# Australian Securities Exchange Notice



12 April 2012

## QUARTERLY PRODUCTION REPORT 31 MARCH 2012

#### **OVERVIEW**

#### **Production**

Iluka's first quarter production of zircon, rutile and synthetic rutile was lower than the corresponding quarter in 2011, reflecting a number of factors previously advised by the company:

- a decision to reduce zircon production, mainly through lower processing of Jacinth-Ambrosia heavy mineral concentrate;
- lower output of rutile associated with the completion of mining at the Douglas and Kulwin Murray Basin deposits and the commencement of the mine move from the Kulwin deposit to the Woornack, Rownack, Pirro project location. In the previous corresponding period, Iluka was conducting mining operations at Douglas, Kulwin and Echo; and
- lower synthetic rutile production, reflecting the commencement of a scheduled major maintenance outage for Iluka's largest synthetic rutile kiln (SR kiln 2 in the South West of Western Australia).

Zircon production for the 3 months to 31 March 2012 was 115.7 thousand tonnes (March quarter 2011: 141.8 thousand tonnes).

Rutile production for the 3 months to 31 March 2012 was 50.7 thousand tonnes (March quarter 2011: 63.0 thousand tonnes).

Synthetic rutile production was 50.6 thousand tonnes for the 3 months to 31 March 2012 (March quarter 2011: 78.5 thousand tonnes).

Upgradeable ilmenite production (material able to be used in Iluka's synthetic rutile kilns) was 72.4 thousand tonnes for the 3 months to 31 March 2012 (March quarter 2011: 38.3 thousand tonnes).

Saleable ilmenite production was 123.6 thousand tonnes (March quarter 2011: 109.5 thousand tonnes).

#### Sales Revenue

Mineral sands sales revenue for the 3 months to 31 March was \$196.3 million (2011: \$226.3 million).

The lower sales revenue, despite higher product prices (as advised at the time of the 2011 Full Year Results on 24 February 2012), reflects the expected slow start to zircon sales in 2012, as well as phasing of the shipment schedule for high grade titanium dioxide products. This includes 26 thousand tonnes of high grade titanium dioxide products originally scheduled for shipment in March which had been delayed until early April.

The average Australian dollar/United States dollar (AUD/USD) exchange rate for the quarter was 105.6 cents (March quarter 2011: 100.5 cents).

#### **Project Development**

The mine move from Kulwin to the Woornack, Rownack and Pirro deposits in the Murray Basin is progressing on schedule and with project costs in line with expectations to date. The SR 2 kiln major maintenance outage was completed on schedule and budget during the quarter, with reactivation of the kiln occurring in late March. Plans for the reactivation of SR kiln 1 in the South West of Western Australia are progressing for a fourth quarter re-start. Feasibility studies are in train for four potential new mineral sands projects (refer pages 7 - 8), capable of commencement within the next three years. These projects are part of Iluka's eleven enhanced production projects, disclosed in November 2011, and which include two new project studies in the United States for deposits which have the potential to extend the economic life of the Virginian operation by at least ten years.

#### **Market Conditions**

#### **Zircon**

Iluka has stated on several occasions that it expected a soft quarter or two of zircon demand associated with the following factors: the impact of global economic conditions on customer confidence; the effect of measures by the Chinese Government to control inflation and temper speculative activity in some parts of the Chinese property market; the timing of Chinese New Year and the need for a destocking period, especially for ceramics manufacturers.

As anticipated, first quarter zircon sales figures were low<sup>1</sup> as many customers did not reactivate their plants until February, and in the case of some ceramic manufacturers in China, plants remained closed through part or all of March.

As Iluka has stated previously, it will take some time for a clear view on overall 2012 zircon demand and the phasing of that demand to emerge.

#### **Titanium Products**

Iluka continued to experience strong demand for its high grade titanium dioxide. Similarly, demand for high grade titanium products for use in the manufacture of welding consumables strengthened in the latter half of the quarter as the usage of natural rutile as a feedstock for pigment and titanium metal production limited the global availability of this product.

<sup>&</sup>lt;sup>1</sup> Iluka issues sales volumes with its June and December Quarterly Production Reports.

#### **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 at Virginia, United States. A similar table showing a 12 month comparison is on page 4. Given the integrated nature of Iluka's Australian operations, heavy mineral concentrate is capable of being processed into final product at one or both of the Australian mineral processing facilities. Appendix 1 provides details of the physical flows from mining operations to mineral processing facilities.

## **Physical Production – Quarterly Comparison**

	Mar-11 Quarter	Dec-11 Quarter	Mar-12 Quarter	Mar-12 Qtr vs Dec-11 Qtr	Mar-12 Qtr vs Mar-11 Qtr
	kt	kt	kt	%	%
<u>Zircon<sup>1</sup></u>					
Eucla/Perth Basin (SA/WA)	80.1	72.7	67.2	(16.8)	(24.5)
Murray Basin (VIC)	47.9	59.2	34.8	(29.9)	(13.4)
Australia	128.0	131.9	102.0	(22.7)	(20.3)
Virginia (USA)	13.8	16.5	13.7	(17.0)	(0.7)
Total Zircon Production	141.8	148.4	115.7	(22.0)	(18.4)
Rutile					
Eucla/Perth Basin (SA/WA)	6.4	16.2	16.8	(1.9)	148.4
Murray Basin (VIC)	56.6	49.7	33.9	(30.0)	(38.5)
Total Rutile Production	63.0	65.9	50.7	(23.1)	(19.5)
Synthetic rutile (WA)	78.5	68.7	50.6	(26.3)	(35.5)
TOTAL Z/R/SR PRODUCTION	283.3	283.0	217.0	(23.3)	(23.4)
Ilmanita Calcabla					
<u>Ilmenite – Saleable</u> Eucla/Perth Basin (SA/WA)	36.1	42.8	46.0	7.5	27.4
Murray Basin (VIC)	0.0	42.0	36.5	7.5 N/A	N/A
Australia	36.1	42.8	82.5	92.8	128.5
Virginia (USA)	73.4	69.0	41.1	(40.4)	(44.0)
Total Ilmenite – Saleable	109.5	111.8	123.6	10.6	12.9
TOTAL MINERAL SANDS PRODUCTION <sup>2</sup>	392.8	394.8	340.6	(13.7)	(13.3)
Ilmonite Ungradophia					
<u>Ilmenite – Upgradeable</u> Eucla/Perth Basin (SA/WA)	12.4	38.8	46.2	13.4	254.8
Murray Basin (VIC)	12. <del>4</del> 25.9	36.6 21.7	46.2 14.0	(25.3)	(37.5)
Australia	38.3	60.5	60.2	(25.5)	57.2
Virginia (USA)	0.0	0.0	12.2	(0.5) N/A	N/A
Total Ilmenite – Upgradeable	38.3	60.5	72.4	19.7	89.0
i otal lilliellite – opgradeable	30.3	00.3	12.4	13.1	03.0

<sup>&</sup>lt;sup>1</sup> Iluka's zircon production figures include small volumes of zircon attributable to external processing arrangements. Prior year comparatives have been restated to reflect this production. This equates to 6.3 thousand tonnes in the March 2011 quarter. Given the increasing level of this material and its expected continued contribution to Iluka product available for sale, it is now catergorised in production.

<sup>&</sup>lt;sup>2</sup> Refer explanatory comment on page 11.

<sup>&</sup>lt;sup>3</sup> Total mineral sands production excludes upgradeable ilmenite as this is used in the manufacture of synthetic rutile.

## Physical Production – 12 Month Comparison

	12 mth to Mar-11	12 mth to Mar-12	12 mth Mar-12 vs 12 mth Mar-11
	kt	kt	%
Zircon			
Eucla/Perth Basin (SA/WA)	247.5	310.2	22.6
Murray Basin (VIC)	181.5	205.1	16.7
Australia	429.0	515.3	20.1
Virginia (USA)	60.8	60.1	(1.2)
Total Zircon Production	489.8	575.4	17.5
Rutile			
Eucla/Perth Basin (SA/WA)	40.3	66.8	63.5
Murray Basin (VIC)	222.4	202.2	(8.7)
Total Rutile Production	262.7	269.0	2.4
Synthetic rutile (WA)	340.3	257.8	(24.2)
·			
TOTAL Z/R/SR PRODUCTION	1,092.8	1,102.2	(0.9)
Ilmenite - Saleable			
Eucla/Perth Basin (SA/WA)	156.8	181.5	15.8
Murray Basin (VIC)	36.9	36.5	(1.1)
Australia	193.7	218.0	12.5
Virginia (USA)	275.7	255.7	(7.3)
Total Ilmenite -Saleable	469.4	473.7	0.9
TOTAL MINERAL SANDS PRODUCTION <sup>1</sup>	4 562 2	4 575 0	
TOTAL MINERAL SANDS PRODUCTION _	1,562.2	1,575.9	0.9
<u>Ilmenite – Upgradeable</u>			
Eucla/Perth Basin (SA/WA)	156.7	136.3	(14.4)
Murray Basin (VIC)	25.9	87.6	246.7
Australia	182.6	223.9	22.6
Virginia (USA)	0.0	12.2	N/A
Total Ilmenite – Upgradeable	182.6	236.1	29.3

#### **Production Commentary**

• Mining at Jacinth-Ambrosia deposit has been occurring through a mid grade part of the ore body. Flexibility exists to adjust the mining sequence, as required and within a reasonable period, to increase or decrease heavy mineral concentrate (HMC) production to reflect demand trends. A build of zircon-rich HMC stock has occurred as the current moderation in zircon production has occurred primarily through lower processing of Jacinth-Ambrosia HMC at the Narngulu and Hamilton mineral separation plants. This in turn has generated additional capacity at those plants for reclaiming, treating or cleaning ilmenite feed stocks.

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<sup>&</sup>lt;sup>1</sup> Total mineral sands production excludes upgradeable ilmenite as this is used in the manufacture of synthetic rutile.

- During 2012, the Narngulu facilities are expected to process or upgrade HMC and/or ilmenite feed from: Eneabba, Jacinth-Ambrosia, Murray Basin, Tutunup South and Virginia, as well as external feed sources. This reflects both the integrated nature of Iluka's Australian operations and the flexibility to adjust feed sources and product production outcomes to cater for market and customer demand.
- Iluka's Murray Basin operations contributed rutile production of 33.9 thousand tonnes during the
  quarter and 34.8 thousand tonnes of zircon. Mining operations ceased at Douglas at the end of
  January with processing of concentrate continuing to the end of March. Mining at Kulwin
  ceased in mid February, with the relocation of the mining and processing equipment the 25
  kilometres to the Woornack, Rownack and Pirro (WRP) deposits commencing. The relocation
  and installation of equipment is on schedule for commissioning of the WRP operation in May
  2012.
- During the quarter, Iluka commenced the processing of wet high intensity magnetic separation (WHIMS) ilmenite sourced from the Kulwin mine. This ilmenite, previously considered of no commercial value, will be transported to the North Capel dry mill separation plant where it will be fractionated to produce sulphate and chloride ilmenite streams for direct sale or utilisation in synthetic rutile capacity for upgrading.
- Iluka continued to sell small quantities of Douglas ilmenite to the Chinese sulphate pigment market.
- The Hamilton mineral separation plant is utilising heavy mineral concentrate stockpiled before the cessation of the Kulwin mining operations and will do so until mining operations at WRP commence. Iluka is also processing some Jacinth-Ambrosia HMC at the Hamilton mineral separation plant to optimise the use of the zircon circuit at Hamilton. The level of zircon-rich HMC from Jacinth-Ambrosia in the total blend will be determined based on Iluka's zircon production requirements and the need to maximise rutile production through the plant.
- Mining at Eneabba recommenced on 15 December 2011, with processing of Eneabba sourced HMC at the Narngulu MSP commencing from the first quarter of 2012. The Eneabba restart involved recommencing mining operations at the Twin Hills and Depot Hill North ore reserves. Mining Units 2 and 9, as well the Newman and South Secondary concentrators, have been restarted to produce approximately 140 thousand tonnes per annum of ilmenite suitable as a feed source for the production of premium synthetic rutile. In addition, approximately 25 thousand tonnes of zircon and approximately 25 thousand tonnes per annum of rutile will be produced from the Narngulu mineral separation plant (MSP). The Narngulu MSP has been upgraded to accommodate an additional 300 thousand tonnes of Eneabba HMC.
- The Tutunup South mine in Western Australia continued mining operations throughout the quarter, building stocks of HMC to be consumed throughout 2012. Typically, ilmenite from HMC from Tutunup South is the principal feed source for Iluka's South West SR 2 kiln, which was undergoing a major maintenance outage for most of the quarter. The non-magnetic fraction (rutile and zircon) from the HMC was not processed in the March quarter, in line with Iluka's short term objective of moderating zircon production.
- Iluka's synthetic rutile production for the quarter was 50.6 thousand tonnes, sourced from SR 2 kiln in the South West and SR 3 kiln in the Mid West, Western Australia. The latter kiln was reactivated in October 2011. SR 3 kiln has the flexibility to accommodate various ilmenite feed sources (for example, Eneabba ilmenite, Murray Basin ilmenite), and will also process a portion of Virginia ilmenite on a test basis. A planned major maintenance outage for SR 2 kiln in the South West commenced on 3 February and concluded with the kiln returned to service on 25 March. Iluka has also commenced planning and preparatory work for the re-activation of SR 1 kiln in the South West. Production is currently planned to commence in the fourth quarter, with the kiln devoted initially to product test work.
- In Virginia, mining of the Concord and Brink deposits progressed according to plan. From early February the run-of-mine (ROM) feed at Concord was supplemented with dry mill tailings that had been produced over the past three years. Treatment of the tailings has several benefits: it increases the content of zircon mineral in the feed; facilitates the return of the barren tailings to the mine voids; and, offsets some of the reduction in ROM grade. As indicated in previous reports, the cut-off grade has been lowered in line with updated mine optimisations and this will

#### Mineral Sands Revenue

	Mar-11 Qtr	Dec -11 Qtr	Mar-12 Qtr	12 mth to Mar-11	12 mth to Mar-12	Mar-12 Qtr vs Mar-11 Qtr	12 mth to Mar-12 vs 12 mth to Mar-11
						%	%
Total Sales Revenue \$m	226.3	434.0	196.3	951.3	1,507.4	(13.3)	58.5
Average A\$/US\$ spot rate (cents)	100.5	101.1	105.6	94.5	104.5	5.1	10.6

Mineral sands sales revenue for the 3 months to 31 March was \$196.3 million (2011: \$226.3 million). The lower sales revenue, despite higher product prices (as advised at the time of the 2011 Full Year Results on 24 February 2012), reflects the expected slow start to zircon sales in 2012, as well as phasing of the shipment schedule for high grade titanium dioxide products and the impact of the higher Australian/United States dollar exchange rate.

#### **Potential New Production**

The following includes formal work on new production sources at an either approved or at feasibility stage. In addition to the following, Iluka's enhanced production project (EPP), as outlined at the company's November 2011 Mineral Sands Briefing session, is investigating a range of other production response options within the Iluka portfolio in Australia and in Virginia.

Woornack, Rownack, Pirro - Murray Basin, Victoria (in project execute phase)

Woornack, Rownack and Pirro (WRP) represent the next mineral sands deposits to be mined in the Murray Basin, following completion of mining activity at Kulwin in the first quarter of 2012. During the quarter:

- civil works at the WRP site were completed, and the tailing dam construction was completed:
- detailed engineering of structural, mechanical and piping design was completed, with field piping installation well advanced;
- the Kulwin mining unit plant and all Kulwin processing plant equipment was de-constructed and relocated to the WRP site; and
- WRP ground water de-watering commenced in preparation for mining.

Re-erection of the Kulwin plant at the WRP site was well advanced, with relocation approximately 75 per cent complete. The project is on track for production of HMC in late May 2012, as planned.

#### Cataby, Western Australia

Iluka is currently undertaking a pre-feasibility study (PFS) on the Cataby mineral sands deposit located approximately 150 kilometres north of Perth. Cataby is a large, long life and high quality chloride ilmenite deposit, suitable as a feed source to Iluka's synthetic rutile facilities. It is also expected to produce material levels of zircon during its initial years.

The PFS is expected to be complete by mid 2012 and, subject to successful completion and a decision to proceed, first production is currently targeted from 2014.

During the quarter, work included the following:

- plant layout development;
- assessment of the re-use of existing equipment for the project;
- · completion of a number of environmental studies; and
- preparation of initial cost estimates.

#### Balranald Deposits, New South Wales

West Balranald and Nepean are two large, rutile-dominated deposits in the northern Murray Basin, New South Wales. Iluka is undertaking a PFS for the potential development of these deposits.

During the quarter, site based hydrogeology drilling, pump testing and site geotechnical and metallurgical test works continued to plan. Transport logistics studies were completed and a preferred mining method was selected from a number of options.

This PFS is expected to be completed in the first quarter of 2013 and, subject to satisfactory technical progress; the evaluation of the main environmental management issues; and detailed consultation with key stakeholders, the company may then proceed to a definitive feasibility study. The company is progressing its planning and evaluation activities with a view that construction could commence during 2014 and production could start during the latter half of 2015.

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

The Aurelian Springs project involves a PFS for the potential development of multiple mineral sands deposits, located in Halifax County, North Carolina, United States of America.

The Aurelian Springs deposits contain mainly chloride ilmenite, together with some zircon and staurolite. Staurolite is sold into the construction and maintenance industries and used as an alternative to coal slag, garnet and silica based blasting media. The deposits are located approximately 64 kilometres south of Iluka's MSP at Stony Creek, Virginia. Development of the deposits could entail an economic life, dependent on production levels, of at least 11 years.

The mining and processing methods planned will be identical to those used at the current sites, with the wet concentrator plants from Concord and Brink planned to be relocated to Aurelian Springs. Aurelian Springs is located within an economic haul radius of the Virginia mineral separation plant.

Recent activity has focussed on securing title to additional mineral and the land required for minesite infrastructure. Engineering and environmental studies have also commenced, while the next stage of drilling is due to commence in the latter part of the second quarter.

#### Hickory, Virginia, United States

Iluka has commenced a definitive feasibility study for the proposed development of the Hickory mineral sands deposits in Virginia. The Hickory deposits are located approximately 19 kilometres west of the existing Iluka Stony Creek MSP.

The deposits are expected to produce chloride ilmenite and lesser quantities of zircon and have a potential economic life of approximately 10 years.

Iluka has previously undertaken mining operations over parts of the project area between 1995 to 2009. The mining and concentrating operations ceased in January 2009 when available economic reserves were depleted. The Old Hickory concentrator was subsequently moved to the Brink deposit. The planned mining and concentration methods will be similar to those employed at Iluka's Concord and Brink operations in Virginia.

Permitting and licensing activities are due to commence during the second quarter. Although the project area has been extensively drilled, confirmatory drilling has commenced on properties within the project area. It is anticipated this drilling will be concluded by the end of the second quarter.

#### **EXPLORATION**

#### Eucla Basin, South Australia/Western Australia

Greenfield exploration activity in the Eucla Basin in the first quarter of 2012 included:

- drilling on tenements EL4365 and EL4344 within 20 kilometres of the Tripitaka deposit located approximately 50 kilometres north west of Penong, with the objective of adding additional resources to this project; and
- completion of an airborne Falcon gravity survey over an area of 700 square kilometres as a
  follow up to the extensive (8,200 square kilometre) radiometric/aeromagnetic survey in 2011,
  designed to provide high quality data to assist in the identification of prospective areas of
  mineralisation.

Brownfield exploration activities included drilling within 10 kilometres of Jacinth-Ambrosia with the objective of adding additional resources to Jacinth-Ambrosia, Atacama and Typhoon.

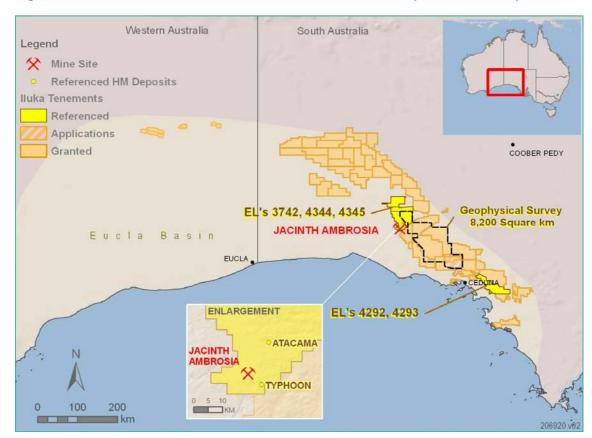


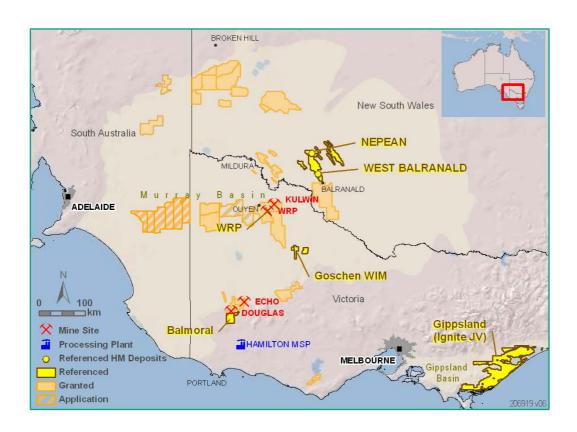
Figure 1 Eucla Basin Tenements and Recent Areas of Exploration Activity

## Murray Basin, Victoria/New South Wales

Exploration activities during the quarter included:

- completion of greenfields exploration drilling in the Gippsland Basin, Balmoral region and at the Goschen WIM deposit in the central portion of the Murray Basin;
- resource delineation drilling at the West Balranald deposits, completion of core drilling and bulk sampling program at the Nepean Deposit as part of the Balranald feasibility study; and
- resource delineation drilling at the Woornack, Rownack, Pirro deposits, as part of mine planning studies.

Figure 2 Murray Basin Tenements and Recent Areas of Exploration Activity



#### **Project Generation**

Iluka is actively exploring for mineral sands outside of Australia, with early stage exploration (including drilling) underway in several countries.

Investment market and media inquiries Dr Robert Porter General Manager, Investor Relations

Phone: + 61 (0) 3 9600 0807 Mobile: +61 (0) 407 391 829 Email: <u>robert.porter@iluka.com</u>

APPENDIX 1 - OPERATING MINES – PHYSICAL DATA Year to date 31 March 2012

	Jacinth- Ambrosia	Murray Basin	Western Australia	Australia Total	Virginia	Group Total
Mining						
Overburden Moved bcm	0.0	3,579.9	20.0	3,599.9	0.0	3,599.9
Ore Mined kt	2,401.8	774.3	3,065.0	6,241.0	1,168.0	7,409.1
Ore Grade HM %	5.8	17.4	4.1	6.4	7.3	6.5
VHM Grade %	2.9	6.3	3.3	3.5	6.1	3.9
Concentrating						
HMC Produced kt	106.8	89.4	94.1	290.3	84.0	374.3
VHM Produced kt	96.4	50.0	76.8	223.2	66.2	289.4
VHM in HMC Assemblage %	90.3	55.9	81.7	76.9	78.8	77.3
Zircon	54.2	28.5	13.2	33.0	17.3	29.5
Rutile	6.6	24.1	7.3	12.2	0.0	9.5
Ilmenite Saleable	29.1	0.0	53.4	28.0	61.5	35.5
Processing (HMC to finished at a mineral separation plant)	product					
HMC Processed kt	141.6	103.2	84.5	329.3	86.5	415.8
Finished Product kt						
Zircon	67.2	34.8	0.0	102.0	13.7	115.7
Rutile	12.5	33.9	4.3	50.7	0.0	50.7
Ilmenite Saleable	36.5	36.5	9.5	82.5	41.1	123.6
Ilmenite Upgradeable	2.2	14.0	44.0	60.2	12.2	72.4
Synthetic Rutile Produced kt			50.6	50.6		50.6

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 <a href="www.iluka.com">www.iluka.com</a>, under Investor Relations, Mineral Sands Briefing Material. The nature of the Iluka operations base means that HMC from various mining locations can be processed at various mineral separation plants.

#### **Explanatory Comments on Terminology**

Overburden moved (bulk 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 heavy mineral concentrate ("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 processed provides an indication of material emanating from each mining operation to be processed.

Attributable 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, zircon) is subject to recovery loss at the processing stage – this may be in the order of 10%

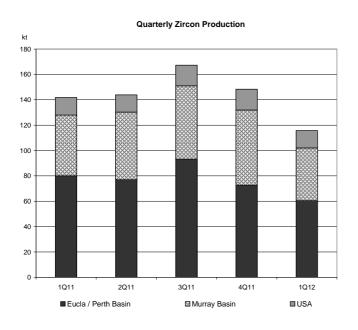
Ilmenite saleable is ilmenite produced for sale rather than as a synthetic rutile feedstock.

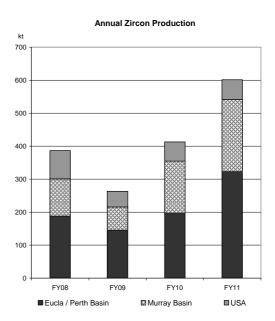
**Ilmenite upgradeable** is that which is used in the manufacture of synthetic rutile. Typically 1 tonne of upgradeable ilmenite will produce between 0.58 to 0.62 tonnes of SR. Iluka also purchases external ilmenite for its synthetic rutile production process.

Refer Iluka's website <a href="https://www.iluka.com">www.iluka.com</a> – Mineral Sands Technical Information for more detailed information on the mineral sands mining and production process.

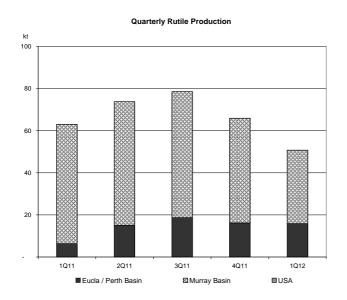
## **APPENDIX 2 - PRODUCTION SUMMARIES**

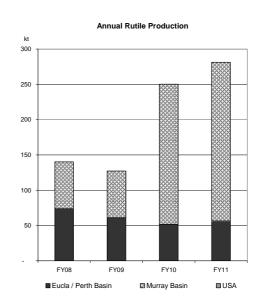
## **Zircon**



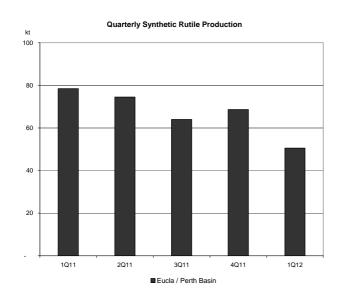


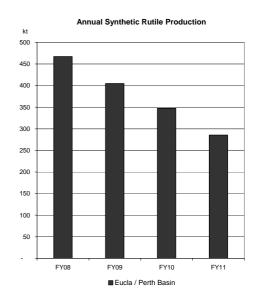
## Rutile





# Synthetic Rutile





## Ilmenite (upgradeable and saleable ilmenite)

