

**QUARTERLY REVIEW TO 31 MARCH 2023**

**20 April 2023**

**KEY FEATURES**

- Zircon/Rutile/Synthetic Rutile (Z/R/SR) production of 151kt, in line with guidance
  - the Narngulu mineral separation plant produced 59kt of Zircon and 8kt of rutile, processing ore from Jacinth-Ambrosia
  - synthetic rutile production of 84kt, with two kilns in operation post the ramp up of SR1
- Z/R/SR sales of 102kt in what is typically a seasonally slower first quarter
  - despite the expected cautious buying from zircon customers in Q1 2023, zircon sales of 42kt were slightly better than expected
  - synthetic rutile sales of 48kt, with sales impacted by a 20kt sale that, owing to shipping constraints, was pushed into Q2 2023
  - rutile sales of 12kt, with some Cataby material being sold to welding customers at premium prices
- Zircon sand prices increased US\$50/t for Q2 2023
  - Q2 2023 volumes contracted, with Iluka’s supply remaining tight
- Project updates
  - Eneabba bulk earthworks continue and site preparation has started
  - Balranald final investment decision (FID) taken in February. Engineering, procurement and secondary approvals progressing
  - Wimmera progressed from preliminary feasibility study (PFS) to definitive feasibility Study (DFS) in February
- Net cash of \$431 million at 31 March 2023 (\$489 million at 31 December 2022)

PHYSICAL AND FINANCIAL SUMMARY	Q1 22	Q4 22	Q1 23	Q1 23 vs Q1 22	
				Q4 22	Q1 22
				%	%
<b>PRODUCTION</b>					
<b>kt</b>					
Zircon sand	53.8	58.5	59.3	1.4	10.2
ZIC <sup>1</sup>	22.5	17.8	-	n/a	n/a
Rutile <sup>2</sup>	49.4	16.6	8.0	(51.8)	(83.8)
Synthetic Rutile	54.3	63.9	83.6	30.8	54.0
<b>Z/R/SR Production</b>	<b>180.0</b>	<b>156.8</b>	<b>150.9</b>	<b>(3.8)</b>	<b>(16.2)</b>
Ilmenite	118.3	151.1	152.3	0.8	28.7
<b>SALES</b>					
<b>kt</b>					
Zircon sand	56.6	61.5	42.0	(31.7)	(25.8)
ZIC <sup>1</sup>	27.1	18.5	-	n/a	n/a
Rutile <sup>2</sup>	58.6	12.0	11.6	(3.3)	(80.2)
Synthetic Rutile	46.5	62.6	48.0	(23.3)	3.2
<b>Z/R/SR sales</b>	<b>188.8</b>	<b>154.6</b>	<b>101.6</b>	<b>(34.3)</b>	<b>(46.2)</b>
Ilmenite	46.9	36.7	41.8	13.9	(10.9)
<b>REVENUE</b>					
<b>A\$ million</b>					
Z/R/SR revenue	383.6	387.4	237.9	(38.6)	(38.0)
Ilmenite and other revenue	30.4	27.8	18.8	(32.4)	(38.2)
<b>Mineral Sands Revenue</b>	<b>414.0</b>	<b>415.2</b>	<b>256.7</b>	<b>(38.2)</b>	<b>(38.0)</b>
Average AUD:USD cents	72.4	65.7	68.4	4.1	(5.5)

<sup>1</sup> Production of ZIC is recognised on sale. Zircon in concentrate (ZIC) sales includes small amounts of lower grade zircon products processed by third parties.

<sup>2</sup> Rutile sales and production volumes include the lower value titanium dioxide product, HYTI, that typically has a titanium dioxide content of 70-90%. This product sells at a lower price than rutile, which typically has a titanium dioxide content of 95%.

**Australian Operations**

Mining at Jacinth-Ambrosia in South Australia produced 95kt of heavy mineral concentrate (HMC) in Q1 2023, down from 152kt in Q4 2022, with mining continuing at the Ambrosia deposit. Lower HMC production was the result of mining lower grade ore. Ore treatment volumes and HM recoveries were in line with Q4 2022.

Cataby in Western Australia produced 118kt of HMC, up from 114kt in Q4 2022, due to improvements in ore grade and HM recoveries.

The Narngulu mineral separation plant (MSP) processed Jacinth-Ambrosia HMC only during the quarter. This delivered 59kt of zircon. Rutile production of 8kt reflected lower rutile assemblage in the HMC treated and lower HMC volumes treated generally.

Synthetic rutile kiln 1 produced 27kt of synthetic rutile, up from 7kt in Q4 2022 after operating for the full quarter. Synthetic rutile kiln 2 produced 57kt of synthetic rutile, in line with Q4 2022.

MINERAL SANDS PRODUCTION	Q1 22	Q4 22	Q1 23	Q1 23 vs Q4 22	Q1 23 vs Q1 22
	kt	kt	kt	%	%
<b>ZIRCON<sup>3</sup></b>					
Jacinth-Ambrosia / Mid west WA	41.8	41.3	59.3	43.6	41.9
Cataby/South west WA	12.0	17.2	-	n/a	n/a
ZIC	22.5	17.8	-	n/a	n/a
<b>Total Zircon</b>	<b>76.3</b>	<b>76.3</b>	<b>59.3</b>	<b>(22.3)</b>	<b>(22.3)</b>
<b>RUTILE</b>					
Jacinth-Ambrosia / Mid west WA	6.4	6.6	8.0	21.2	25.0
Cataby/South west WA	7.6	10.0	-	n/a	n/a
Sierra Leone	35.4	-	-	n/a	n/a
<b>Total Rutile</b>	<b>49.4</b>	<b>16.6</b>	<b>8.0</b>	<b>(51.8)</b>	<b>(83.8)</b>
<b>Synthetic Rutile (WA)</b>	<b>54.3</b>	<b>63.9</b>	<b>83.6</b>	<b>30.8</b>	<b>54.0</b>
<b>TOTAL Z/R/SR</b>	<b>180.0</b>	<b>156.8</b>	<b>150.9</b>	<b>(3.8)</b>	<b>(16.2)</b>
<b>ILMENITE</b>					
Jacinth-Ambrosia / Mid west WA	39.1	27.7	34.3	23.8	(12.3)
Cataby/South west WA	64.3	123.4	118.0	(4.4)	83.5
Sierra Leone	14.9	-	-	n/a	n/a
<b>Total Ilmenite</b>	<b>118.3</b>	<b>151.1</b>	<b>152.3</b>	<b>0.8</b>	<b>28.7</b>

<sup>3</sup> Iluka's zircon production figures include volumes of zircon attributable to external processing arrangements.

### Zircon

As communicated in Iluka's December 2022 Quarterly Review, the company anticipated cautious buying activity in Q1 2023 and this was observed on the part of some zircon customers. However, total sales of 42kt in Q1 2023 were higher than expected; and customers continue to indicate their full year volume requirements for 2023 will be in line with their purchases in 2022.

While China's ceramic market restarted slowly after Chinese New Year on the back of softness in the real estate market, positive signs emerged later in the quarter, with home prices and land sales figures suggesting a recovery in housing demand. Other major market segments – fused zirconia, zirconium chemicals, refractories, and foundries remain relatively stable. Conditions in Q2 2023 are expected to improve as China's re-opening gains momentum.

In Europe, ceramic manufacturers had a slow start to the year. Production activity did increase over the quarter on lower energy prices and improving sentiment.

India continues to outperform in production of tiles and foundry products; and demand from other South East Asian markets remained strong throughout the quarter.

Iluka announced a zircon sand price increase of US\$50 per tonne for Q2 2023. This price increase has been accepted by the market, with Q2 volumes now contracted.

### Titanium Dioxide Feedstocks

Sales of synthetic rutile in Q1 2023 were 48kt and sales of rutile (including HyTi) were 12kt. Synthetic rutile sales were impacted by a 20kt sale that, owing to shipping constraints, was pushed into Q2 2023. Iluka's Australian produced high grade titanium products continue to be attractive feedstocks.

In Europe demand for pigment remains weak, however production facilities that were taken off line in Q4 2022 re-started during Q1 2023. While curtailed capacity was predominantly higher cost and energy intensive sulphate pigment plants, some chloride capacity was also curtailed and has been restarted. The downstream destocking of pigment appears to have run its course.

China's reopening has spurred increased construction activity and improved the market's outlook for pigment. This is translating to improving demand in China for titanium feedstocks.

The North American pigment market remains steady, however increased interest rates have dampened housing demand which is impacting downstream demand for paints and coatings. Operating rates at pigment plants in the US are down compared to the previous year. Despite subdued demand for paint and pigment, inventory throughout the supply chain remains lean as a result of the industry-wide actions to idle unneeded capacity and interruptions to feedstock supply. Chlorine prices remain at historically high levels, which is pushing up chloride pigment plant head grades and supporting demand for Iluka's high grade products of rutile and synthetic rutile.

## PROJECT UPDATES

Updates on selected projects for the March quarter are detailed below.

### Execute

#### Eneabba, Western Australia



Iluka is building Australia's first fully integrated refinery for the production of separated rare earth oxides at Eneabba, Western Australia.<sup>4</sup>

This is taking place via a strategic partnership between Iluka and the Australian Government, including a \$1.25 billion non-recourse loan to Iluka under the \$2 billion Critical Minerals Facility administered by Export Finance Australia.

Bulk earth works and ground improvement activities continue to progress. The accommodation camp upgrade is advancing to near completion. Additionally, the operational camp contract has been awarded with construction to commence in May. Fluor Australia, Eneabba's EPCM contractor, has continued to progress key design elements for the refinery.

#### Balranald, New South Wales



Balranald is a rutile-rich critical minerals development located in the Riverina district of south western New South Wales. Owing to its relative depth, Iluka is developing Balranald via a novel, internally developed, remotely operated underground mining technology.

Iluka's Board approved the final investment decision for Balranald in February of 2023. The company has since progressed engineering, procurement and secondary environmental approvals in accordance with plans. Iluka has issued a letter of intent for the fabrication and supply of Balranald's mining units and is finalising the EPCM contract.

### Definitive Feasibility Study (DFS)

#### Wimmera, Victoria



The Wimmera development involves the mining and beneficiation of a fine grained heavy mineral sands ore body in Western Victoria for the potential long term supply of rare earths and zircon.

A preliminary feasibility study was completed in early 2023 and Iluka's Board approved \$30 million funding for a definitive feasibility study (DFS) in February 2023. This was accompanied by the declaration of an Ore Reserve for the WIM 100 deposit, which is the focus of the Wimmera development.

Wimmera's DFS is scheduled for completion at the end of 2025. In parallel, Iluka is continuing to undertake pilot scale testing of a zircon purification process, with the goal of demonstrating commercial viability via a demonstration plant. Zircon revenue has not yet been accounted for in Wimmera's Ore Reserve.

### Preliminary Feasibility Study (PFS)

#### Atacama, South Australia



Atacama is a satellite deposit of Jacinth Ambrosia and a potential extension to Iluka's existing operations in South Australia. Located approximately 5km from Jacinth Ambrosia, the project is currently the subject of a preliminary feasibility study, which is ongoing. Atacama would make use of existing operational infrastructure to maximise efficiency, producing a heavy mineral concentrate for processing into final products at Iluka's facilities in Western Australia.

#### Euston, New South Wales



The Euston deposit is a traditional mineral sands deposit located in south western New South Wales. It has significant zircon and rutile assemblages, with ilmenite as a possible feedstock for Iluka's synthetic rutile production. The development would be a traditional open cut, dry mine. PFS work is progressing in 2023.

<sup>4</sup> For further information refer Iluka ASX release 'Eneabba Rare Earths Refinery – Final Investment Decision', 3 April 2022.

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### South West Deposits, Western Australia



The South West Deposits project in Western Australia currently focuses on the Tutunup mineral sands deposit. Tutunup has significant ilmenite assemblage, as well as some zircon and rutile. The ilmenite at Tutunup is suitable as a feedstock for Iluka's synthetic rutile production and may unlock additional value across Iluka's portfolio if blended with other ilmenites with quality constraints. The development would be an open cut wet mine with dredge operations. PFS work is progressing in 2023.

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For more detail on projects please refer to Iluka's website [iluka.com/operations-resource-development/resource-development](https://iluka.com/operations-resource-development/resource-development)

## EXPLORATION

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Exploration and evaluation expenditure in Q1 2023 was \$3.9 million compared with \$2.2 million in Q1 2022. A total of 9,232m of air core drilling was completed during the quarter.

Resource definition drilling activities in Australia focused on resource evaluation work at Eneabba, WIM50 (an additional Iluka deposit in the Wimmera region) and Ambrosia.

Greenfield drilling was undertaken at the Cataby East target in Western Australia. Interpretation of the drill results from this target indicates a favourable geological setting. Additional lines will be completed subject to land access and drill rig availability. Based on current scheduling priorities, this is not expected until Q4 2023.

In the United States, drill testing of greenfield, regional targets on the Atlantic coastal plain continued through March. A total of 133 sonic drill holes totalling 2,987m were drilled with 983 samples collected for assay. Of the nine main target areas, eight have been drill tested. Three returned consistent intersections between 1% and 5% HM, with assemblages dominated by ilmenite.

Target generation has continued within Australia and the US in line with Iluka's exploration strategy with plans to further test targets that demonstrated promise throughout 2022. In addition, Iluka continues to identify and apply for tenure over additional prospective regions in Australia. Exploration on these properties will commence once necessary land access approvals have been negotiated and received. The company continues to review rare earths exploration opportunities, including those presented by third parties.

This document was approved and authorised for release to the market by Iluka's Managing Director.

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## APPENDIX 1 – MINING AND PRODUCTION PHYSICAL DATA

Physical Data 3 Months to 31 March 2023	Jacinth-Ambrosia / Mid west	Cataby / South west	Group Total
<b>Mining</b>			
Overburden Moved kbcm	949	4,242	5,191
Ore Mined kt	2,595	3,476	6,071
Ore Fed/Treated kt	2,483	2,392	4,875
Ore Treated Grade HM %	4.2%	5.3%	4.7%
VHM Treated Grade %	3.9%	4.6%	4.3%
<b>Concentrating</b>			
HMC Produced kt	95.1	132.3	227.4
VHM Produced kt	87.4	105.6	193.0
VHM in HMC Assemblage %	91.9%	79.8%	84.9%
Zircon	62.5%	9.5%	31.7%
Rutile	7.6%	6.3%	6.8%
Ilmenite	21.7%	64.1%	46.4%
HMC Processed kt	132.1	101.7	233.8
<b>Finished Product<sup>5</sup> kt</b>			
Zircon	59.3	-	59.3
Rutile	8.0	-	8.0
Ilmenite (saleable/upgradeable)	34.3	118.0	152.3
Synthetic Rutile kt	-	83.6	83.6

### 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. For Cataby/ South West this refers to ore treated.

**Ore Fed/Treated (thousands of tonnes)** refers material processed through the mining units.

**Ore Treated Grade HM %** refers to percentage of heavy mineral (HM).

**VHM Treated 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 the company's Australian 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) 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 0.56 to 0.60 tonnes of SR. Iluka also purchases external ilmenite for its synthetic rutile production process.

<sup>5</sup> Finished product includes material from heavy mineral concentrate (HMC) initially processed in prior periods.

## APPENDIX 2 – WEIGHTED AVERAGE RECEIVED PRICES

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

	FY 22	Q4 22	Q1 23
<i>US\$/tonne FOB</i>			
Zircon Premium and Standard	1,943	2,054	2,053
Zircon (all products, including zircon in concentrate) <sup>1</sup>	1,850	1,994	2,053
Rutile <sup>2</sup> (excluding HYTI <sup>3</sup> )	1,550	1,681	1,903
Synthetic rutile	Refer Note 4		1,265

### 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 Q1 2023 the split of zircon sand and concentrate by zircon sand-equivalent was approximately: 100%:0% (2022 full year: 70%:30%).
2. Rutile prices will vary quarter-on-quarter depending on the end market to which the product is supplied (e.g. pigment or welding). Post the demerger of Sierra Rutile Limited in H2 2022, rutile sales are a smaller contributor to Iluka’s revenue.
3. HYTI is a lower value titanium dioxide product that typically has a titanium dioxide content of 70 to 90%. This product sells at a lower price than rutile, which typically has a titanium dioxide content of 95%.
4. From 2018-2022, the majority of Iluka’s synthetic rutile sales were underpinned by three commercial offtake arrangements. The terms of those arrangements, including the pricing arrangements, were commercial in confidence and as such not disclosed by Iluka. Since the restart of SR1, synthetic rutile sales are made to a broader number of customers and Iluka will prospectively disclose the collective pricing outcome achieved from 1 January 2023; notwithstanding the pricing arrangements remain commercial in confidence. Quarterly pricing outcomes are impacted by many variables including but not limited to the timing of shipments sold under long term contract pricing mechanisms, bonus/penalty adjustments for product quality parameters and the proportion of spot sales. Synthetic rutile, due to its lower titanium dioxide content than rutile, is priced lower than natural rutile.



**APPENDIX 3 – PRODUCTION SUMMARIES**

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