# **ILUKA RESOURCES LIMITED (ASX:ILU)**

**AUSTRALIAN SECURITIES EXCHANGE NOTICE** 



# **QUARTERLY REVIEW TO 30 JUNE 2021**

22 July 2021

#### **KEY FEATURES**

- Zircon/Rutile/Synthetic Rutile (Z/R/SR) production of 175kt, up 40% from Q1
  - Synthetic rutile production higher due to the return to full production at SR2 following the planned suspension in Q1
  - Zircon production of 72kt was in line with Q1, with the Narngulu mineral separation plant operating at full capacity
  - Rutile production up 20% to 44kt, as a result of higher assemblage and higher recovery of HMC produced at Sierra Rutile

Z/R/SR sales, up 89% from H1 2020

- Zircon sales of 177kt, reflecting a return to pre-pandemic production levels among Chinese tile manufacturers
- Synthetic rutile sales were 191kt, up 116% with already strong demand amplified by increased concern around the future supply of high grade feedstocks and the settlement of the contractual dispute with major synthetic rutile customer, Chemours
- Weighted average zircon price achieved in H1 2021 for premium and standard sand was US\$1,321 per tonne
- Zircon prices increased by US\$70 per tonne in Q2 with a further US\$125 per tonne effective 1 July
- H1 rutile price up 2% to US\$1,224 per tonne
- Rare earths (Eneabba development)
  - Phase 1 monazite concentrate sales of 10kt, in line with offtake agreement
  - Phase 2 site works commenced (project currently in execute)
  - Phase 3 letter of support received from Australian Government (feasibility study progressing)
  - Net cash at 30 June was \$220 million, reflecting free cash flow of \$180 million and capital expenditure of \$17 million

PHYSICAL AND						H1 21
FINANCIAL	Q2 20	Q1 21	Q2 21	H1 20	H1 21	vs
SUMMARY						H1 20
						%
PRODUCTION						
kt						
Zircon	42.1	70.1	71.8	92.2	141.9	53.9
Rutile <sup>1</sup>	34.8 58.3	36.2 19.0	43.6 59.9	84.0 111.6	79.9 78.9	(4.9)
Synthetic Rutile Z/R/SR						(29.3)
Production	135.2	125.3	175.3	287.8	300.7	4.5
Ilmenite	106.7	75.3	160.0	215.4	235.3	9.2
Monazite concentrate	9.7	16.2	10 .0	9.7	26.2	170.1
SALES						
kt					4	
Zircon	53.4	86.5	90.8	78.4	177.2	126.0
Rutile <sup>1</sup>	27.5 37.5	53.5 75.5	35.6 115.9	74.7 88.5	89.0 191.4	19.1 116.3
Synthetic Rutile	118.4	215.5	242.3	241.6	457.6	89.4
Z/R/SR sales						
Ilmenite Monazite	73.5	49.5	80.9	107.1	130.4	21.8
concentrate	10.0	10.5	10.2	10.0	20.7	107.0
REVENUE & CASH \$ million	COSTS					
Z/R/SR revenue	198.4	320.1	359.9	408.1	680.0	66.6
Ilmenite and	26.0	24.4	31.2	48.5	55.6	14.6
other revenue Mineral Sands						
Revenue	224.4	344.5	391.1	456.6	735.6	61.1
Production cash costs of Z/R/SR				283.0	242.2	(14.4)
Ilmenite concentrate &				10.2	11.4	11.8
by product costs  Total cash costs				202.2	252.6	(42.5)
of production				293.2	253.6	(13.5)
\$ per tonne						
Unit cash						
production costs				983	805	(18.1)
Z/R/SR				300	000	(20.2)
produced Unit cost of						
goods sold				961	915	(4.8)
Z/R/SR sold						
Povonus						
Revenue Z/R/SR sold	1,676	1,485	1,485	1,689	1,486	(12.0)
ALID-LICD : :	<b>65.7</b>	77.0	77.0	65.0	77.0	47.0
AUD:USD cents	65.7	77.3	77.0	65.8	77.2	17.3

<sup>&</sup>lt;sup>1</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 58 thousand tonnes of heavy mineral concentrate (HMC), down from 71 thousand tonnes in Q1. The lower HMC production was the result of reduced ore grades, with throughput volumes in line with Q1. Mining at the lower grade part of the Jacinth North deposit will occur over the next 12 months.

In Western Australia, the Cataby operation produced 108 thousand tonnes of HMC, down from 126 thousand tonnes in the previous quarter. Reduced HMC production was a result of lower runtime due to the impact of lower ore grades in line with the mining sequence and the impact of Tropical Cyclone Seroja.

The Narngulu mineral separation plant (MSP) operated at full capacity and processed 142 thousand tonnes of HMC, up from 135 thousand tonnes in Q1. The plant processed both Cataby and Jacinth-Ambrosia material to produce a total of 72 thousand tonnes of zircon and 14 thousand tonnes of rutile.

Production of synthetic rutile from SR2 at Capel was 60 thousand tonnes, up from 19 thousand tonnes in the previous quarter, with SR2 returning to full production on 1 April following the planned suspension in Q1.

Eneabba Phase 1 produced 10 thousand tonnes of monazite-zircon concentrate, in line with planned shipment requirements and the offtake agreement in place to underpin this initial phase of rare earths operations.

# Sierra Leone Operations

HMC production was 65 thousand tonnes, compared to Q1 production of 72 thousand tonnes. Lower production was a result of lower run time and feed rates.

Rutile production was 30 thousand tonnes, compared to 26 thousand tonnes in Q1. This was due to higher rutile assemblage within the HMC treated and higher recovery.

In May, Iluka provided the Government of Sierra Leone six months' notice of its intention to temporarily suspend operations at Sierra Rutile, effective 19 November 2021. The company is currently exploring ways to reset the cost base of these operations and attract new investors to pursue the Sembehun development.

MINERAL SANDS PRODUCTION	Q2 20	Q1 21	Q2 21	H1 20	H1 21	H1 21 vs H1 20
ZIRCON <sup>2</sup>	kt	kt	kt	kt	kt	%
Jacinth-Ambrosia/ Mid west WA Cataby/South west WA	29.3 12.8	70.1	60.9 10.9	68.8 23.4	131.0 10.9	90.4 (53.4)
Sierra Leone	-	-	-	-	-	n/a
Total Zircon	42.1	70.1	71.8	92.2	141.9	53.9
RUTILE						
Jacinth-Ambrosia/ Mid west WA	4.0	10.4	6.4	10.4	16.8	61.5
Cataby/South west WA	5.0	-	7.6	11.8	7.6	(35.6)
Sierra Leone	25.8	25.8	29.6	61.8	55.5	(10.2)
Total Rutile	34.8	36.2	43.6	84.0	79.9	(4.9)
<u>-</u>						
Synthetic Rutile (WA)	58.3	19.0	59.9	111.6	78.9	(29.3)
TOTAL Z/R/SR	135.2	125.3	175.3	287.8	300.7	4.5
ILMENITE						
Jacinth-Ambrosia/ Mid west WA	15.8	38.1	27.1	41.1	65.2	58.6
Cataby/South west	82.1	26.7	123.2	150.4	149.9	(0.3)
WA Sierra Leone	8.8	10.5	9.7	23.9	20.2	(15.5)
Total Ilmenite	106.7	75.3	160.0	215.4	235.3	9.2
:						
MONAZITE						
Jacinth Ambrosia/ Mid west WA	9.7	16.2	10.0	9.7	26.2	170.1

<sup>&</sup>lt;sup>2</sup> Iluka's zircon production figures include volumes of zircon attributable to external processing arrangements.

#### **Zircon**

Demand for zircon remained strong throughout H1 2021. Zircon sales were 177 thousand tonnes, including zircon in concentrate (ZIC).

Chinese tile production has returned to pre-pandemic levels, despite significant financial pressure caused by increased raw material costs and challenges associated with increasing tile prices to real estate developers. Tile production may have been stronger but for regions in Guangdong, Guangxi, and Yunnan experiencing power supply restrictions, limiting production.

India's second wave of COVID-19 cases has stalled plans of ceramic tile makers as they look to commence production at a number of newly constructed plants. Tile production lines in Spain, Italy, Brazil, and Turkey are reported to be operating at 90% capacity.

Chinese fused zirconia producers continue to report favourable market conditions, with demand for refractory from domestic glass producers responding to strong growth in the photovoltaic industry. Exports of refractory materials with alumina-zirconia-silica remain subdued. In the United States, fused zirconia producers are running at full capacity.

Production of zirconium chemicals in China has been stable, with exports of zirconium based chemicals to the US and Japan increasing during the quarter.

The weighted average zircon price achieved in H1 2021 for premium and standard sand was US\$1,321 per tonne, following a US\$70 per tonne price increase effective 1 April.

The company announced a minimum price increase of US\$125 per tonne effective 1 July.

### **Titanium Dioxide Feedstocks**

Demand from the titanium dioxide market was again robust, with numerous requests received during the quarter for additional volumes of high grade feedstock. Sales of rutile and synthetic rutile were 280 thousand tonnes in H1 2021, up 72% compared to H1 2020.

Chlorine supply in the US was constrained following outages from the winter storm season, along with spring flooding and planned permanent shutdowns of sub economic capacity by certain producers. As a result pigment producers have sought ways to boost head grades in order to minimise chlorine consumption and maximise throughput. The pull forward of volume in Q2 has reduced available inventory; and spot volumes appear to be scarce across the industry.

Pigment prices continue to move higher, with a new round of increases announced for 1 July. Chinese prices have moved higher in each of the last eight months and appear to be stabilising ahead of the summer holidays. Pigment consumers in China appear to be willing to wait until September to reassess their needs and determine how demand looks heading into the Northern Hemisphere autumn.

The announcement of the potential suspension of operations at Sierra Rutile, coupled with violence at a major feedstock producer in South Africa, has created additional concern around future supply of feedstocks heading into the second half and beyond. As a result, pigment producers are seeking additional volumes ahead of any potential disruptions to supply.

The welding market continues to perform well, with demand outstripping supply of feedstocks. Iluka announced a 9% price increase in this market for Q3 and is allocating volumes to welding customers.

With inventory normalised, Iluka's sales of high-grade feedstocks will likely be production constrained in H2 2021.

<u>Huka</u> and Chemours have settled the previously disclosed contractual dispute. The terms are commercial in confidence but include Chemours taking all of the synthetic rutile not taken in 2020.

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



#### Eneabba, Western Australia

The Eneabba project in Western Australia involves the reclaiming, processing and sale of a strategic stockpile rich in monazite (a mineral containing rare earth elements) and zircon. Eneabba is currently the highest grade rare earths operation globally. Phase 1 of operations is producing a mixed monazite-zircon concentrate, with the monazite fraction at approximately 20%.

Phase 2 of the project is currently in execute. Once commissioned, this will see the production of two separate concentrates: a dedicated monazite concentrate at approximately 90%, suitable as a direct feed to a downstream rare earths refinery; and a zircon-ilmenite concentrate, which will be processed into finished products (zircon and ilmenite) at Narngulu. Site works have commenced and the upgraded high voltage infrastructure has been commissioned. Fabrication of third-party vendor packages continues off-site. Completion remains on-track for H1 2022.

The feasibility study for Phase 3 at Eneabba, a fully integrated rare earths refinery, is progressing. In May, Iluka received a letter of support from the Australian Government setting out the alignment of Iluka's development plans and the Government's policy objectives regarding critical minerals and modern manufacturing (disclosed to market). Engagement with Commonwealth and State governments is ongoing.



#### **Balranald, New South Wales**

Balranald and Nepean are two rutile-rich deposits in the northern Murray Basin, New South Wales. Owing to their relative depth, Iluka is assessing the potential to develop these deposits via a novel, internally developed, underground mining technology.

Iluka completed the third trial (T3) of the underground mining method late in 2020. The trial confirmed the effectiveness of the underground mining method and validated key elements of the mining unit design. With confidence growing in the application of the underground mining technology, Iluka is focused on scoping the development pathway for Balranald. A decision on whether to proceed with the Definitive Feasibility Study (DFS) is likely be made in Q3 2021.



#### Wimmera, Victoria

The Wimmera project involves the mining and beneficiation of a fine grained heavy mineral sands ore body in the Victorian Murray Basin for the potential long term supply of zircon and rare earths. One characteristic shared by the fine grained mineral sands deposits located in Western Victoria (those held by Iluka and other project proponents) is higher levels of impurities in their zircon. Absent a processing solution to remove these impurities, the zircon is ineligible for sale into the ceramics market.

The study work for Wimmera is focussed on validating Iluka's zircon processing solution and on progressing baseline environmental studies. The rare-earth bearing minerals within the Wimmera deposit are very similar to the stockpiled minerals at Eneabba; and could supplement feed to Iluka's potential downstream refining activities at Eneabba in future years.

Results from Iluka's testing of a novel zircon processing solution continue to be pleasing. Equipment to pilot this solution on a larger scale is expected to be commissioned in Q4 2021. The processing of Wimmera's rare earth minerals through a potential Eneabba refinery would serve to simplify the Wimmera development.



#### Sembehun, Sierra Leone

The Sembehun group of deposits are situated 20 to 30 kilometres north-west of the existing Sierra Rutile operations. Sembehun is one of the largest and highest quality known rutile deposits in the world. Iluka is focused on determining an approach which balances the risk and reward associated with the development of Sembehun and has commenced a process to identify third parties willing to invest in the next phase of Sierra Rutile's growth. The hydraulic mining trial at site has been completed and assessment of the trial data is now underway.

#### **EXPLORATION**

Expenditure on exploration and evaluation in Q2 2021 was \$2.1 million. H1 2021 expenditure was \$4.5 million.

US exploration activities shifted to drill testing of regional targets on the eastern seaboard late in the quarter. A total of 16 holes for 734 metres have been completed.

Exploration activity within Australia has been impacted by challenges relating to COVID 19 restrictions. The majority of the activities were focussed on securing land access through Native Title and land owner negotiations for drilling in H2 2021.

### **OTHER UPDATES**

#### 2021 Half Year Results

Iluka is scheduled to release its 2021 half year results on 25 August 2021.

A teleconference with management will be hosted on the day. Dial in details will be released closer to the date.

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

## Investment market and media enquiries:

Luke Woodgate

Group Manager, Investor Relations and Corporate Affairs

Mobile: +61 (0) 477 749 942

Email: investor.relations@iluka.com

**APPENDIX 1 – MINING AND PRODUCTION PHYSICAL DATA** 

Jacinth- Ambrosia/ Mid west	Cataby/ South west	Australia Total	Sierra Leone	Group Total
1,048	3,259	4,307	-	4,307
5,272	4,539	9,811	5,484	15,295
3.1%	5.6%	4.2%	2.1%	3.6%
2.7%	4.9%	3.7%	2.1%	3.2%
129	234	363	138	501
113	207	320	89	409
87.7%	88.3%	88.1%	64.6%	81.6%
40.1%	10.5%	21.0%	3.7%	16.3%
7.1%	7.0%	7.0%	40.5%	16.2%
40.5%	70.8%	60.0%	20.4%	49.1%
232	182	414	148	562
			-	141.9
				79.9
			20.2	235.3
			-	26.2 78.9
	Ambrosia/ Mid west  1,048 5,272 3.1% 2.7%  129 113 87.7% 40.1% 7.1% 40.5%	Ambrosia/ Mid west  1,048 3,259 5,272 4,539 3.1% 5.6% 2.7% 4.9%  129 234 113 207 87.7% 88.3% 40.1% 10.5% 7.1% 7.0% 40.5% 70.8%  232 182  131.0 10.9 16.8 7.6 65.2 149.9 26.2 -	Ambrosia/ Mid west  1,048 3,259 4,307 5,272 4,539 9,811 3.1% 5.6% 4.2% 2.7% 4.9% 3.7%  129 234 363 113 207 320 87.7% 88.3% 88.1% 40.1% 10.5% 21.0% 7.1% 7.0% 7.0% 40.5% 70.8% 60.0%  232 182 414  131.0 10.9 141.9 16.8 7.6 24.4 65.2 149.9 215.1 26.2 - 26.2	Ambrosia/ South west Total Sierra Leone  1,048 3,259 4,307 - 5,272 4,539 9,811 5,484 3.1% 5.6% 4.2% 2.1% 2.7% 4.9% 3.7% 2.1%  129 234 363 138 113 207 320 89 87.7% 88.3% 88.1% 64.6% 40.1% 10.5% 21.0% 3.7% 7.1% 7.0% 7.0% 40.5% 40.5% 70.8% 60.0% 20.4%  232 182 414 148  131.0 10.9 141.9 - 16.8 7.6 24.4 55.5 65.2 149.9 215.1 20.2 26.2 - 26.2 -

<sup>&</sup>lt;sup>3</sup> Finished product includes material from heavy mineral concentrate (HMC) initially processed in prior periods.

Physical Data 3 months to June 21	Jacinth- Ambrosia/ Mid west	Cataby/ South west	Australia Total	Sierra Leone	Group Total
Mining					
Overburden Moved kbcm	769	1,134	1,904	-	1,904
Ore Mined kt	2,665	2,222	4,647	2,896	7,543
Ore Treated Grade HM %	2.7%	5.4%	3.9%	2.2%	3.4%
VHM Treated Grade %	2.4%	4.7%	3.4%	2.2%	3.0%
Concentrating					
HMC Produced kt	57.6	108.2	165.8	65.4	231.2
VHM Produced kt	50.0	95.6	145.6	47.6	193.2
VHM in HMC Assemblage %	86.9%	88.3%	87.8%	72.8%	83.6%
Zircon	37.6%	10.3%	19.8%	4.2%	15.3%
Rutile	7.2%	6.8%	7.0%	51.5%	17.8%
Ilmenite	42.1%	71.1%	61.0%	23.7%	50.5%
HMC Processed kt	97.4	163.7	261.1	69.7	330.8
Finished Product⁴ kt					
Zircon	60.8	10.9	71.8	-	71.8
Rutile	6.4	7.6	14.0	29.6	43.6
Ilmenite (saleable/upgradeable)	27.1	123.2	150.4	9.7	160.0
Monazite concentrate kt	10.0	-	10.0	-	10.0
Synthetic Rutile kt	-	59.9	59.9	-	59.9

#### **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 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, or the Sierra Leone 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>&</sup>lt;sup>4</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 over the last three half year periods. Iluka's Annual Report, available at www.iluka.com contains further historical mineral sands price information.

	H1 20	H2 20	H1 21
US\$/tonne FOB			
Zircon Premium and Standard	1,354	1,301	1,321
Zircon (all products, including zircon in concentrate) <sup>1</sup>	1,265	1,194	1,254
Rutile (excluding HYTI) <sup>2</sup>	1,246	1,197	1,224
Synthetic rutile	Refer Note 3	Refer Note 3	Refer Note 3

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 2021 the split of zircon sand and concentrate by zircon sandequivalent was approximately: 85%:15% (2020 full year: 78%:22%).

Excluded from rutile sales prices is a lower value titanium dioxide product, HYTI, 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%.

Iluka's synthetic rutile sales are 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.

#### **APPENDIX 3 - PRODUCTION SUMMARIES**

