

**ILUKA**

# Australian Securities Exchange Notice

14 October 2020

ASX: ILU

## QUARTERLY REVIEW TO 30 SEPTEMBER 2020

### KEY FEATURES

- Total zircon, rutile, synthetic rutile (Z/R/SR) production in the September quarter was 135 thousand tonnes, in line with June quarter Z/R/SR production (135 thousand tonnes).
  - Zircon production in the September quarter was 32 thousand tonnes, down 24% from the June quarter largely due to deferral into October of zircon-in concentrate (ZIC) shipments, the production of which is recognised upon sale.
  - Third quarter rutile production of 48 thousand tonnes increased 38% from the previous quarter reflecting modest improvement in SRL production rates and increased production of Cataby rutile which was being campaigned during the quarter.
  - The synthetic rutile kiln feed rate was lowered in the quarter for production of 55 thousand tonnes (Q2 2020: 58 thousand tonnes).
- Zircon sales continued to improve in the third quarter to 63 thousand tonnes, up 18% from June quarter and up 22% from September quarter 2019. Customers' plant operating rates remain lower than previous years across various end use industries however there are indications of modest improvement across key markets.
- Rutile sales were 34 thousand tonnes in September quarter, up 23% from the June quarter.
- Synthetic rutile sales of 12 thousand tonnes in September quarter were down 68% from June quarter reflecting a contractual dispute and reduced offtake by synthetic rutile customers as previously disclosed.
- Zircon prices continued to remain relatively stable with the weighted average zircon (premium and standard) price in September quarter of US\$1,311 per tonne, down a modest 3% from the first half 2020.
- Rutile pricing has remained steady in 2020, with Q3 weighted average rutile prices US\$1,195 per tonne.
- The demerger of Iluka's royalty business, with Iluka retaining a 20% stake, remains on track and an Extraordinary General Meeting (EGM) for shareholders to vote on the demerger of Deterra Royalties is being held on 16 October. Subject to shareholder approval, Deterra Royalty shares are expected to commence trading on a deferred settlement basis on the ASX on 23 October 2020.

## PRODUCTION AND SALES

	Sep-19 Quarter	Jun-20 Quarter	Sep-20 Quarter	Sep-19 YTD	Sep-20 YTD	Sep-20 YTD vs Sep-19 YTD
	kt	kt	kt	kt	kt	%
<b>Production</b>						
Zircon	93.5	42.1	32.1	253.4	124.3	(50.9)
Rutile	47.5	34.8	47.9	128.3	131.9	2.8
Synthetic Rutile	57.0	58.3	55.3	139.8	166.9	19.4
<b>Total Z/R/SR Production</b>	<b>198.0</b>	<b>135.2</b>	<b>135.3</b>	<b>521.5</b>	<b>423.1</b>	<b>(18.9)</b>
Ilmenite	101.7	106.7	111.2	226.7	326.6	44.1
<b>Total Mineral Sands Production</b>	<b>299.7</b>	<b>241.9</b>	<b>246.5</b>	<b>748.2</b>	<b>749.7</b>	<b>0.2</b>
<b>Sales</b>						
Zircon	51.7	53.4	63.2	185.0	141.6	(23.5)
Rutile	41.5	27.5	33.8	124.4	108.5	(12.8)
Synthetic Rutile	54.3	37.5	12.0	139.9	100.5	(28.2)
<b>Total Z/R/SR Sales</b>	<b>147.5</b>	<b>118.4</b>	<b>109.0</b>	<b>449.3</b>	<b>350.6</b>	<b>(22.0)</b>
Ilmenite	19.6	73.5	61.1	141.0	168.2	19.3
<b>Total Mineral Sands Sales</b>	<b>167.1</b>	<b>191.9</b>	<b>170.1</b>	<b>590.3</b>	<b>518.8</b>	<b>(12.1)</b>

## REVENUE AND CASH COSTS

	Sep-19 Quarter	Jun-20 Quarter	Sep-20 Quarter	Sep-19 YTD	Sep-20 YTD	Sep-20 YTD vs Sep-19 YTD
<i>\$ million</i>						%
Z/R/SR revenue	241.1	198.4	186.7	748.2	594.7	(20.5)
Ilmenite and other revenue <sup>1</sup>	11.8	26.0	23.5	50.2	72.0	43.4
<b>Mineral Sands Revenue<sup>2</sup></b>	<b>252.9</b>	<b>224.4</b>	<b>210.2</b>	<b>798.4</b>	<b>666.7</b>	<b>(16.5)</b>
<i>\$ million</i>						
Production cash costs of Z/R/SR				381.3	403.2	5.7
Ilmenite concentrate and by-product costs				8.7	15.9	82.0
<b>Total Cash Costs of Production</b>				<b>390.1</b>	<b>419.1</b>	<b>7.4</b>
<i>\$ per tonne</i>						
Unit Cash Production Costs per tonne Z/R/SR Produced <sup>3</sup>				731	953	30.3
<b>Unit Cost of Goods Sold per tonne Z/R/SR Sold</b>				866	974	12.4
<b>Revenue per tonne Z/R/SR Sold</b>	<b>1,634</b>	<b>1,675</b>	<b>1,712</b>	<b>1,666</b>	<b>1,696</b>	<b>1.8</b>
Average AUD:USD cents	68.6	65.7	71.5	69.9	67.8	(3.0)

All currency is Australian dollar denominated unless otherwise indicated.

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

## **PRODUCTION**

### **Australian Operations**

At Iluka's Jacinth-Ambrosia mine in South Australia, 77 thousand tonnes of heavy mineral concentrate (HMC) was produced, down from 109 thousand tonnes in the previous quarter, due to mining of lower grades at Jacinth North. Mining occurred at the Ambrosia deposit for the first portion of the quarter before returning to the Jacinth deposit at the start of August. The return to Jacinth was previously announced as part of the company's response to the COVID-19 pandemic, with estimated costs savings over 2020-2022 of \$30 million.

In Western Australia, the Cataby operation produced 139 thousand tonnes of HMC, marginally lower than the 148 thousand tonnes produced in the previous quarter. This included 92 thousand tonnes of magnetic material (for use as synthetic rutile feed) and 47 thousand tonnes of non-magnetic material (for zircon and rutile production).

The Narngulu mineral separation plant (MSP) processed 89 thousand tonnes of HMC during the quarter, up from 73 thousand in the previous quarter. As noted previously, production settings at the MSP were altered earlier in the year to reduce zircon production in response to the impact of COVID-19 on zircon markets. The plant retains full flexibility to return quickly to higher production settings.

Production at the synthetic rutile kiln 2 at Capel was 55 thousand tonnes of synthetic rutile, which was a reduction from 58 thousand tonnes in the previous quarter. The ilmenite feed rate to the kiln was lowered in response to the contractual dispute with one of Iluka's major synthetic rutile customers, Chemours. Iluka continues to monitor its production settings against inventory levels and customer demand and maintains its ability to adjust these settings if required.

Iluka's Eneabba project in Western Australia continued operations, with a further 21 thousand tonnes of monazite-zircon concentrate being shipped from Geraldton during the quarter.

### **Sierra Leone Operations**

Rutile production in the September quarter was 31 thousand tonnes, up from 26 thousand tonnes in the preceding quarter. While rutile production improved, operations continued to be hampered by several downtime events occurring during the period leading to lower throughputs. Seasonal weather also impacted operations in the quarter.

Early in October, post the reporting period, a minor fire occurred in the secondary rutile recovery (or scavenger) circuit of Sierra Rutile's MSP. The fire was quickly brought under control. One person required first aid treatment at Sierra Rutile's medical clinic for minor burns to his hands. The scavenger circuit represents a relatively minor part of the plant's operations and is in a separate building. Production activities have recommenced in the MSP and at this stage there is no material impact to production expected.

## MINERAL SANDS MARKET CONDITIONS

### Zircon Markets

Third quarter sales of 63 thousand tonnes were 22% higher than the same quarter last year (52 thousand tonnes) reflecting the continued modest recovery from the impacts of COVID-19 in key markets and regions.

In China the ceramic industry activity continued to operate at an estimated 60% of 2019 operating rates, with lower quality tile producers facing intense competition from medium to higher quality tile makers and some production units having shut-down. Chinese tile exports remain impacted by trade restrictions and large producers are focusing on the domestic market with higher quality products to increase differentiation while maintaining the trend to reduce production costs. In Europe, India, and South America, the tile industry ramped-up production during Q3 and is now operating at an estimated 80-90% of last year's operating rate, supported by exports and renovation activities in some markets.

Outside ceramics, the foundry application has been the most affected by the economic downturn, despite some slight improvements in China and the US it is still operating at an estimated 60-70% of 2019 rates. The refractory market remained stable during the quarter although faced increased price pressure from downstream customers; similarly, the fused zirconia segment remained stable but with increased competition among producers. Some zirconium chemical producers implemented temporary shut-downs to reduce finished goods inventory following lower exports in the quarter.

September quarter sales volumes do not include two ZIC shipments that moved into October due to the late arrival of the vessel at the loading port. The higher proportion of ZIC will likely affect the weighted average zircon price in Q4, which together with Q1 are typically the lower demand periods of the year.

Zircon prices continue to remain relatively stable with the weighted average zircon sand (premium and standard) price in Q3 of US\$1,311 per tonne down 3% from the first half 2020.

### Titanium Dioxide Feedstock Markets

High grade titanium dioxide feedstock (rutile and synthetic rutile) sales for the quarter were 46 thousand tonnes, with rutile sales of 34 thousand tonnes, up 23% from the June quarter, while synthetic rutile sales of 12 thousand tonnes, down 68% from June quarter due in large part to the previously disclosed contract dispute with Chemours.

Assuming Chemours takes no further synthetic rutile volumes for 2020, Iluka expects 99 thousand tonnes to be sold under take-or-pay contracts this year, of which 87 thousand tonnes have been sold year-to-date. In addition to these tonnes, in 2020 year to date, Iluka's has sold 14 thousand tonnes of synthetic rutile as spot sales.

Pigment demand improved during the third quarter, following the easing of government imposed lockdowns along with better than expected DIY and professional paint activity as consumers remained focused on renovating and remodelling homes. Pigment operating rates, however, have remained below normal as pigment producers work down inventory that was built up during the second quarter when demand contracted materially. In addition, hurricane activity in the Gulf of Mexico has resulted in a prolonged idling of the Lake Charles pigment facility, which represents approximately 10% of US supply. The one-month outage at this facility has further helped pull down inventory levels across the North American market. Demand in China has now returned to pre-COVID-19 levels with steady increases in domestic demand as well as resumption of exports to key markets in Europe, South East Asia and South America. Pigment operating rates are expected to gradually increase through the fourth quarter and beyond heading into the northern hemisphere spring peak demand season.

Welding demand has been quite resilient through the global pandemic. Conversely, the titanium sponge market has been severely impacted due to the significant downturn in global aircraft orders and production.

Weighted average rutile prices in Q3 were US\$1,195 per tonne. Provisional prices are invoiced during the period and the majority of contracts have pricing mechanisms that follow fluctuations in a basket of high grade ore transactions and are subject to six-monthly adjustments which occur after the reporting period. The final prices realised in H1 are in line with the provisional prices in Q3.

## **PROJECT UPDATES**

Updates on projects with material progress over the June quarter is provided below. Refer Iluka's website ([www.iluka.com](http://www.iluka.com)) for further information related to all projects.

### **Eneabba, Western Australia**

The Eneabba project in Western Australia involves the extraction, processing and sale of a strategic stockpile rich in monazite (a mineral containing rare earth elements) and zircon. This stockpile is stored in a mining void resulting from Iluka's mineral sands operations in the region.

The Board approved execute funding for Phase 2 (the upgrade of the 20% monazite concentrate to a 90% concentrate) in August and the project is progressing in line with plans. The product of Phase 2 will be a direct feed to a rare earth cracking and leaching plant. Iluka is also exploring the development of further downstream processing of monazite in Western Australia.

### **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 and backfilling technology.

The third technology trial (T3) to determine whether the technology is economically viable in a continuous mining and processing environment commenced during the quarter. Preliminary results of the trial are expected later in Q4 2020.

### **Wimmera, Victoria**

The Wimmera project involves the mining and beneficiation of a fine grained heavy mineral sands ore body in the Murray Basin for the potential long term supply of zircon into the market along with rare earths.

Study work remains focussed on validating a processing solution for the removal of impurities from the zircon. Environmental baseline studies were also progressed during the quarter.

### **Sembehun mine, 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.

Access to Sierra Leone remains difficult impacting progress on field activities. The focus remains on progressing critical PFS activities that protect schedule but do not require site access or significant third party interaction.

### **Puttalam Quarry, Sri Lanka**

Puttalam Quarry (PQ) is a large, predominantly sulphate ilmenite deposit, located in the Puttalam District of Sri Lanka, approximately 170 kilometres from the capital Colombo.

As foreshadowed in the March Quarterly Review, Iluka's exploration lease (EL) covering the PQ Resource (approximately 333Mt) was due to expire in September 2020. As Iluka was not in a position to lodge an application to convert the EL to an Industrial Mining License due to outstanding key approvals, the EL has expired. The write down of the PQ Resource will be reflected in Iluka's 2020 Ore Reserves and Mineral Resources Statement. The carrying value of Iluka's Sri Lankan tenements is \$21.2 million, as at September 2020.

Iluka has entered into an agreement with a local partner in Sri Lanka, retaining an interest if progress is made on a number of matters to further the development of the Sri Lankan deposits.

## EXPLORATION

Expenditure on exploration and evaluation charged to the profit and loss account for the September quarter 2020 was \$2.4 million with expenditure through Q3 2020 of \$7.2 million (Q3 2019: \$8.3 million).

Despite ongoing challenges relating to COVID-19 restrictions, late in the quarter Iluka recommenced field activities on a regional target in the US. Subject to ongoing travel restrictions, similar exploration programs will be progressed in Australia on two prospects before year end.

## CORPORATE UPDATES

### Deterra Royalties Demerger and Extraordinary General Meeting

The 2020 Extraordinary General Meeting of shareholders of Iluka Resources Limited (EGM) will be held on Friday, 16 October 2020 at 9:30am Perth time (AWST) as a virtual meeting. The Company will be webcasting the EGM so that Shareholders are able to listen to the proceedings, view the presentation, submit questions and vote before or during the meeting online. Instructions to join the webcast are available at: <https://www.iluka.com/investors-media/shareholder-information/demerger-egm-information>

Pending the outcome of the EGM, Deterra Royalties shares are expected to commence trading (on a deferred settlement basis) on the ASX on 23 October.

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## APPENDIX: QUARTERLY REVIEW DATA TABLES

GROUP MINERAL SANDS PRODUCTION	Sept-19 Quarter	Jun-20 Quarter	Sept-20 Quarter	Sept-19 YTD	Sept-20 YTD	Sept-20 YTD vs Sept-19 YTD
	kt	kt	kt	kt	kt	%
<b>Zircon<sup>1</sup></b>						
Jacinth-Ambrosia/Mid west WA	75.2	29.3	11.5	212.4	80.3	(62.2)
Cataby/South west WA	18.0	12.8	20.6	36.6	44.0	20.2
Sierra Leone	0.3	-	-	4.4	-	(100.0)
<b>Total Zircon Production</b>	<b>93.5</b>	<b>42.1</b>	<b>32.1</b>	<b>253.4</b>	<b>124.3</b>	<b>(50.9)</b>
<b>Rutile</b>						
Jacinth-Ambrosia/Mid west WA	8.7	4.0	3.5	26.1	13.9	(46.7)
Cataby/South west WA	5.4	5.0	13.4	9.0	25.1	178.9
Sierra Leone	33.4	25.8	31.0	93.2	92.9	(0.3)
<b>Total Rutile Production</b>	<b>47.5</b>	<b>34.8</b>	<b>47.9</b>	<b>128.3</b>	<b>131.9</b>	<b>2.8</b>
<b>Synthetic Rutile (WA)</b>	<b>57.0</b>	<b>58.3</b>	<b>55.3</b>	<b>139.8</b>	<b>166.9</b>	<b>19.4</b>
<b>TOTAL Z/R/SR PRODUCTION</b>	<b>198.0</b>	<b>135.2</b>	<b>135.3</b>	<b>521.5</b>	<b>423.1</b>	<b>(18.9)</b>
<b>Ilmenite</b>						
Jacinth-Ambrosia/Mid west WA	28.3	15.8	4.4	86.5	45.5	(47.4)
Cataby/South west WA	56.8	82.1	94.7	97.3	245.1	151.9
Sierra Leone	16.6	8.8	12.1	42.9	36.0	(16.1)
<b>Total Ilmenite</b>	<b>101.7</b>	<b>106.7</b>	<b>111.2</b>	<b>226.7</b>	<b>326.6</b>	<b>44.1</b>
<b>TOTAL MINERAL SANDS PRODUCTION</b>	<b>299.7</b>	<b>241.9</b>	<b>246.5</b>	<b>748.2</b>	<b>749.7</b>	<b>0.2</b>

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

## WEIGHTED AVERAGE RECEIVED PRICES

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

	Full year 2019	H1 2020	Q3 2020	Q3 YTD 2020
<i>US\$/tonne FOB</i>				
Zircon Premium and Standard	1,487	1,354	1,311	1,334
Zircon (all products, including zircon in concentrate) <sup>1</sup>	1,380	1,265	1,271	1,268
Rutile (excluding HYTI) <sup>2</sup>	1,142	1,246	1,195	1,227
Synthetic rutile		Refer Note 3		

Notes:

1. Zircon prices reflect the weighted average price for zircon premium, zircon standard and zircon-in-concentrate. The prices for each product vary considerably, as does the mix of such products sold period to period. In the year to date 2020 the split of zircon sand and concentrate by zircon sand-equivalent is approximately: 77%:23% (2019 full year: 70%:30%).
2. 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%.
3. 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.



**OPERATING MINES PHYSICAL QUARTERLY DATA**  
**3 Months to 30 September 2020**

	Jacinth- Ambrosia / Mid west	Cataby / South west	Australia Total	Sierra Leone	Group Total
<b>Mining</b>					
Overburden moved kbcm	442	3,047	3,489	54	3,543
Ore mined kt	2,451	2,328	4,780	1,364	6,144
Ore treated grade HM %	3.6%	5.7%	4.7%	3.6%	4.4%
Ore treated grade VHM %	3.2%	4.9%	4.1%	2.6%	3.6%
<b>Concentrating</b>					
HMC produced kt	77.4	139.1	216.5	78.5	295.1
VHM produced kt	69.1	121.0	190.2	50.8	241.0
VHM in HMC assemblage %	89.3%	87.0%	87.8%	64.7%	81.7%
Zircon	47.6%	11.1%	24.2%	3.6%	18.7%
Rutile	8.4%	6.5%	7.2%	42.3%	16.5%
Ilmenite	33.3%	69.3%	56.4%	18.8%	46.4%
<b>Processing</b>					
HMC processed kt	16.4	177.6	194.0	79.8	273.8
Finished product <sup>1</sup> kt					
Zircon	11.5	20.6	32.1	-	32.1
Rutile	3.5	13.4	16.9	31.1	47.9
Ilmenite (saleable/upgradeable)	4.4	94.7	99.1	12.1	111.2
Synthetic rutile produced kt	-	55.3	55.3	-	55.3

<sup>1</sup> Finished product includes material from heavy mineral concentrate (HMC) initially processed in prior periods.

**OPERATING MINES PHYSICAL YEAR TO DATE DATA**  
**9 Months to 30 September 2020**

	Jacinth- Ambrosia / Mid west	Cataby / South west	Australia Total	Sierra Leone	Group Total
<b>Mining</b>					
Overburden moved kbcm	2,680	9,447	12,127	223	12,350
Ore mined kt	7,619	10,006	17,626	7,026	24,652
Ore treated grade HM %	4.0%	6.0%	5.0%	3.4%	4.5%
Ore treated grade VHM %	3.6%	5.0%	4.4%	2.5%	3.8%
<b>Concentrating</b>					
HMC produced kt	261.6	402.7	664.3	231.9	896.2
VHM produced kt	231.8	351.6	583.4	149.8	733.2
VHM in HMC assemblage %	88.6%	87.3%	87.8%	64.6%	81.8%
Zircon	51.1%	11.2%	26.9%	4.0%	21.0%
Rutile	8.1%	6.7%	7.2%	43.2%	16.5%
Ilmenite	29.4%	69.5%	53.7%	17.4%	44.3%
<b>Processing</b>					
HMC processed kt	164.4	396.9	561.3	232.6	793.9
Finished product <sup>1</sup> kt					
Zircon	80.3	44.0	124.3	-	124.3
Rutile	13.9	25.1	39.0	92.9	131.9
Ilmenite (saleable/upgradeable)	45.5	245.1	290.6	36.0	326.6
Synthetic rutile produced kt	-	166.9	166.9	-	166.9

**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.

**Ore treated grade HM %** refers to percentage of heavy mineral (HM) in the ore processed through the mining unit (MU).

**Ore treated grade VHM %** refers to percentage of valuable heavy mineral (VHM) - titanium dioxide (rutile and ilmenite) and zircon in the ore processed through the mining unit (MU).

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

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

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

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

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

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

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

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

<sup>1</sup> Finished product includes material from heavy mineral concentrate (HMC) initially processed in prior periods.

## PRODUCTION SUMMARIES

