

**ILUKA**

# Australian Securities Exchange Notice

16 July 2014

## QUARTERLY PRODUCTION REPORT 30 JUNE 2014

### SUMMARY OF PHYSICAL AND FINANCIAL DATA

	Jun-13 Quarter	Mar-14 Quarter	Jun-14 Quarter	Jun-13 YTD	Jun-14 YTD	Jun-14 YTD vs Jun-13 YTD
	kt	kt	kt	kt	kt	%
<b>Production</b>						
Zircon	62.4	77.8	96.2	118.5	174.0	46.8
Rutile	34.8	33.2	44.9	60.6	78.1	28.9
Synthetic Rutile	30.0	-	-	59.0	-	(100.0)
<b>Total Z/R/SR Production</b>	<b>127.2</b>	<b>111.0</b>	<b>141.1</b>	<b>238.1</b>	<b>252.1</b>	<b>5.9</b>
Ilmenite – Saleable & Upgradeable	173.0	110.2	116.6	333.9	226.8	(32.1)
<b>Total Mineral Sands Production<sup>1</sup></b>	<b>300.2</b>	<b>221.2</b>	<b>257.7</b>	<b>572.0</b>	<b>478.9</b>	<b>(16.3)</b>
<b>Sales</b>						
Zircon				210.9	146.3	(30.6)
Rutile				56.3	95.5	69.6
Synthetic Rutile				20.0	35.3	76.5
<b>Total Z/R/SR Sales</b>				<b>287.2</b>	<b>277.1</b>	<b>(3.5)</b>
Ilmenite				147.0	221.8	50.9
<b>Total Mineral Sands Sales</b>				<b>434.2</b>	<b>498.9</b>	<b>14.9</b>
Z/R/SR revenue A\$ million	217.1	94.8	186.6	338.4	281.3	(16.9)
Ilmenite and other revenue A\$ million	24.7	35.9	25.7	43.3	61.9	43.0
<b>Mineral Sands Revenue A\$ million</b>	<b>241.8</b>	<b>130.7</b>	<b>212.3</b>	<b>381.7</b>	<b>343.2</b>	<b>(10.1)</b>
Cash Costs of Production A\$ million				201.9	200.7	0.6
Cash Prod Costs per Tonne of Z/R/SR Produced A\$				848	796	6.1
<b>Unit Cost of Goods Sold per Tonne of Z/R/SR Produced A\$</b>				<b>864</b>	<b>897</b>	<b>(3.8)</b>
<b>Revenue per Tonne of Z/R/SR Sold A\$</b>				<b>1,178</b>	<b>1,015</b>	<b>(13.8)</b>
<b>Average AUD:USD cents</b>	<b>99.2</b>	<b>89.7</b>	<b>93.2</b>	<b>101.5</b>	<b>91.4</b>	<b>10.0</b>

<sup>1</sup> Total mineral sands production includes ilmenite available for upgrading to synthetic rutile and that available for sale. The relative utilisation of ilmenite for upgrading or sale is more apparent with the reporting of sales volumes in the June and December quarterly reports.

For personal use only

## OVERVIEW

- Total zircon/rutile/synthetic rutile (Z/R/SR) production, while remaining constrained relative to usual production settings, increased 5.9 per cent to 252 thousand tonnes, compared with the previous corresponding period.
- Total Z/R/SR sales of 277 thousand tonnes were marginally lower (down 3.5 per cent), with higher rutile and synthetic rutile sales offset by an expected lower relative half-on-half sales profile for zircon.
- Mineral sands sales, including ilmenite, increased 14.9 per cent to 490 thousand tonnes.
- Mineral sands revenues declined by 10.1 per cent to \$343.2 million, associated mainly with lower received prices compared with the previous corresponding period.
- Total cash costs of production for the first half were \$201 million, comparable with the previous corresponding period and trending in line with the full year guidance figure (~\$430 million).
- Unit cash cost of production per tonne of Z/R/SR produced declined by 6.1 per cent to \$796/tonne.
- Unit cost of goods sold (cash and non-cash costs) of Z/R/SR for the first half of 2014 was \$897 per tonne, a similar level to the 2013 full year figure of \$887 per tonne and slightly higher than the figure for the previous corresponding period of \$864 per tonne.
- Unit revenue per tonne of Z/R/SR sold was \$1,015 compared with \$1,178 in the previous corresponding period.
- Iluka generated free cash flow of \$64 million in the first half and had net debt at 30 June of \$155 million.
- Iluka extended the maturity of \$565 million of the \$800 million in credit facilities available under its Multi Option Facility Agreement from April 2017 to April 2019 and also increased the size of the facilities by \$50 million to \$850 million through the addition of a new bilateral facility, also available to April 2019.

## PRODUCTION

Total zircon/rutile/synthetic rutile (Z/R/SR) production for the half was 252 thousand tonnes (1H 2013: 238 thousand tonnes), comprising 174 thousand tonnes of zircon and 78 thousand tonnes of rutile. Higher production mainly reflects higher mineral separation plant utilisation rates.

No synthetic rutile was produced during the half, associated with idling of kilns.

Iluka's production settings are in line with the guidance provided on full year production (refer slide 14 of the 2013 Full Year Results slide presentation available on the Iluka website [www.iluka.com](http://www.iluka.com)).

These production settings entail lower mineral separation plant utilisation than normal to enable the progressive drawdown of finished goods inventory, and reduce transport and operating costs. At the company's two Australian operating mines, Jacinth-Ambrosia in South Australia and Wornack, Rownack and Pirro (WRP) in Victoria, mining operations continued at essentially full utilisation rates. These rates enable optimum unit cash cost outcomes for the production of heavy mineral concentrate (HMC), which in the case of WRP is planned to entail a build of HMC levels over 2014, which will be drawn down following the completion of planned mining in the first half of 2015 and before the commencement of mining at the next planned mine development at Balranald in New South Wales, scheduled at this stage for 2016.

At Jacinth-Ambrosia, HMC is being transported for processing, in line with expected continued zircon market strengthening in 2014 and into 2015. Jacinth-Ambrosia HMC is being processed at both the Nangulu mineral separation plant in Western Australia, which is operating at approximately 50 per cent capacity, and at Hamilton in Victoria, which is operating at approximately 80 per cent capacity. This plant is capable of processing a blend of WRP and Jacinth-Ambrosia concentrate and late in the quarter trials were undertaken which further demonstrated production flexibility across operations.

Iluka's mining operation in Western Australia, Tutunup South, remained idled associated with the idling of all synthetic rutile kilns in the State, as the company has previously advised.

In Virginia mining continued at Brink, with mining at Concord idled in April as planned. The mineral separation plant continued to be operated at a reduced capacity, in line with the plan to draw down finished goods inventory.

## **SALES VOLUMES**

Iluka's total Z/R/SR sales volumes for the first half of 2014 were 277 thousand tonnes, compared with 287 thousand tonnes in the first half of 2013, a 3.5 per cent decline.

Iluka's zircon sales volumes for the first half were 146 thousand tonnes (1H 2013: 211 thousand tonnes). While sales year-to-date are trending in line with Iluka's expectations, first half sales in 2014 were lower than the previous corresponding period. As Iluka advised at the time of its May 2014 Annual General Meeting, in the first half of 2013 broad based zircon price increases were communicated to customers which prompted some increased ordering of zircon in that period. Iluka expects second half 2014 zircon sales volumes to be greater than the second half of 2013 (2H 2013: 160 thousand tonnes; full year 2013: 370 thousand tonnes).

Iluka's combined rutile and synthetic rutile sales in the first half of 2014 of 130 thousand tonnes, represented an increase from 2013 first half levels (1H 2013: 76 thousand tonnes). Rutile sales were 95 thousand tonnes (1H 2013: 56 thousand tonnes) while synthetic rutile sales for the first half were 35 thousand tonnes (1H 2013: 20 thousand tonnes). One shipment of 10 thousand tonnes of synthetic rutile scheduled for June slipped into the first week of July due to vessel scheduling and port congestion.

Ilmenite sales for the first half of 222 thousand tonnes, were higher than the prior corresponding period (1 H 2013: 147 thousand tonnes)

## **REVENUE**

Iluka's mineral sales revenue for the first half of 2014 was \$343 million (1H 2013: \$382 million), a 10 per cent decline. Lower first half revenue was mainly associated with lower received prices, reflected in a first half 2014 average revenue per tonne of Z/R/SR sold of \$1,015 compared with \$1,178 in the previous corresponding period, together with marginally lower overall Z/R/SR sales volumes.

First half sales revenue included \$281 million attributable to Z/R/SR sales and \$62 million to ilmenite and by-product (iron oxide and char) sales.

## **CASH COSTS OF PRODUCTION**

Iluka's first half total cash costs of production were \$201 million which compares to full year guidance of ~\$430 million. In the first half ~\$180 million of cash costs were attributed to mineral sands products and ~\$20 million to by-product production. Iluka's guidance parameters in February 2014 suggested that full year mineral sands cash costs would be ~\$365 million, with ~\$65 million in full year cash costs attributed to by-products. Iluka's cash costs are trending in line or below guidance parameters year-to-date.

Unit cash cost per tonne of Z/R/SR produced in the first half was \$796 per tonne. This compares with \$848 per tonne in the first half of 2013. Unit cost of goods sold (cash and non-cash cost) of Z/R/SR for the first half of 2014 was \$897 per tonne, a similar level to the 2013 full year figure of \$887 per tonne and slightly higher than the figure for the previous corresponding period of \$864 per tonne.

## **FINANCIAL CHARACTERISTICS**

The company advised at the time of the Annual General Meeting on 21 May that it had generated free cash for the year of \$51 million as at the end of April, with a net debt position of \$169 million. Free cash flow generation in May and June, with a moderation of planned capital expenditure, but after the second scheduled tranche of investment in Metalysis, has resulted in free cash flow for the half of \$64 million and net debt at 30 June of \$155 million. During the period, Iluka extended the maturity of \$565 million of the \$800 million in credit facilities available under its Multi Option Facility Agreement from April 2017 to April 2019 and also increased the size of the facilities by \$50 million to \$850 million through the addition of a new bilateral facility, also available to April 2019.

The value of inventory on the balance sheet at 30 June compared with 31 December 2013 was not materially different, with a reduction in finished goods inventory (mainly rutile and synthetic rutile) more than offset by a build in heavy mineral concentrate inventories (including in the Murray Basin as part of deliberate

efforts to provide a HMC feed source after the completion of the Woornack, Rownack, Pirro mine and before Balranald). Total HMC produced for the half was 676 thousand tonnes, compared to 480 thousand tonnes processed through the mineral separation plants (refer Appendix 1).

## **MINERAL SANDS MARKET CONDITIONS**

### **Zircon**

As commented upon at the time of the Annual General Meeting, zircon market conditions year-to-date reflect many of the features of 2013 in terms of variable demand patterns across countries and end segments and, accordingly, full year 2014 zircon sales volumes, based on current indicators, may not be materially different from 2013 levels. North American and China demand is more robust than in other areas. In China, some weakening in April and May of certain property sales and lending data, has not, at this stage, been reflected in any noticeable impact on Iluka sales. North American demand continues to be influenced by industrial and manufacturing applications, where the trends and underlying data continue to be favourable.

As Iluka advised previously, demand in Europe has been subdued, despite some emerging signs of recovery during the latter part of June quarter, influenced predominately by demand from the export markets supplied by European ceramics producers, such as the Middle East and Brazil. Sales to other markets, including South East Asia, Japan and India continued to be well below run rates observed in previous years.

The company advised at the time of its Annual General Meeting in May that there had been no material change in the previously advised weighted average received zircon price received by the company in the December quarter 2013 of US\$1,080/tonne FOB. This remained the situation at the end of June.

### **Titanium Dioxide**

Encouraging features continue to be observed in terms of a recovery in high grade feedstock requirements, particularly in the chloride pigment sector, where inventories and pigment plant utilisation rates appear to be normalising, based on generally healthy demand trends in North American and European pigment and paint markets. This recovery in demand is expected to continue.

Iluka's rutile sales reflect in part the company's continued approach to attempting to optimise margin outcomes under current market conditions, as well as realised value considerations pertaining to the timing of sales through the current cyclical recovery. This is influenced by an expectation that demand for rutile will be in excess of supply in 2015 coinciding with Iluka completing mining at the Woornack, Rownack Pirro mine in the Murray Basin, Victoria early in 2015. Under a situation of potentially constrained supply of rutile, the company will be seeking to support customers through allocated sales of stock until the next Murray Basin deposit, Balranald, commences production, scheduled currently for 2016. For these reasons, Iluka expects the rutile sales profile in 2014 to be more first half weighted.

Iluka has recommenced supply of synthetic rutile to some customers and expects a gradual recovery of demand, which, if realised, may underpin the reactivation of a synthetic rutile kiln.

Iluka commented at its Annual General Meeting in May, that despite some slight erosion in the March quarter from the December quarter 2013 weighted average rutile price of US\$910/tonne FOB, a stabilisation of prices received had occurred in the second quarter.

Iluka advised in its February 2014 guidance that it expects that total zircon/rutile/synthetic rutile sales may exceed production (~550 thousand tonnes) and also be above 2013 sales levels (584 thousand tonnes).

## GROUP MINERAL SANDS PRODUCTION

The following 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 Australia, at one of two mineral separation plants, at Hamilton, Victoria, and Narngulu, Western Australia. Iluka also has a mineral separation plant in Virginia, United States. A similar table showing a 12 month comparison is on page 6. Given the integrated nature of Iluka's Australian operations, heavy mineral concentrate is capable of being processed into final product at either of the Australian mineral processing facilities. Appendix 1 provides details of the physical flows from mining operations to mineral processing facilities.

### Physical Production

	Jun-13 Quarter	Mar-14 Quarter	Jun-14 Quarter	Jun-13 YTD	Jun-14 YTD	Jun-14 YTD vs Jun-13 YTD
	kt	kt	kt	kt	kt	%
<b>Zircon<sup>1</sup></b>						
Eucla/Perth Basin (SAWA)	36.9	54.4	65.4	69.7	119.8	71.9
Murray Basin (VIC)	17.2	15.9	22.6	30.5	38.5	26.2
<b>Australia</b>	<b>54.1</b>	<b>70.3</b>	<b>88.0</b>	<b>100.2</b>	<b>158.3</b>	<b>58.0</b>
<b>Virginia (USA)</b>	<b>8.3</b>	<b>7.5</b>	<b>8.2</b>	<b>18.3</b>	<b>15.7</b>	<b>(14.2)</b>
<b>Total Zircon Production</b>	<b>62.4</b>	<b>77.8</b>	<b>96.2</b>	<b>118.5</b>	<b>174.0</b>	<b>46.8</b>
<b>Rutile</b>						
Eucla/Perth Basin (SAWA)	7.3	5.5	8.4	16.8	13.9	(17.3)
Murray Basin (VIC)	27.5	27.7	36.5	43.8	64.2	46.6
<b>Total Rutile Production</b>	<b>34.8</b>	<b>33.2</b>	<b>44.9</b>	<b>60.6</b>	<b>78.1</b>	<b>28.9</b>
<b>Synthetic Rutile (WA)</b>	<b>30.0</b>	<b>-</b>	<b>-</b>	<b>59.0</b>	<b>-</b>	<b>(100.0)</b>
<b>TOTAL Z/R/SR PRODUCTION</b>	<b>127.2</b>	<b>111.0</b>	<b>141.1</b>	<b>238.1</b>	<b>252.1</b>	<b>5.9</b>
<b>Ilmenite – Saleable &amp; Upgradeable</b>						
Eucla/Perth Basin (SAWA)	61.8	17.8	27.4	153.7	45.2	(70.6)
Murray Basin (VIC)	66.5	63.9	58.6	87.6	122.5	39.8
<b>Australia</b>	<b>128.3</b>	<b>81.7</b>	<b>86.0</b>	<b>241.3</b>	<b>167.7</b>	<b>(30.5)</b>
<b>Virginia (USA)</b>	<b>44.7</b>	<b>28.5</b>	<b>30.6</b>	<b>92.6</b>	<b>59.1</b>	<b>(36.2)</b>
<b>Total Ilmenite – Saleable &amp; Upgradeable</b>	<b>173.0</b>	<b>110.2</b>	<b>116.6</b>	<b>333.9</b>	<b>226.8</b>	<b>(32.1)</b>
<b>TOTAL MINERAL SANDS PRODUCTION</b>	<b>300.2</b>	<b>221.2</b>	<b>257.7</b>	<b>572.0</b>	<b>478.9</b>	<b>(16.3)</b>

<sup>1</sup> Iluka's zircon production figures include small volumes of zircon attributable to external processing arrangements.

## Physical Production – 12 Month Comparison

	12 mths to Jun-13	12 mths to Jun-14	12 mths Jun-14 vs 12 mths Jun-13
	kt	kt	%
<b>Zircon</b>			
Eucla/Perth Basin (SAWA)	117.8	235.8	100.2
Murray Basin (VIC)	94.9	67.8	(28.6)
<b>Australia</b>	<b>212.7</b>	<b>303.6</b>	<b>42.7</b>
<b>Virginia (USA)</b>	<b>40.1</b>	<b>37.0</b>	<b>(7.7)</b>
<b>Total Zircon Production</b>	<b>252.8</b>	<b>340.6</b>	<b>34.7</b>
<b>Rutile</b>			
Eucla/Perth Basin (SAWA)	36.0	30.4	(15.6)
Murray Basin (VIC)	141.4	114.1	(19.3)
<b>Total Rutile Production</b>	<b>177.4</b>	<b>144.5</b>	<b>(18.5)</b>
<b>Synthetic Rutile (WA)</b>	<b>176.1</b>	<b>-</b>	<b>(100.0)</b>
<b>TOTAL Z/R/SR PRODUCTION</b>	<b>606.3</b>	<b>485.1</b>	<b>(20.0)</b>
<b>Ilmenite – Saleable &amp; Upgradeable</b>			
Eucla/Perth Basin (SAWA)	271.6	102.7	(62.2)
Murray Basin (VIC)	173.6	218.6	25.9
<b>Australia</b>	<b>445.2</b>	<b>321.3</b>	<b>(27.8)</b>
<b>Virginia (USA)</b>	<b>200.0</b>	<b>156.1</b>	<b>(22.0)</b>
<b>Total Ilmenite –Saleable &amp; Upgradeable</b>	<b>645.2</b>	<b>477.4</b>	<b>(26.0)</b>
<b>TOTAL MINERAL SANDS PRODUCTION</b>	<b>1,251.5</b>	<b>962.5</b>	<b>(23.1)</b>

## PLANNED NEW PRODUCTION

### West Balranald, New South Wales

Balranald and Nepean are two rutile-rich mineral sands deposits in the northern Murray Basin, New South Wales. The Balranald development, if approved, would provide the potential for approximately eight years of rutile, zircon and associated ilmenite products. It is proposed that the Balranald development would follow the completion of mining at Woorneck, Rownack and Pirro and utilise the existing Hamilton mineral separation plant. Dependent on the outcome of the definitive feasibility study and the form of development, as well as market conditions, Balranald has the potential to produce approximately 160 thousand tonnes of rutile; 130 thousand tonnes of zircon and 700 thousand tonnes of ilmenite in total across both chloride and sulphate grade material on average per annum.

The planned activities associated with the definitive feasibility study continued, including commencement of an extensive hydrogeological pilot programme, to be followed by the detailed engineering required for project execution. Test work to better assess the proportion of the ilmenite from Balranald suitable for various downstream processing technologies continued during the quarter. Iluka also continued progress with all regulatory approvals.

Environmental approvals planning work continues as a precursor to the submission of an Environmental Impact Statement, planned currently for early 2015.

### **Cataby, Western Australia**

The Cataby mineral sands deposit, located north of Perth, is a chloride ilmenite deposit that is also expected to produce material volumes of zircon. Subject to study completion and approvals, Cataby has the potential to produce annual volumes of approximately 330 thousand tonnes of chloride ilmenite (suitable for sale or as a feed source for synthetic rutile production); approximately 55 thousand tonnes of zircon and approximately 30 thousand tonnes of rutile over an initial six years economic life, which is potentially extendable.

Groundwater modelling and the conceptual design of the mining unit plant were completed during the quarter. Site layouts and general engineering progressed and is expected to be completed next quarter.

Cultural heritage surveys involving the indigenous native title claimant groups were completed during the period and a Voluntary Co-Operation Agreement has been executed.

### **Eucla Basin Satellite Deposits, South Australia**

Iluka has undertaken a scoping study on the Sonoran, Atacama and Typhoon satellite deposits in close proximity to the Jacinth-Ambrosia operation in the Eucla Basin. Chloride ilmenite from these deposits is expected to be suitable both as a feed source to Iluka's synthetic rutile kilns and for direct sale. The deposits would also produce associated zircon. The pre-feasibility study is underway and given a decision to undertake further delineation drilling on the Atacama deposit, schedule for completion in the first half of 2015, for the potential development of one or more of these deposits. Innovative mining and processing designs for these deposits are included in the scope of the pre-feasibility study.

Planned activities associated with this pre-feasibility study have continued, with the geometallurgical test work programme entering its final stages, and the commencement of the conceptual plant design and site layout.

### **Hickory, Virginia, United States of America**

The Hickory project is located in Dinwiddie County, Virginia, approximately 19 kilometres west of the existing Iluka Stony Creek mineral separation plant and includes unmined portions of the Old Hickory ore body. The Hickory project, if approved, would help extend the life of operations in Virginia by approximately six to ten years, producing quality chloride grade ilmenite and an associated zircon production stream. Ore concentrated at Hickory would be trucked to the existing mineral separation plant at Stony Creek, Virginia for processing into final products.

A definitive feasibility study was completed for the Hickory project in December 2012. During 2013, the project progressed detailed engineering activities including infill drilling and ore sampling; additional mineral processing tests; detailed construction designs for the concentrator plant, mine, and tailings areas; bid documents preparation; acquisition of construction quotes; and securing of environmental and operating permits.

During the quarter work continued to focus on optimising mining, tailings and rehabilitation plans.

### **Aurelian Springs, North Carolina, United States of America**

The Aurelian Springs project involves a feasibility study for the potential development of a mineral sand deposit located in Halifax County, North Carolina, approximately 90 kilometres south of Iluka's mineral separation plant at Stony Creek, Virginia. The evaluation is based currently on the relocation of the Concord mining unit and concentrator plant to Aurelian Springs. The mine is capable of producing chloride ilmenite and an associated zircon production stream, and would extend the economic life of Iluka's current United States' mineral sands operation for approximately 10 years.

The pre-feasibility study was completed in 2013 in accordance to plan, and the project has progressed to the definitive feasibility stage which will be completed in 2014.

The definitive feasibility study work includes acquisition of the remaining land and mineral rights, securing of permits, detailing a work plan for relocation of the mine and concentrator, and developing a detailed cost estimate and schedule. During the quarter, further sample analysis and testing work, mineral separation plant upgrade design work and detailed engineering for the Concord concentrator plant relocation were progressed.

**Puttalam, Sri Lanka**

In Sri Lanka, the focus was on gaining clarity with the Government in relation to the legal and investment terms for the development of the Puttalam project.

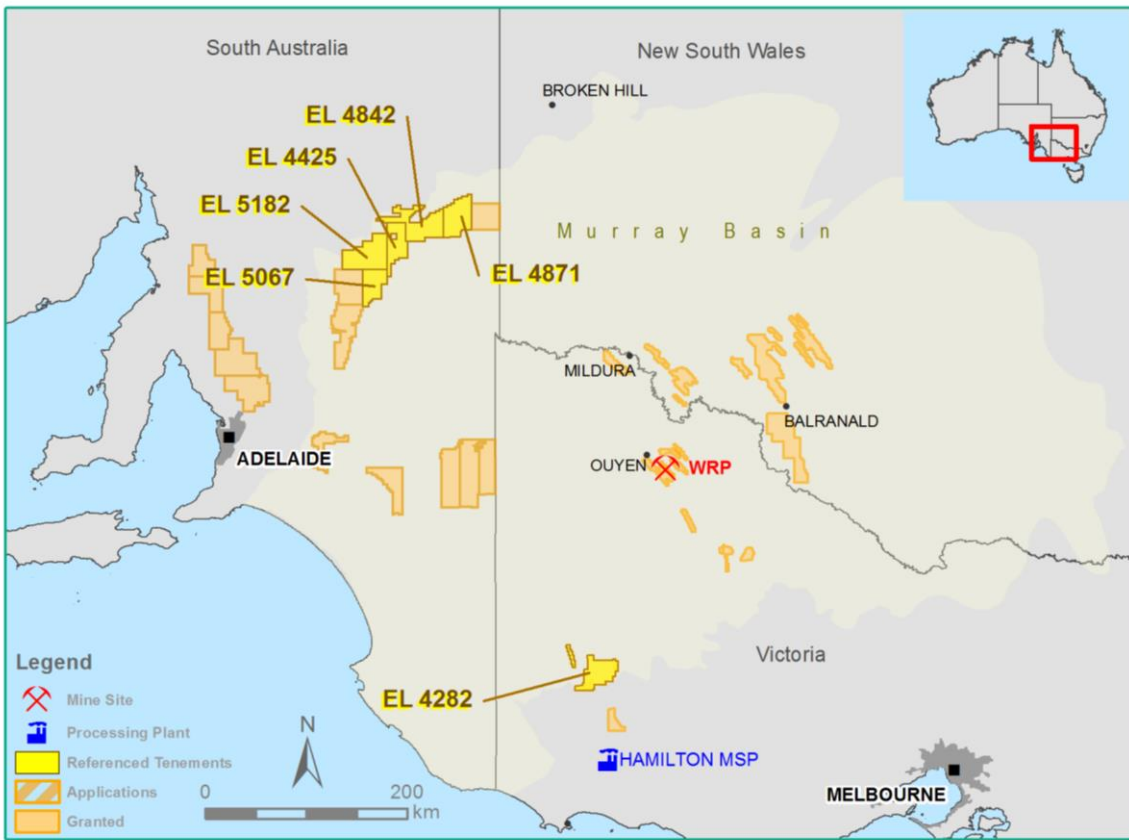
**EXPLORATION**

**Murray Basin**

Exploration activity during the quarter included:

- completion of greenfields exploration drilling along the western margin of the Murray Basin on EL4425, EL4842, EL4871, EL5067 and EL5182; and
- completion greenfields exploration drilling along the south western margin of the Murray Basin on EL4282 in Victoria.

**Figure 1 Murray Basin Tenements and Recent Areas of Exploration Activity**





## **Project Generation**

Iluka is continuing exploration activities (from initial prospecting and tenement acquisition to drilling activity) for mineral sands in several other areas in both Australia and at early stages in numerous international jurisdictions.

### **Investment market and media inquiries:**

Dr Robert Porter  
General Manager, Investor Relations  
Phone: + 61 (0) 3 9225 5008  
Mobile: +61 (0) 407 391 829  
Email: [robert.porter@iluka.com](mailto:robert.porter@iluka.com)

For personal use only

**APPENDIX 1 - OPERATING MINES – PHYSICAL DATA**  
**6 Months to 30 June 2014**

	Jacinth- Ambrosia	Murray Basin	Western Australia	Australia Total	Virginia	Group Total
<b>Mining</b>						
Overburden Moved kbcm	830.0	8,354.4	-	9,184.4	-	<b>9,184.4</b>
Ore Mined kt	3,923.1	1,719.5	-	5,642.6	1,841.6	<b>7,484.2</b>
Ore Grade HM %	7.5	34.5	-	15.7	5.9	<b>13.3</b>
VHM Grade %	6.7	31.5	-	14.3	4.7	<b>11.9</b>
<b>Concentrating</b>						
HMC Produced kt	265.0	299.0	-	564.0	112.3	<b>676.3</b>
VHM Produced kt	234.6	267.9	-	502.5	79.8	<b>582.3</b>
VHM in HMC Assemblage %	88.5	89.6	-	89.1	70.9	<b>86.1</b>
Zircon	55.2	25.1	-	39.2	15.9	<b>35.4</b>
Rutile	6.3	39.3	-	23.8	-	<b>19.9</b>
Ilmenite - Saleable & Upgradeable	26.5	24.2	-	25.3	54.9	<b>30.2</b>
HMC Processed kt	203.1	160.8	5.2	369.1	111.1	<b>480.2</b>
Finished Product <sup>1</sup> kt						
Zircon	106.4	38.5	13.4	158.3	15.7	<b>174.0</b>
Rutile	13.9	64.2	-	78.1	-	<b>78.1</b>
Ilmenite - Saleable & Upgradeable	45.2	122.5	-	167.7	59.1	<b>226.8</b>
Synthetic Rutile Produced kt			-	-		-

An explanation of the Iluka's physical flow information can be obtained from Iluka's Briefing Paper - Iluka Physical Flow Information on the company's website [www.iluka.com](http://www.iluka.com), under Investor Relations, Mineral Sands Briefing Material (2010). The nature of the Iluka operations base means that HMC from various mining locations can be processed at various mineral separation plants.

<sup>1</sup> 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. In the case of Murray Basin it excludes grade attributable to low quality, unsaleable ilmenite which is returned to the mine.

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

**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 one of the company's two Australian mineral processing plants, or the Virginia 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** is provided as an indication of the finished production (zircon, rutile, ilmenite – both saleable and upgradeable) 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 per cent.

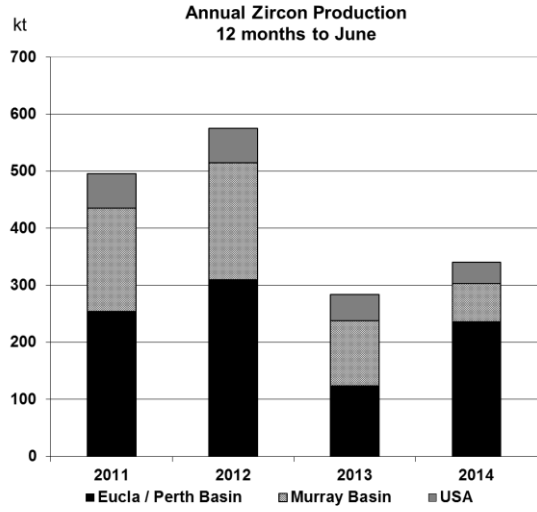
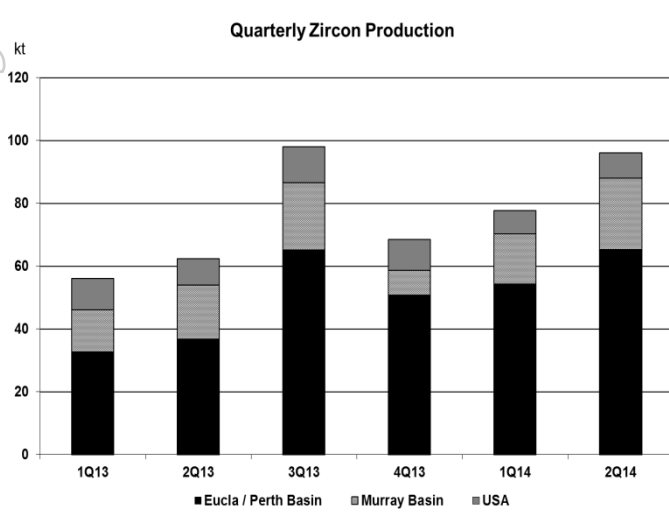
**Ilmenite** is produced for sale or as a feedstock for synthetic rutile production.

Typically, 1 tonne of upgradeable ilmenite will produce between 0.58 to 0.62 tonnes of SR. Iluka also purchases external ilmenite for its synthetic rutile production process.

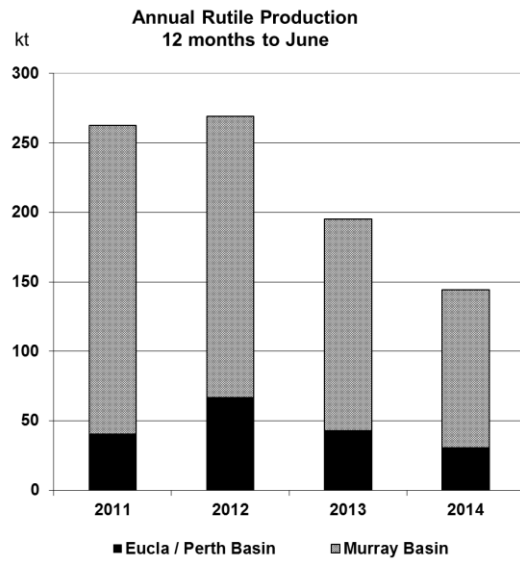
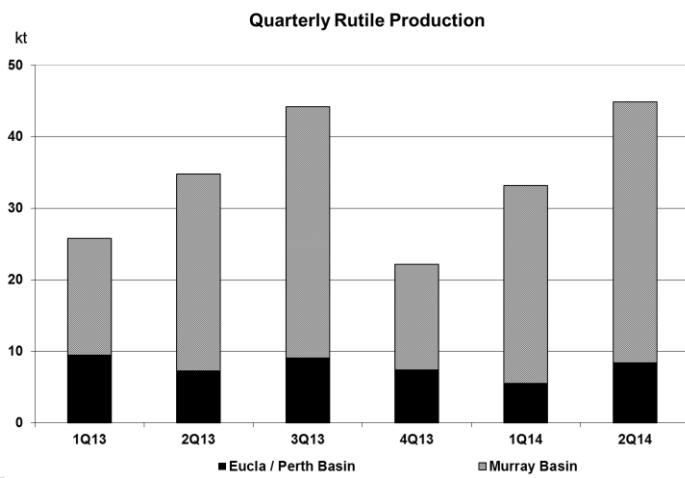
Refer Iluka's website [www.iluka.com](http://www.iluka.com) – Mineral Sands Technical Information for more detailed information on the mineral sands mining and production process.

## APPENDIX 2 – PRODUCTION SUMMARIES

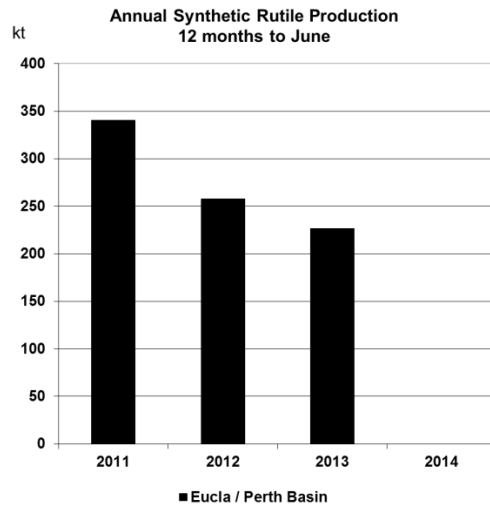
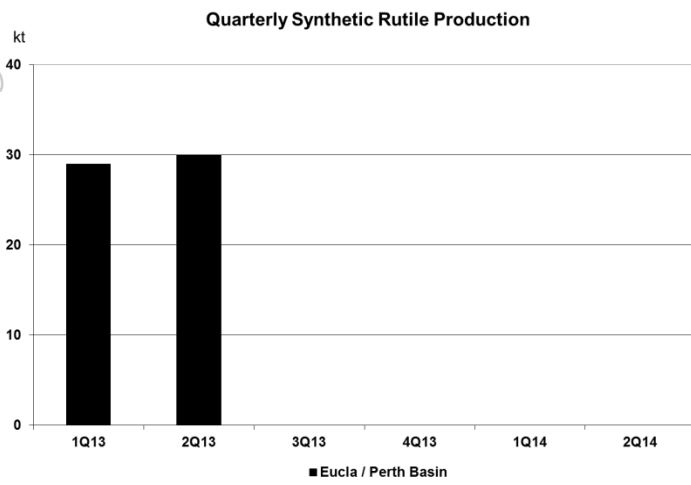
### Zircon



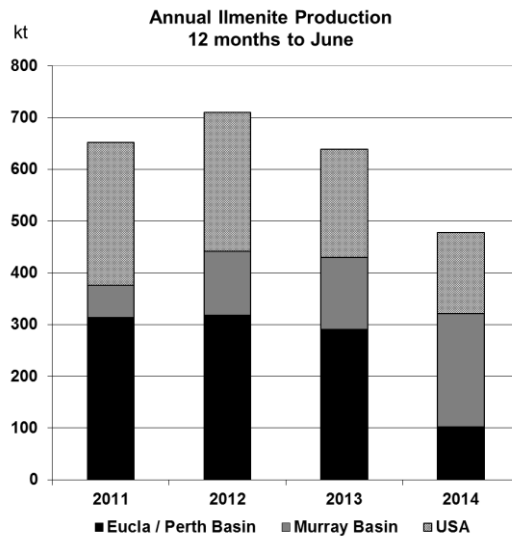
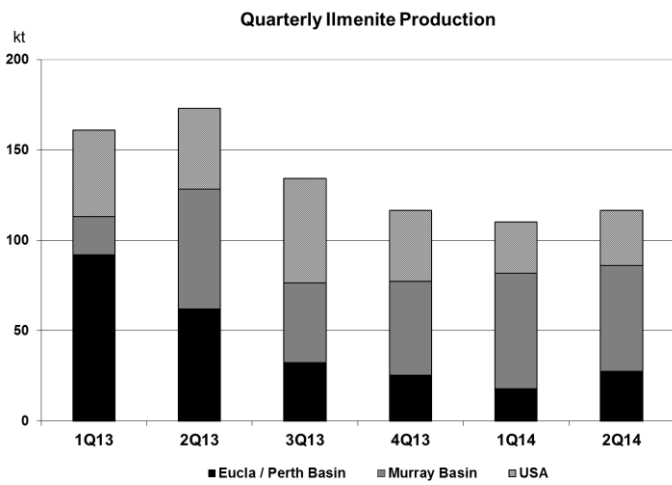
### Rutile



## Synthetic Rutile

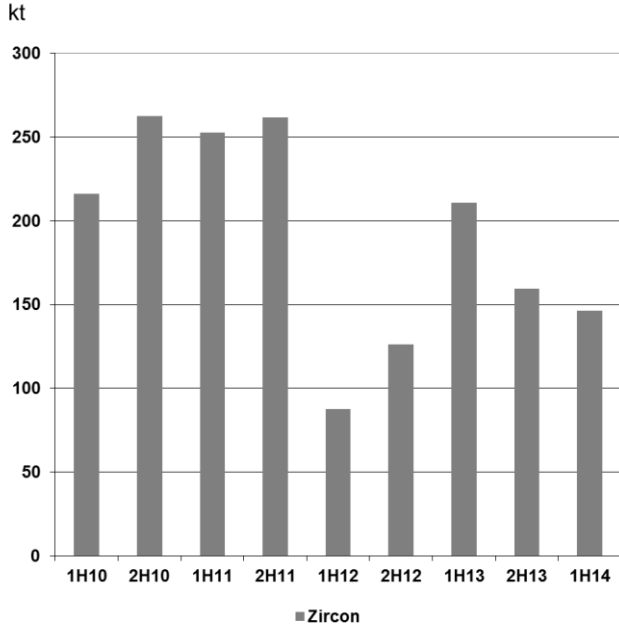


## Ilmenite (upgradeable and saleable ilmenite)

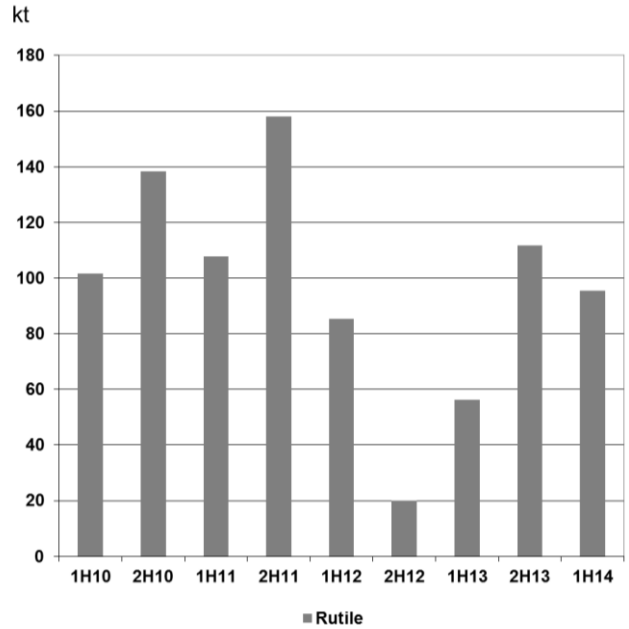


**APPENDIX 3 – HALF YEARLY SALES SUMMARIES**

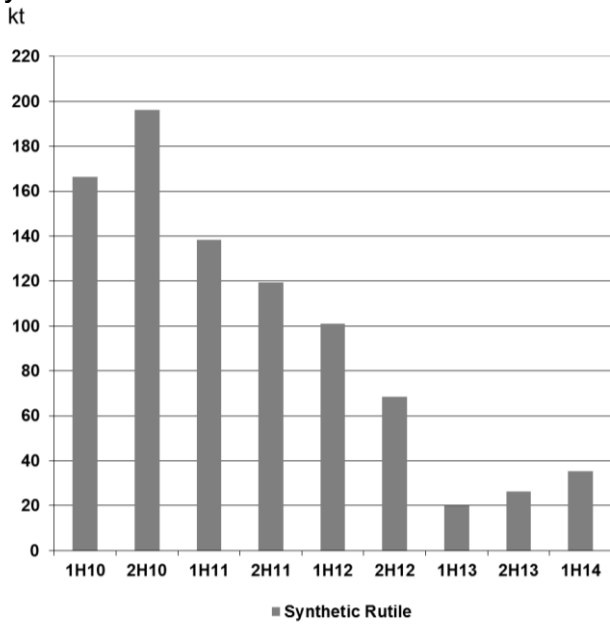
**Zircon**



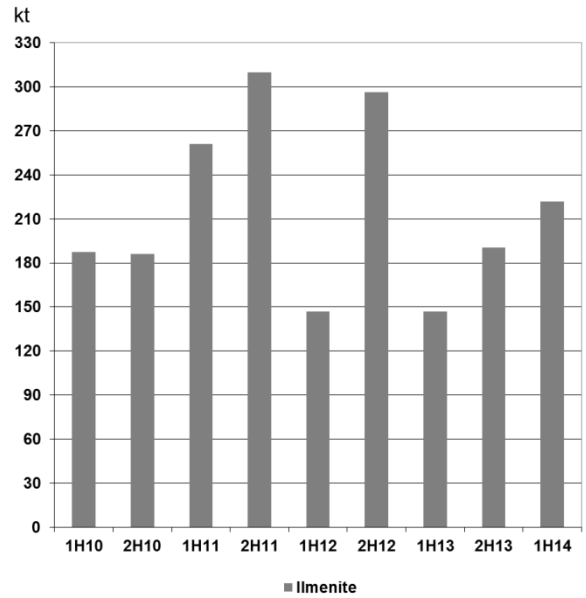
**Rutile**



**Synthetic Rutile**



**Ilmenite**



For personal use only