

QUARTERLY REVIEW TO 30 SEPTEMBER 2022

28 OCTOBER 2022

KEY FEATURES

- Q3 2022 Zircon/Rutile/Synthetic Rutile (Z/R/SR) sales of 144kt
 - zircon demand from Iluka customers continues to be strong, with sales constrained by production and logistics, despite softness in the Chinese ceramics market and high energy costs impacting tile production in Europe
 - synthetic rutile sales volumes were impacted by the timing of shipments and Australian port congestion, reducing sales in the quarter by 15kt
- Q3 2022 Z/R/SR production of 154kt
 - rutile production down due to demerger of Sierra Rutile on 4 August 2022
 - zircon production lower due to 18kt lower zircon-in-concentrate sales (production recognised on sale). Zircon sand production up 8kt
 - steady synthetic rutile production
- Weighted average zircon price of US\$2,038/t achieved in Q3 2022 for premium and standard sand, up 10% compared to H1 2022
- Zircon prices to remain flat for the next six months, providing stability to customers
- Q4 2022 zircon sales volumes are fully contracted
- Q3 2022 rutile price of US\$1,654/t¹ up 12% compared to Q2 2022
- All of Iluka's rutile and synthetic rutile are sold out for the remainder of the year
- SR1 kiln restart remains on track for Q4 2022, with commissioning underway
- Rare earths (Eneabba refinery)
 - all primary environmental approvals received
 - contract for bulk earthworks awarded and early earthworks commenced
 - strategic partnership reached with Northern Minerals for rare earth concentrate supply

PHYSICAL AND FINANCIAL SUMMARY	Q3 21	Q2 22	Q3 22	Q3 21 YTD	Q3 22 YTD	Q3 22 YTD vs Q3 21 YTD
PRODUCTION						%
kt						
Zircon	88.7	80.4	69.7	230.6	226.4	(1.8)
Rutile ²	51.6	48.3	24.9	131.5	122.6	(6.8)
Synthetic Rutile	59.8	60.1	59.2	138.8	173.6	25.1
Z/R/SR Production	200.1	188.8	153.8	500.9	522.6	4.3
Ilmenite	165.1	170.7	150.9	400.4	439.8	9.8
Monazite concentrate	12.2	-	-	38.4	-	n/a
SALES						
kt						
Zircon	88.7	106.8	63.1	265.9	253.6	(4.6)
Rutile ²	52.9	36.6	33.0	141.9	128.2	(9.7)
Synthetic Rutile	76.3	89.2	47.9	267.7	183.6	(31.4)
Z/R/SR sales	217.9	232.6	144.0	675.5	565.4	(16.3)
Ilmenite	30.4	90.6	44.0	160.9	181.5	12.8
Monazite concentrate	10.5	-	-	31.2	-	n/a
REVENUE & CASH COSTS						
\$ million						
Z/R/SR revenue	371.9	491.5	332.1	1,051.9	1,207.2	14.8
Ilmenite and other revenue	20.1	49.4	25.2	75.7	105.0	38.7
Mineral Sands Revenue	392.0	540.9	357.3	1,127.6	1,312.2	16.4
Production cash costs of Z/R/SR				390.6	490.5	25.6
Ilmenite concentrate & by product costs				14.3	10.5	(26.6)
Total cash costs of production				404.9	501.0	23.7
\$ per tonne						
Unit cash production costs Z/R/SR produced				780	938	20.3
Unit cost of goods sold Z/R/SR sold				931	1,007	8.2
Revenue Z/R/SR sold	1,707	2,113	2,306	1,557	2,135	37.1
AUD:USD cents	73.5	71.5	68.4	75.9	70.8	(6.8)

¹ 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%.

² Rutile sales and production volumes include HYTI. Rutile production includes 9.9kt produced by Sierra Rutile, before demerger took effect on 4 August 2022.

Australian Operations

Mining at Jacinth-Ambrosia in South Australia produced 63kt of heavy mineral concentrate (HMC), down from 66kt in Q2 2022. Lower HMC production was the result of lower ore treatment volumes and ore grade. Mining at Jacinth Ambrosia continued to operate at full production settings, with the planned relocation from the Jacinth North deposit to the Ambrosia deposit completed in September 2022.

In Western Australia, the Cataby operation produced 114kt of HMC, down from 124kt in Q2 2022. Lower HMC production was the result of lower ore grade.

The Narngulu mineral separation plant (MSP) processed both Cataby and Jacinth-Ambrosia HMC, producing a total of 70kt of zircon, down from 76kt in Q2 2022, and 15kt of rutile, up from 10kt in Q2 2022, a result of higher Cataby HMC being processed in Q3 2022.

Production of synthetic rutile from SR2 at Capel was 59kt, in line with the previous quarter, with SR2 continuing to operate at full capacity.

Sierra Leone Operations

Iluka demerged Sierra Rutile on 4 August 2022. Mining at Sierra Rutile produced 22kt of HMC and 10kt of rutile in the quarter under Iluka’s ownership.

MINERAL SANDS PRODUCTION	Q3 21	Q2 22	Q3 22	Q3 21 YTD	Q3 22 YTD	Q3 22 YTD vs Q3 21 YTD
	kt	kt	kt	kt	kt	%
ZIRCON³						
Jacinth-Ambrosia/ Mid west WA	77.6	66.6	53.7	208.5	184.6	(11.5)
Cataby/South west WA	11.1	9.8	16.0	22.1	37.8	71.0
Sierra Leone	-	4.0	-	-	4.0	n/a
Total Zircon	88.7	80.4	69.7	230.6	226.4	(1.8)
RUTILE						
Jacinth-Ambrosia/ Mid west WA	8.6	4.6	3.3	25.4	14.2	(44.1)
Cataby/South west WA	6.6	5.1	11.7	14.2	24.4	71.8
Sierra Leone	36.4	38.6	9.9	91.9	84.0	(8.6)
Total Rutile	51.6	48.3	24.9	131.5	122.6	(6.8)
Synthetic Rutile (WA)	59.8	60.1	59.2	138.8	173.6	25.1
TOTAL Z/R/SR	200.1	188.8	153.8	500.9	522.6	4.3
ILMENITE						
Jacinth-Ambrosia/ Mid west WA	34.7	36.2	34.0	99.9	109.3	9.4
Cataby/South west WA	114.4	119.4	112.1	264.3	295.7	11.9
Sierra Leone	16.0	15.1	4.8	36.2	34.8	(3.9)
Total Ilmenite	165.1	170.7	150.9	400.4	439.8	9.8
MONAZITE						
Jacinth Ambrosia/ Mid west WA	12.2	-	-	38.4	-	n/a

³ Iluka’s zircon production figures include volumes of zircon attributable to external processing arrangements.

Iluka continued to experience strong demand for its suite of products, with sales volumes in the quarter constrained by production.

Zircon

Total sales in the third quarter of 63kt were constrained by production and logistics, with 13kt slipping into early October due to Australian port congestion. Iluka's supply chain remains tight, with no stock in some warehouses.

The Chinese ceramic market softened during the quarter due to the confluence of COVID restrictions, softness in the real estate market and other economic pressures. The fused zirconia, refractories, and foundries markets all remained stable. Domestic consumption of zirconium chemicals remains soft in contrast to exports, which are higher year-on-year.

In response to high energy prices, some European manufacturers have slowed, and in some cases ceased, production of lower value ceramic tiles (i.e. products of lower inherent margin). At the same time, the production of ceramic slabs, generally with a higher zircon loading, continues to outperform. Some European manufacturers with assets outside the EU (e.g. Mexico and Brazil) are maximising production from these locations where energy costs are lower.

Indian ceramics production has recovered from the hiatus early in the quarter and zircon demand is strong.

Iluka has communicated to customers that it will maintain zircon sand prices flat for the next six months, providing stability to customers in light of global macroeconomic uncertainty. All of Iluka's Q4 2022 zircon sales volumes are fully contracted.

Titanium Dioxide Feedstocks

Over the quarter, demand for pigment slowed in Europe and China but has remained steady in North America.

The war in Ukraine, coupled with increasing energy costs across Europe, has resulted in a number of sulphate pigment plants pulling forward planned maintenance. The sulphate pigment production process consumes significantly more energy than the chloride process, which has forced a number of sulphate plants to slow operating rates in order to reduce costs. The resulting pull back in sulphate production will likely result in inventories remaining at or below seasonal norms as the northern hemisphere winter approaches, when paint demand traditionally slows.

Chloride feedstock demand has remained strong during the quarter with customers taking deliveries as scheduled. Iluka's suite of high grade feedstocks are sold out for the remainder of the year.

Interest in Iluka's synthetic rutile remains high.

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



Eneabba Rare Earth Refinery, Western Australia

On 3 April 2022, Iluka announced its final investment decision for Eneabba Phase 3, a fully integrated refinery for the production of separated rare earth oxides at Eneabba, Western Australia.⁴

This decision was taken following the agreement of a risk sharing arrangement with the Australian Government, including a \$1.25 billion non-recourse loan under the \$2 billion Critical Minerals Facility administered by Export Finance Australia.

All primary environmental approvals have now been received, allowing for construction to commence.

The contract for bulk earth works (a precursor to commencement of site civil works) has been awarded and early earthworks have commenced. Construction works on the camp upgrade are underway, with tendering for a new operational camp in progress.

Fluor Australia, the Engineering, Procurement and Construction Management services contractor, has continued to progress Front End Engineering Design. Broader execution planning activities are occurring in parallel.

Execution of Phase 2 (the production of a 90% monazite concentrate and a zircon-ilmenite concentrate) has been completed. The facility has been commissioned and has produced on-specification monazite concentrate at design recoveries.



Balranald, New South Wales

Balranald is a rutile-rich deposit in the northern Murray Basin, New South Wales. Owing to its relative depth, Iluka is assessing the potential to develop the deposit via a novel, internally developed, underground mining technology. Balranald's definitive feasibility study (DFS) funding was approved by Iluka's Board in August 2021. The company expects to complete the Balranald DFS in late 2022, with the Board likely to consider a final investment decision in February 2023.



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. Study work for Wimmera is focussed on process engineering, equipment specification and optimisation, equipment vendor enquiries and waste management studies ahead of preparing capital and operating cost estimates. Test work to determine the ideal process conditions and scale up design criteria, which will ultimately inform economic feasibility, is continuing through 2022, with the aim of completing the preliminary feasibility study at the year end.

The rare earth bearing minerals within the Wimmera deposits are very similar to Iluka's Eneabba stockpile, though with more xenotime (which contains higher levels of dysprosium and terbium), and are a potential future source of feedstock for the Eneabba Rare Earth Refinery.



Synthetic Rutile Kiln 1 Restart, Western Australia

SR1 is located at Capel, Western Australia, on the same site as SR2. SR1 was placed on care and maintenance in 2009. The restart of SR1 represents a low capital expenditure, low risk opportunity to produce an additional 110ktpa of synthetic rutile, in light of industry supply constraints. Iluka announced the execution of SR1's restart in August 2021. Site refurbishment activities have progressed in line with cost and schedule with start-up remaining on track for Q4 2022. The company has received significant interest from both existing and new customers regarding offtake of synthetic rutile from SR1.

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



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 pre-feasibility study that is scheduled for completion in early 2023. 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.

For more detail on projects please refer to Iluka's website iluka.com/operations-resource-development/resource-development

RARE EARTHS BUSINESS DEVELOPMENT

On 26 October, Iluka announced a strategic partnership with Northern Minerals Limited (ASX:NTU) for the supply of rare earths concentrate.⁵ The agreement is for the supply of all available concentrate from Northern's Browns Range project, until the delivery of contained rare earth oxide (REO) has reached 30.5kt.

Subject to Northern developing Browns Range, this concentrate will be a valuable additional source of feedstock for Iluka's Eneabba rare earths refinery and will be a significant contributor to establishing the refinery as a long term producer of highly valued heavy (dysprosium and terbium), as well as light (neodymium and praseodymium), permanent magnet REOs.

EXPLORATION

Exploration and evaluation expenditure in Q3 2022 was \$2.5 million compared with \$2.9 million in Q3 2021. Year to date expenditure was \$7.3 million compared to \$7.6 million in the same period in 2021.

Drilling activities completed within Australia focussed on Resource definition at Cataby and Resource evaluation work at Atacama, as well as several other projects in Western Australia. A total of 23,661m of air core drilling was completed during the quarter.

In Australia, greenfield exploration target testing recommenced late in Q3 2022 following the prioritisation of resource definition projects throughout the year. Testing is expected to continue across a number of greenfield targets and expand to near mine exploration targets in Q4 2022 and into 2023.

In the US, drill testing of greenfield regional targets continued during the quarter. A total of 56 holes for 2,207m of sonic drilling was completed in the US. Testing of these targets is expected to continue in Q4 2022 and into 2023.

Target generation has continued within Australia and the United States in line with Iluka's exploration strategy, focused on identifying both mineral sands and rare earths exploration targets.

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

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⁵ Refer ASX release *Strategic partnership with Northern Minerals: rare earths concentrate supply*, 26 October 2022.

APPENDIX 1 – MINING AND PRODUCTION PHYSICAL DATA

Physical Data 3 months to September 22	Jacinth- Ambrosia/ Mid west	Cataby/ South west	Australia Total	Sierra Leone	Group Total
Mining					
Overburden Moved kbcm	281	1,835	2,116	-	2,116
Ore Mined kt	3,042	894	3,936	825	4,761
Ore Fed/Treated kt	1,974	2,452	4,426	736	5,162
Ore Treated Grade HM %	3.5%	5.0%	4.4%	2.7%	4.1%
VHM Treated Grade %	3.2%	4.4%	3.9%	2.1%	3.6%
Concentrating					
HMC Produced kt	62.8	126.3	189.1	21.9	211.0
VHM Produced kt	56.2	102.5	158.6	14.6	173.3
VHM in HMC Assemblage %	89.4%	81.2%	83.9%	66.6%	82.1%
Zircon	45.2%	9.9%	21.6%	3.7%	19.7%
Rutile	9.2%	6.8%	7.6%	43.1%	11.3%
Ilmenite	35.0%	64.5%	54.7%	19.8%	51.1%
HMC Processed kt	115.8	162.2	278.0	22.5	300.4
Finished Product⁶ kt					
Zircon	53.7	16.0	69.7	-	69.7
Rutile	3.3	11.7	15.0	9.9	24.9
Ilmenite (saleable/upgradeable)	34.0	112.1	146.1	4.8	150.9
Synthetic rutile kt	-	59.2	59.2	-	59.2
Monazite concentrate kt	-	-	-	-	-

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 (thousand of tonnes) refers to material processed through mining units for Cataby/ South West and Sierra Leone.

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.

⁶ Finished product includes material from heavy mineral concentrate (HMC) initially processed in prior periods.

Physical Data 9 months to September 22	Jacinth- Ambrosia/ Mid west	Cataby/ South west	Australia Total	Sierra Leone	Group Total
Mining					
Overburden Moved kbcm	2,182	7,172	9,354	860	10,214
Ore Mined kt	7,978	5,424	13,402	6,016	19,418
Ore Fed/Treated kt	6,814	7,111	13,925	5,683	19,608
Ore Treated Grade HM %	3.3%	5.4%	4.4%	3.1%	4.0%
VHM Treated Grade %	3.0%	4.7%	3.9%	2.5%	3.5%
Concentrating					
HMC Produced kt	199.3	373.9	573.2	196.9	770.1
VHM Produced kt	179.1	314.3	493.4	137.5	630.9
VHM in HMC Assemblage %	89.9%	84.1%	86.1%	69.8%	81.9%
Zircon	45.4%	10.6%	22.7%	4.2%	18.0%
Rutile	8.9%	6.4%	7.3%	45.2%	17.0%
Ilmenite	35.6%	67.0%	56.1%	20.5%	47.0%
HMC Processed kt	350.9	386.5	737.4	200.3	937.6
Finished Product⁷ kt					
Zircon	184.6	37.8	222.4	4.0	226.4
Rutile	14.2	24.4	38.6	84.0	122.6
Ilmenite (saleable/upgradeable)	109.3	295.7	405.0	34.8	439.8
Synthetic Rutile kt	-	173.6	173.6	-	173.6
Monazite concentrate kt	-	-	-	-	-

⁷ 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 contains further historical mineral sands price information.

	FY 21	Q1 22	Q2 22	Q3 22	Q3 22 YTD
<i>US\$/tonne FOB</i>					
Zircon Premium and Standard	1,414	1,788	1,910	2,038	1,904
Zircon (all products, including zircon in concentrate) ¹	1,330	1,685	1,813	1,950	1,805
Rutile (excluding HYTI) ²	1,264	1,520	1,483	1,654	1,539
Synthetic rutile			Refer Note 3		

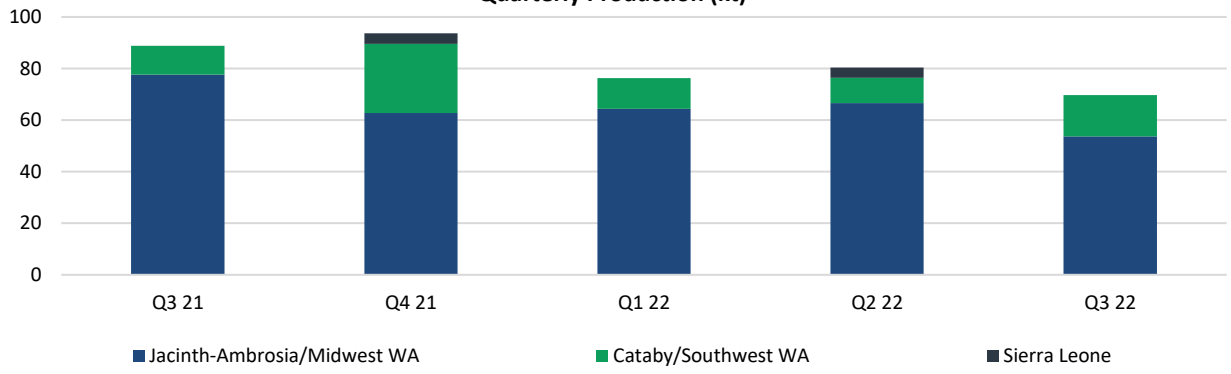
Notes:

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 2022 the split of zircon sand and concentrate by zircon sand-equivalent was approximately: 68%:32% (2021 full year: 76%:24%).
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.

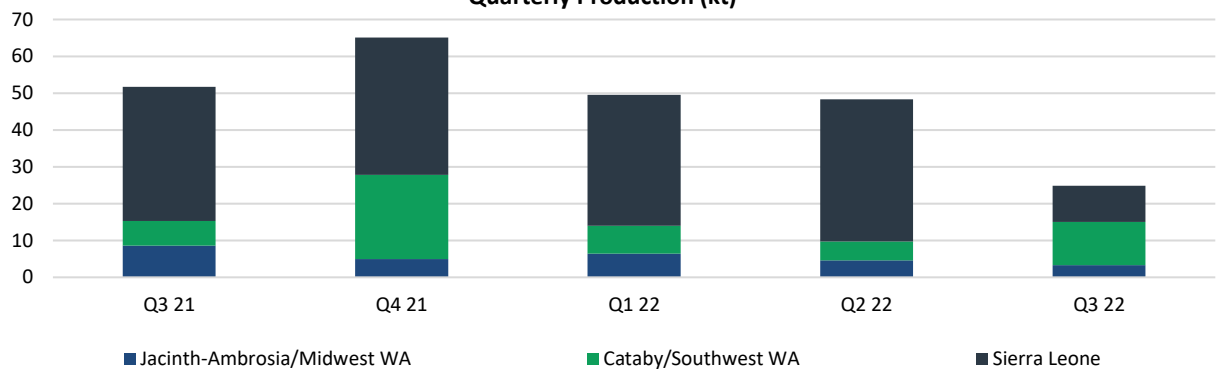


APPENDIX 3 – PRODUCTION SUMMARIES

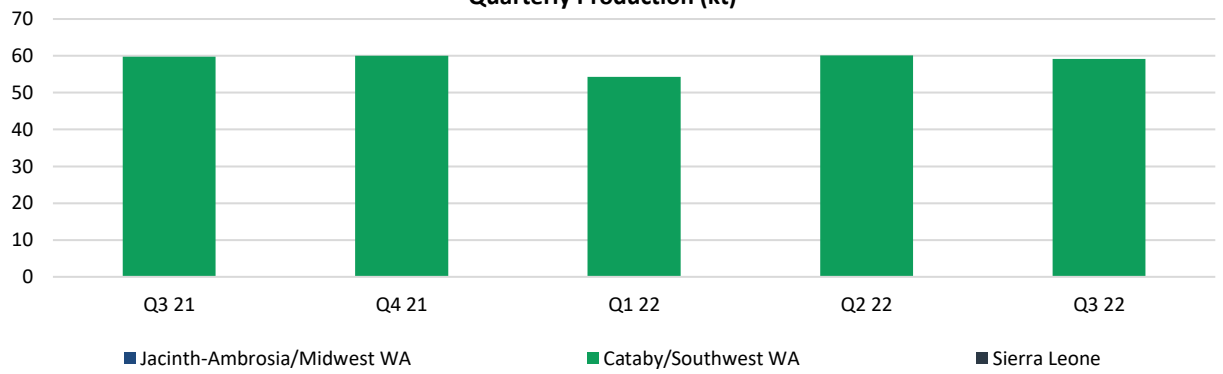
Zircon
Quarterly Production (kt)



Rutile
Quarterly Production (kt)



Synthetic Rutile
Quarterly Production (kt)



Ilmenite
Quarterly Production (kt)

