329 thousand tonnes of heavy mineral concentrate in the first half of 2018, following the successful restart in December 2017. As planned, heavy mineral concentrate processing through the Narngulu mineral separation plant in Western Australia was at a slightly reduced rate in the half, to optimise the recovery rate of final product. As a result, zircon production from Jacinth-Ambrosia was 135 thousand tonnes in the first half, down 13% from first half 2017.

The Tutunup South mine in South-West Western Australia completed mining, as planned, in early March. Heavy mineral concentrate material will continue to be processed from this mine for the remainder of the year.

The synthetic rutile kiln, SR2, operated at full capacity over the first half of 2018. The kiln is being fed by previously stockpiled and externally sourced ilmenite until the commencement of the Cataby mine in the

first half of 2019. A major maintenance outage for the kiln is planned for the first quarter of 2019 ahead of the next four year kiln campaign.

### Sierra Leone Operations

Rutile production from Sierra Rutile was 28 thousand tonnes in the June quarter and 61 thousand tonnes in the first half of 2018, down 23% from first half 2017 as a result of lower than expected mining rates.

Mining at the Lanti dredge was affected by downtime in March and April following failure of a bearing in mid-March, as reported in the March Quarterly Review. The dredge was restarted in mid-April and operated at expected throughputs before further mechanical issues were experienced later in the quarter, which have now been rectified. The company continues to implement a maintenance plan for the dredge ahead of its planned decommissioning at the end of the year.

Run time at the Lanti dry mine was lower in the quarter, reflecting 10 days downtime in May to rectify a water tank liner failure and other operational issues, however the commissioning of the Lanti dry mine in-pit mining unit is now complete.

Production at Gangama has benefited from higher than expected ore grades.

The mineral separation plant operated as planned and there has been some opportunistic processing of remnant stockpiles in the quarter, supplementing feed to the plant.

Overall, whilst there have been some operational difficulties experienced in the first half of 2018, production has improved early in this second half and the mines are now operating as expected. However, due to the lower runtimes in the first half, full year rutile production has been reduced to 145 thousand tonnes from guidance of 160 thousand tonnes and Iluka group rutile guidance reduced to 185 thousand tonnes (previously 200 thousand tonnes).

### 2018 OUTLOOK – ANNUAL PRODUCTION

|                        | Sierra Rutile |            | Iluka Group |            |
|------------------------|---------------|------------|-------------|------------|
|                        | Previous      | Revised    | Previous    | Revised    |
| Zircon kt              | 5             | 5          | 300         | 300        |
| Rutile kt              | 160           | 145        | 200         | 185        |
| Synthetic rutile kt    | -             | -          | 205         | 205        |
| <b>Total Z/R/SR kt</b> | <b>165</b>    | <b>150</b> | <b>705</b>  | <b>690</b> |
| Ilmenite               | 50            | 50         | n/a         | n/a        |

## GROUP MINERAL SANDS PRODUCTION

|                              | Jun-17<br>Quarter | Mar-18<br>Quarter | Jun-18<br>Quarter | Jun-17<br>YTD | Jun-18<br>YTD | Jun-17<br>YTD vs<br>Jun-16<br>YTD |
|------------------------------|-------------------|-------------------|-------------------|---------------|---------------|-----------------------------------|
|                              | kt                | kt                | kt                | kt            | kt            | %                                 |
| <b>Zircon</b>                |                   |                   |                   |               |               |                                   |
| Eucla/Perth Basin (SA/WA)    | 73.2              | 76.5              | 72.7              | 164.4         | 149.2         | (9.2)                             |
| Murray Basin (VIC)           | 17.6              | -                 | 0.1               | 29.5          | 0.1           | (99.7)                            |
| <b>Australia</b>             | <b>90.8</b>       | <b>76.5</b>       | <b>72.8</b>       | <b>193.9</b>  | <b>149.3</b>  | <b>(23.0)</b>                     |
| Sierra Leone                 | 0.8               | 5.1               | -                 | 2.9           | 5.1           | 74.9                              |
| Virginia (USA)               | 1.2               | -                 | 4.5               | 6.9           | 4.5           | (34.4)                            |
| <b>Total Zircon</b>          | <b>92.8</b>       | <b>81.6</b>       | <b>77.3</b>       | <b>203.7</b>  | <b>158.9</b>  | <b>(22.0)</b>                     |
| <b>Rutile</b>                |                   |                   |                   |               |               |                                   |
| Eucla/Perth Basin (SA/WA)    | 11.0              | 10.9              | 10.8              | 26.5          | 21.7          | (18.1)                            |
| Murray Basin (VIC)           | 27.7              | -                 | -                 | 44.3          | -             | n/a                               |
| <b>Australia</b>             | <b>38.7</b>       | <b>10.9</b>       | <b>10.8</b>       | <b>70.8</b>   | <b>21.7</b>   | <b>(69.2)</b>                     |
| Sierra Leone                 | 43.3              | 33.5              | 27.6              | 79.0          | 61.1          | (22.7)                            |
| <b>Total Rutile</b>          | <b>82.0</b>       | <b>44.4</b>       | <b>38.4</b>       | <b>149.8</b>  | <b>82.8</b>   | <b>(44.7)</b>                     |
| <b>Synthetic Rutile (WA)</b> | <b>46.1</b>       | <b>55.5</b>       | <b>53.8</b>       | <b>99.6</b>   | <b>109.3</b>  | <b>9.7</b>                        |
| <b>TOTAL Z/R/SR</b>          | <b>220.9</b>      | <b>181.5</b>      | <b>169.5</b>      | <b>453.1</b>  | <b>351.0</b>  | <b>(22.5)</b>                     |
| <b>Ilmenite</b>              |                   |                   |                   |               |               |                                   |
| Eucla/Perth Basin (SA/WA)    | 62.9              | 86.7              | 67.9              | 146.3         | 154.6         | 5.7                               |
| Murray Basin (VIC)           | 45.5              | -                 | 30.6              | 55.2          | 30.6          | (44.6)                            |
| <b>Australia</b>             | <b>108.4</b>      | <b>86.7</b>       | <b>98.5</b>       | <b>201.5</b>  | <b>185.2</b>  | <b>(8.1)</b>                      |
| Sierra Leone                 | 15.0              | 12.3              | 13.3              | 26.6          | 25.6          | (3.7)                             |
| <b>Total Ilmenite</b>        | <b>123.4</b>      | <b>99.0</b>       | <b>111.8</b>      | <b>228.1</b>  | <b>210.8</b>  | <b>(7.6)</b>                      |
| <b>TOTAL MINERAL SANDS</b>   | <b>344.3</b>      | <b>280.5</b>      | <b>281.3</b>      | <b>681.2</b>  | <b>561.8</b>  | <b>(17.5)</b>                     |

The above table details Iluka's total production by product group, with the source of that production attributed to the regional operating mines and basins. Processing of final product occurs in mineral separation plants located in Australia at Narngulu, Western Australia and in Sierra Leone. Iluka also has a mineral separation plant at Stony Creek in Virginia, United States (closed) and Hamilton, Murray Basin (idled).

## MINERAL SANDS MARKET CONDITIONS

Z/R/SR sales volumes in the first half of 2018 were 439 thousand tonnes, down slightly from first half 2017 (454 thousand tonnes). This reflects a combination of broadly flat zircon sales, higher rutile/HYTI 90 sales offset by lower synthetic rutile sales with the latter a reflection of a more even sales profile over the year (2017 was first half weighted).

Weighted average prices for Z/R/SR increased 28% on first half 2017 and were up 14% on second half 2017 with higher prices achieved across all Iluka's product suite.

### Zircon Market

First half zircon sales were 190 thousand tonnes (H1 2017: 197 thousand tonnes), relative to zircon production of 159 thousand tonnes (H1 2017: 204 thousand tonnes), with Iluka releasing inventory to help balance the market and support its customer base.

Zircon markets have remained tight in the first half of 2018. Iluka experienced solid demand across all major regions and sectors with only a limited supply side response observed to date. Iluka has witnessed an increase in exports from Indonesia, as was expected in the current pricing environment, and the company remains of the view that there is scope for further production from this region if required. Iluka estimates that Indonesian exports have increased from average levels of ~2,500 tonnes per month during 2017 to ~4,400 tonnes per month in May with increased mining activity in Kalimantan.

During the half, Iluka implemented its previously announced increase in the Zircon Reference Price of US\$180 to US\$1,410 per tonne. Reflecting this, average realised zircon prices (excluding ZIC) increased 21% to US\$1,278 per tonne in the first half of 2018 relative to the second half of 2017. The Reference Price will be in effect until 30 September 2018.

Iluka has received positive feedback from customers for maintaining its Reference Price for a six month period which has provided the market some stability and customers time to adjust downstream prices. Feedback is that participants through the value chain have adjusted to the market environment and higher prices have been accepted by end users with no evidence of substitution although thrifting has become more common in ceramics and foundry.

Iluka has guided zircon production of 300 thousand tonnes for the year, reflecting production from Jacinth-Ambrosia and some drawdown of heavy mineral concentrate. The company expects sales to be evenly weighted over the year.

### Titanium Dioxide Feedstock Market

High-grade titanium dioxide feedstock sales (rutile and synthetic rutile) were 249 thousand tonnes in the first half of 2018, comparable to first and second halves of 2017.

Iluka continues to experience strong demand for its high-grade titanium feedstocks (rutile and synthetic rutile) with sales limited by production. The publically disclosed production disruptions of other high-grade titanium feedstocks producers have impacted confidence in the market, but have not yet translated into shortages further down the value chain. It is likely the impact of these supply disruptions has been dampened by pigment producers reducing inventories of feedstocks and the pull forward of pigment plant maintenance. Whether these actions are sufficient to retain the supply-demand balance will become apparent in due course.

While market commentary suggests that the rate of increase in pigment demand is showing signs of moderating (which is, in turn, limiting the ability of pigment producers to maintain pricing momentum), the major producers in China have recently announced a new round of price increases for domestic and exported product in the range of US\$60 to US\$80 per tonne. Demand for Iluka's suite of high grade ores remains very strong.

Average rutile prices (excluding HYTI) were US\$906 per tonne in the first half 2018. This is up ~10% from second half 2017, reflecting the previously announced price increase.

All second half high grade feedstock production is either under contract or allocated to customers with supply requests exceeding the company's ability to supply. A 14% increase on the first half price has been applied across the range of natural rutile products for the second half of 2018.

## WEIGHTED AVERAGE RECEIVED PRICES

The following table provides weighted average received prices for Iluka's main products over the last three half year periods. Iluka's Annual Report, available at [www.iluka.com](http://www.iluka.com) contains further historical mineral sands price information.

|  | 1 <sup>st</sup> Half<br>2017 | 2 <sup>nd</sup> Half<br>2017 | 1 <sup>st</sup> Half<br>2018 |
|--|------------------------------|------------------------------|------------------------------|
| <i>US\$/tonne FOB</i>  |                              |                              |                              |
| Zircon Premium and Standard  | 871                          | 1,053                        | 1,278                        |
| Zircon<br>(all products, including zircon in concentrate) <sup>1</sup> | 850                          | 1,037                        | 1,240                        |
| Rutile<br>(includes all rutile products, excluding HYTI) <sup>2</sup>  | 756                          | 825                          | 906                          |
| Synthetic rutile   | Refer Note 3                 | Refer Note 3                 | Refer Note 3                 |

### Notes:

- 1: Zircon prices reflect the weighted average price for zircon premium, zircon standard and zircon-in-concentrate. The prices for each product vary considerably, as does the mix of such products sold period to period. In the first half of 2018 the split of premium, standard and concentrate by zircon sand-equivalent was approximately: 51%:33%:15% (2017 full year: 56%:32%:12%).
- 2: Included in rutile sales volumes reported elsewhere in this Quarterly Review is a lower titanium dioxide product, HYTI that typically has a titanium dioxide content of 70 to 91%. This product sells at a lower price than rutile, which typically has a titanium dioxide content of 95%. In first half 2018, 19% of total sales in this category were of the lower grade HYTI material (2017 full year: 18%).
- 3: Iluka's synthetic rutile sales are, in large part, underpinned by commercial offtake arrangements. The terms of these arrangements, including the pricing arrangements are commercial in confidence and as such not disclosed by Iluka. Synthetic rutile, due to its lower titanium dioxide content than rutile, is priced lower than natural rutile.

## **PROJECT UPDATES**

### **Lanti dry and Gangama mine expansions, Sierra Leone**

Iluka plans to double the capacity of both the Gangama and Lanti dry operations from 500-600 tonne per hour to 1,000-1,200 tonne per hour. Capital expenditure for these expansions received Board approval in December 2017.

The main engineering, procurement and construction (EPC) contract has been awarded and the contractor has mobilised to site with civil construction due to commence in the September quarter. Procurement is progressing with orders placed for all long lead items and the earth moving fleet. Delivery of the fleet is expected in the second half of 2018. Commissioning for Gangama and Lanti is scheduled for mid-2019.

### **Mineral separation plant upgrade, Sierra Leone**

Mineral separation plant equipment and general site upgrades are required to meet the additional capacity that will be generated by the planned mine expansions. The upgrade will also assist in improving safety, operational and metallurgical efficiencies.

Assessment of the upgrade options and scope is continuing with the work to take place in two stages. Board approval to upgrade the feed preparation section of the mineral separation plant has been granted and execution planning is underway, with completion scheduled for 2019. The second stage involves an upgrade to the dry mill and is currently progressing through a pre-feasibility study phase.

### **Sembehun mine, Sierra Leone**

The Sembehun group of deposits are situated 20 to 30 kilometres north-west of the existing Sierra Rutile operations. Iluka plans to initially develop a new 1,000-1,200 tonne per hour mine at these deposits.

The definitive feasibility study commenced in March 2018 and is continuing with a focus on geotechnical field work. The geotechnical data will support the design of the early works scope which includes the bridge and road construction to access the deposits. The Environmental and Social Impact Assessment is progressing with submission planned for late 2018. Early works construction is expected to commence in 2019 with commissioning of the operation planned for 2021, subject to Board approval.

### **Cataby, Western Australia**

Cataby is a large, chloride ilmenite-rich deposit 150 kilometres north of Perth. The mine development was approved in December 2017 with ilmenite from the mine to underpin the continued production of synthetic rutile at Capel, South-West Western Australia. The approval follows completion of the definitive feasibility study in 2016 and securing offtake agreements for synthetic rutile production from Cataby sourced ilmenite.

The estimated capital cost is \$250-275 million and construction is expected to take around 18 months. First production is planned for first half 2019 with the mine producing approximately 200 thousand tonnes of synthetic rutile (from ilmenite feedstock), 50 thousand tonnes of zircon and 30 thousand tonnes of rutile on average over an 8.5 year mine life. Access to additional ore reserves could extend the mine life for a further 4 years.

The mine is a conventional mineral sands development utilising dozer push and truck and excavator mining to feed two in-pit mining units. Iluka's Newman concentrator has been relocated to site from Eneabba with other mining equipment also being redeployed from Murray Basin, Victoria. An onsite Wet High Intensity Magnetic Separation (WHIMS) plant will separate the magnetic (ilmenite) and non-magnetic product streams (zircon and rutile). Ilmenite will be transported to Capel for synthetic rutile

production and the non-magnetic stream to Iluka's Narngulu mineral separation plant in Geraldton for final processing.

All works are progressing on schedule and on budget. Work is nearing completion on the accommodation villages and high voltage power distribution. The bulk earthworks package is approaching completion and site foundation works have commenced. Reassembly of the Newman concentrator will begin shortly. Construction of mining unit equipment is well advanced and the mining contractor has commenced the removal of overburden.

### **Jacinth-Ambrosia mine expansion, South Australia**

Iluka is considering a mine expansion project at Jacinth-Ambrosia which involves increasing mining and concentrating capacity by ~30% to partially offset the impact of declining ore grade over the remaining life of mine. The scope of the project includes a second mining unit, wet concentrator plant upgrade and camp capacity increase. Iluka is also considering plans to bring forward the commencement of mining at the Ambrosia deposit to 2019 (previously 2022).

The definitive feasibility study is underway and is expected to be completed in the third quarter, with project execution commencing thereafter, subject to Board approval, with production expected from the second half of 2019.

### **Balranald, Murray Basin, New South Wales**

Balranald and Nepean are two rutile-rich deposits in the northern Murray Basin, New South Wales.

Work on the unconventional mining development at Balranald has continued. A drilling programme is planned for the second half of the year to provide more detailed mineralisation and understanding of the deposit, prior to progressing to a final field trial in 2019. The proposed final trial has been designed to demonstrate that the technical work packages advanced from the previous trial are effective in a continuous mining and processing environment.

### **Puttalam (PQ), Sri Lanka**

The potential for the development of the mineral sands deposit known as the Puttalam Quarry (PQ) continues to be assessed. The PQ deposit is a large sulphate ilmenite deposit, located approximately 30 kilometres north of the town of Puttalam in the North Western Province of Sri Lanka, approximately 170 kilometres from the capital Colombo.

PQ project work is focussed on legal and investment terms for the development and includes securing surface access rights, ministerial and other governmental approvals for any subsequent mining licence, reaching agreement with the Sri Lankan Government regarding the fiscal and other arrangements that will apply to the project.

A pre-feasibility study is being undertaken on work packages relating to pre-mining or baseline conditions of the PQ deposit.

### **Sierra Rutile Projects Office**

Iluka is in the process of establishing an office in Johannesburg to manage Sierra Rutile's project portfolio. Johannesburg was selected as the site due to the availability of experienced project management and engineering professionals and proximity to contract engineering resources and fabrication workshops. A number of key appointments have been made and the office established.



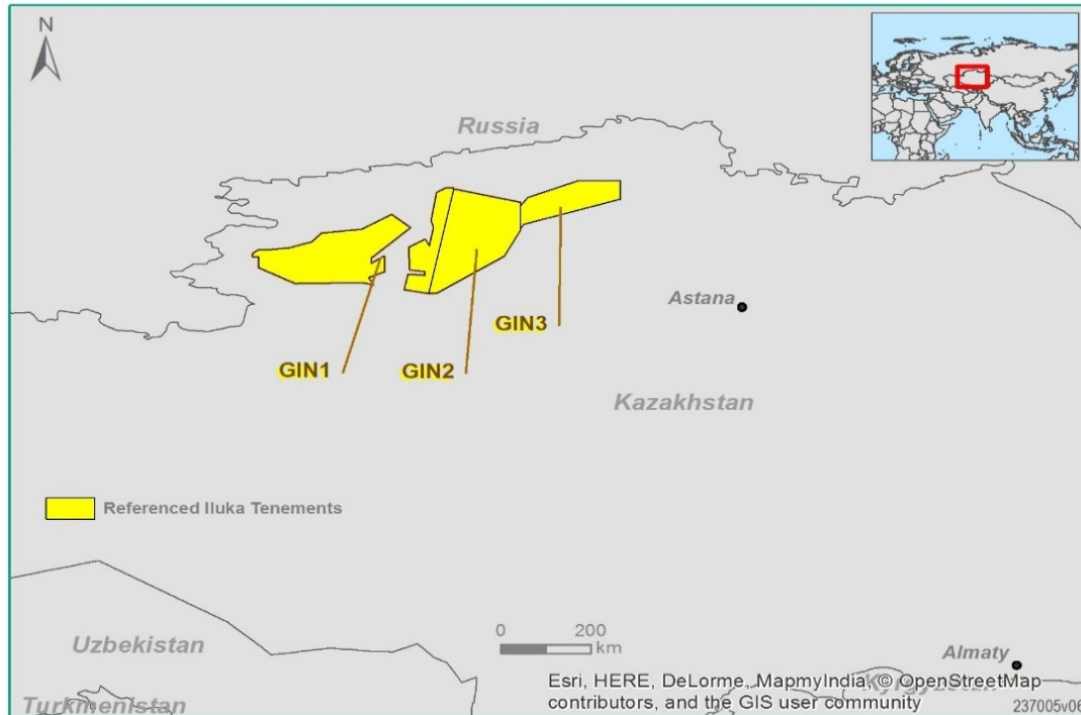
## EXPLORATION

Expenditure on exploration and evaluation charged to the profit and loss account for the June quarter 2018 was \$3.4 million, with expenditure for the first half 2018 of \$4.4 million.

### Kazakhstan

Results of the 2017 field program do not justify continued exploration on GIN1, GIN2 and GIN3. In May, Iluka submitted the final technical report to the Committee of Geology and Subsoil Use, Ministry of Investments and Development, Kazakhstan with relinquishment expected later in the year.

**Figure 1: Northern Kazakhstan**



### Canada

Iluka continued to fund Societe d'Exploration Miniere Vior Inc. ("Vior") to undertake exploration for high grade rutile/ilmenite deposits in the Foothills and Grand Duc Project areas of Quebec. Analysis of 2017 drilling results indicated further definition of geophysical drilling targets was required. A ground geophysical survey started in June and airborne geophysical survey will follow later in 2018.

In April, Iluka and Vior executed a separate Farm-in Joint Venture agreement over the Big Island Lake rutile/ilmenite Project in Quebec. Iluka will fund the drilling of geological targets, which began in June. Results are due later in the year.

**Figure 2 Grand Duc, Foothills and Big Island Lake Projects, Quebec, Canada**



### UPCOMING EVENTS

Iluka is scheduled to release its 2018 Half Year Results on 16 August 2018.

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**OPERATING MINES PHYSICAL DATA**  
**6 Months to 30 June 2018**

|   | Jacynth-<br>Ambrosia | Murray<br>Basin | Western<br>Australia | Australia<br>Total | Sierra<br>Leone <sup>1</sup> | Virginia | Group<br>Total |
|---|----------------------|-----------------|----------------------|--------------------|------------------------------|----------|----------------|
| <b>Mining</b>   |                      |                 |                      |                    |                              |          |                |
| Overburden Moved kbcm   | 1,452                | -               | -                    | 1,452              | -                            | -        | <b>1,452</b>   |
| Ore Mined kt  | 5,902                | -               | 229                  | 6,132              | 3,634                        | -        | <b>9,765</b>   |
| Ore Grade HM %  | 7.5                  | -               | 12.9                 | 7.7                |                              | -        | <b>n/a</b>     |
| VHM Grade %   | 6.4                  | -               | 10.7                 | 6.6                |                              | -        | <b>n/a</b>     |
| <b>Concentrating</b>  |                      |                 |                      |                    |                              |          |                |
| HMC Produced kt   | 329                  | -               | 20                   | 349                | 119                          | -        | <b>469</b>     |
| VHM Produced kt   | 292                  | -               | 18                   | 310                | 86                           | -        | <b>396</b>     |
| VHM in HMC Assemblage %   | 88.8                 | -               | 87.2                 | 88.8               | 71.7                         | -        | <b>84.4</b>    |
| Zircon  | 61.1                 | -               | 13.4                 | 58.3               | 4.3                          | -        | <b>44.5</b>    |
| Rutile  | 6.4                  | -               | 8.7                  | 6.5                | 48.5                         | -        | <b>17.2</b>    |
| Ilmenite  | 21.4                 | -               | 65.2                 | 24.0               | 18.9                         | -        | <b>22.7</b>    |
| <b>Processing (HMC to finished product at a mineral separation plant)</b> |                      |                 |                      |                    |                              |          |                |
| HMC Processed kt  | 258                  | -               | 153                  | 411                | 118                          | -        | <b>529</b>     |
| <b>Finished Product<sup>2</sup> kt</b>                                    |                      |                 |                      |                    |                              |          |                |
| Zircon  | 134.9                | 0.1             | 14.3                 | 149.3              | 5.1                          | 4.5      | <b>158.9</b>   |
| Rutile  | 19.7                 | -               | 2.0                  | 21.7               | 61.1                         | -        | <b>82.8</b>    |
| Ilmenite  | 62.9                 | 30.6            | 91.7                 | 185.2              | 25.6                         | -        | <b>210.8</b>   |
| Synthetic Rutile kt   |                      |                 | 109.3                | 109.3              |                              |          | <b>109.3</b>   |

1. HM and VHM grade are unavailable for Sierra Rutile at this time.
2. Finished product includes material from heavy mineral concentrate (HMC) initially processed in prior periods.

**Explanatory Comments on Terminology**

**Overburden moved** (bank cubic metres) refers to material moved to enable mining of an ore body.

**Ore mined** (thousands of tonnes) refers to material moved containing heavy mineral ore.

**Ore Grade HM %** refers to percentage of heavy mineral (HM) found in a deposit.

**VHM Grade %** refers to percentage of valuable heavy mineral (VHM) - titanium dioxide (rutile and ilmenite) and zircon.

**Concentrating** refers to the production of heavy mineral concentrate (HMC) through a wet concentrating process at the mine site, which is then transported for final processing into finished product at a mineral processing plant.

**HMC produced** refers to HMC, which includes the valuable heavy mineral concentrate (zircon, rutile, ilmenite) as well as other non-valuable heavy minerals (gangue).

**VHM produced** refers to an estimate of valuable heavy mineral in heavy mineral concentrate expected to be processed.

**VHM produced and the VHM assemblage** - provided to enable an indication of the valuable heavy mineral component in HMC.

**HMC processed** provides an indication of material emanating from each mining operation to be processed.

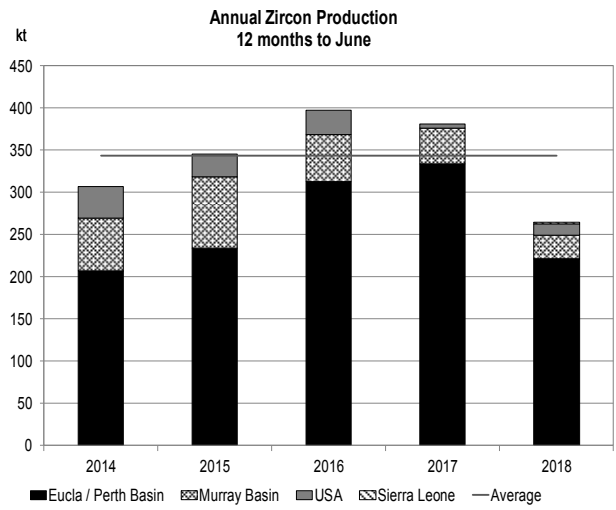
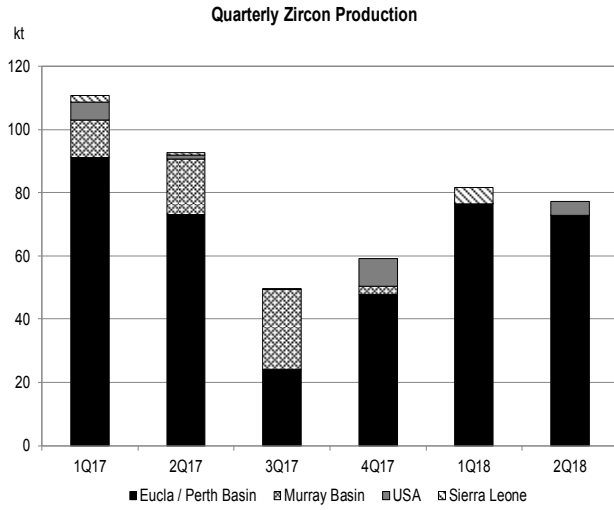
**Finished product** provides an indication of the finished production (zircon, rutile, ilmenite) attributable to the VHM in HMC production streams from the various mining operations. Finished product levels are subject to recovery factors which can vary. The difference between the VHM produced and finished product reflects the recovery level by operation, as well as processing of finished material/concentrate in inventory. Ultimate finished product production (rutile, ilmenite, and zircon) is subject to recovery loss at the processing stage – this may be in the order of 10%.

**Ilmenite** is produced for sale or as a feedstock for synthetic rutile production.

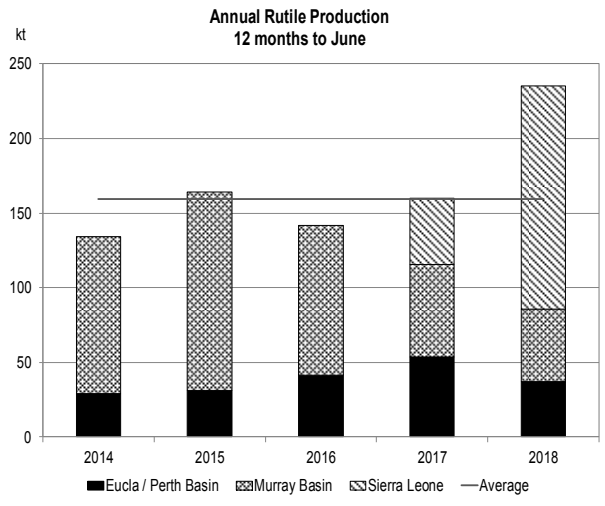
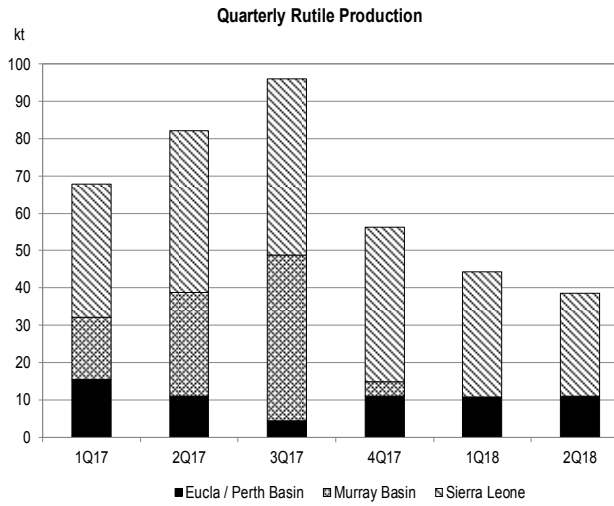
Typically, 1 tonne of upgradeable ilmenite will produce between 0.56 and 0.60 tonnes of synthetic rutile. Iluka also purchases external ilmenite for its synthetic rutile production process.

# PRODUCTION SUMMARIES

## Zircon



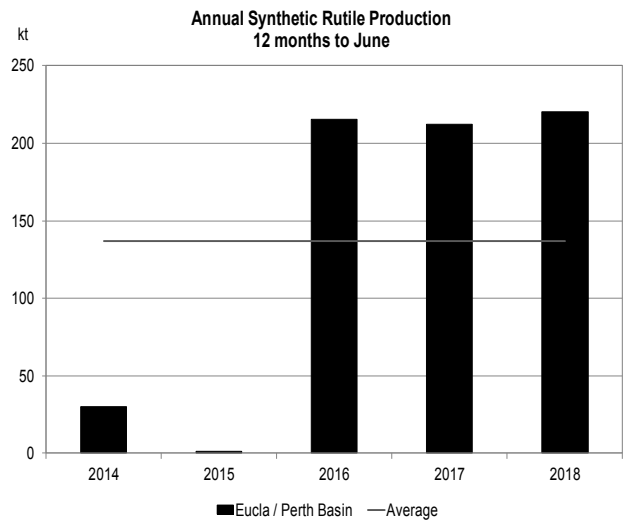
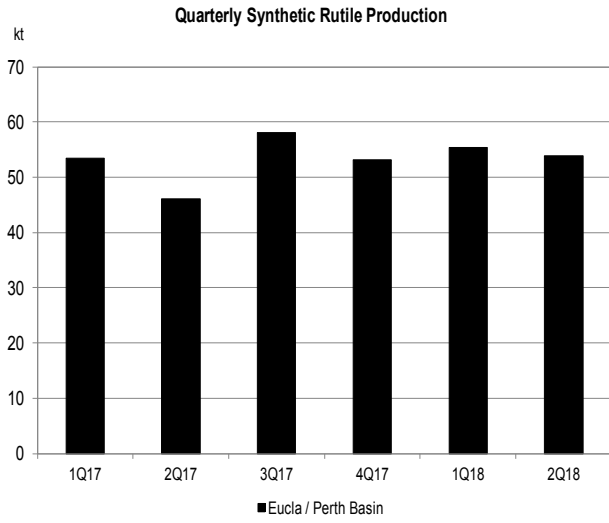
## Rutile



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## Synthetic Rutile



## Ilmenite

