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ASX: ILU

## **CATABY PROJECT APPROVED WITH OFFTAKE AGREEMENTS SECURED FOR 85% OF SYNTHETIC RUTILE PRODUCTION**

- Cataby mineral sands project approved; with offtake agreements secured for 85% of Iluka's synthetic rutile production, for a minimum of four years
- Project ensures continued production from Synthetic Rutile kiln 2 at Capel, Western Australia
- Estimated construction cost of \$250-\$275 million, unchanged from previous forecasts
- Construction workforce for Cataby to peak at 250 people; operations workforce of ~160 full time employees; Iluka's processing operations at Capel currently employ ~160 people
- Construction period of 18 months, first production expected in Q2 2019
- Average annual production of ~200ktpa synthetic rutile, ~50ktpa zircon and ~30ktpa rutile
- 8.5 year mine life, with possibility to extend a further four years, subject to accessing additional 40 million tonnes of ore in the reserve

Iluka Resources Limited (Iluka) (ASX: ILU) has approved the development of the Cataby mineral sands deposit (Cataby) in Western Australia. Iluka's Board approved the development after the company entered into take-or-pay offtake agreements for a minimum of 175kt of synthetic rutile per annum, or approximately 85% of the production capacity from Iluka's Synthetic Rutile kiln 2 (SR2).

Cataby is a large chloride ilmenite deposit located approximately 150 kilometres north of Perth in the Shire of Dandaragan. Ilmenite from the development will underpin the continued production of 200ktpa of synthetic rutile from SR2 at Capel, in the south west of Western Australia.

Iluka's Managing Director Tom O'Leary said "Iluka has worked closely with customers to secure offtake agreements for a significant proportion of the synthetic rutile production associated with the Cataby project.

Entering into these agreements serves to underpin returns from the project and is consistent with Iluka's disciplined approach to the allocation of capital and our objective to create and deliver shareholder value.

The project ensures that our customers will have continuity of synthetic rutile supply; and also delivers significant economic benefits to two separate regions in Western Australia – Dandaragan and Capel.

The construction period – with works estimated to cost between \$250 million to \$275 million – will employ up to 250 workers at its peak. Once in operation, the project will sustain a workforce of approximately 160 people.

Pre-execute contracts have been awarded and tendering for the balance of construction contracts is well advanced. First production from Cataby is expected by June 2019."

## Cataby overview

Cataby is expected to produce an average of ~370ktpa of chloride ilmenite. This material will be processed into ~200ktpa of premium grade synthetic rutile at Iluka's SR2 kiln in Capel (~350km south of Cataby) and shipped out of the Port of Bunbury. In addition, Cataby will produce an average of ~50ktpa premium grade zircon and ~30ktpa rutile. These materials will be processed at Iluka's Narngulu mineral separation plant in Geraldton (~250km north of Cataby) and shipped out of the Port of Geraldton.

Key parameters	Metric
Average annual production:	
— Zircon	50ktpa
— Rutile	30ktpa
— Synthetic Rutile	200ktpa
Capital cost <sup>1</sup>	A\$250m-\$275m
Net present value (NPV) <sup>2</sup>	A\$390m
Internal rate of return (IRR) <sup>2</sup>	36%
Payback period <sup>2</sup>	2 years
Average unit cash costs of production (Z/R/SR)	~A\$700 / tonne

<sup>1</sup> Given recent cost escalation in Western Australia, capital likely to be towards the top end of the estimate range

<sup>2</sup> Based on TZMI's pricing deck (mid-case scenario, November 2017) for rutile, zircon and synthetic rutile, applying the long-run FX forecast of 80 cents and a post-tax discount rate of 10%. Payback period is calculated from the first synthetic rutile production in Q2 2019.

## Ore Reserves

Cataby has an 8.5 year mine life based on mining 80 million tonnes of ore in the development plan, consisting of 86% Proved Ore Reserves and 14% Probable Ore Reserves. However, the mine life could be extended by approximately four years by accessing an additional 40 million tonne of ore in the Reserve, which remain subject to land access and approvals.

Cataby Ore Reserves <sup>1</sup>	Ore Mt	HM %	Ilmenite %	Zircon %	Rutile %
Ore Reserve – Proved	88	6.3	59.7	9.3	4.1
Ore Reserve – Probable	33	4.1	62.3	9.4	4.3
<b>Ore Reserve – Total</b>	<b>120</b>	<b>5.7</b>	<b>60.2</b>	<b>9.3</b>	<b>4.1</b>
<b>Development plan</b>	<b>80</b>	<b>6.6</b>	<b>60.0</b>	<b>9.6</b>	<b>4.1</b>

<sup>1</sup> Refer to the Compliance Statement on page 7

## **Construction plan**

Pre-execute contracts have been awarded for a range of packages and tendering for the balance of construction contracts is well advanced. In undertaking a range of pre-execute activities for Cataby, Iluka has: obtained major environmental approvals for the project; substantially completed its detailed engineering; established an integrated project team; and procured long lead items including power supply equipment and accommodation units. Predominantly Western Australian contractors will be used, including local contractors where practical.

The company expects the ongoing production phase will employ up to 160 people, including the mining contractor, with an emphasis to be placed on employing locally.

## **Supply contracts and end markets**

Iluka has worked closely with its customers to secure long-term offtake agreements. The agreements account for a minimum of 175kt of synthetic rutile per annum, with customers collectively having flexibility to take up to 190kt per annum, or approximately 95% of SR2's average annual production capacity. These contracts, with established western pigment producers, vary between customers to reflect individual customer requirements. Key terms agreed include:

- all offtake is subject to take or pay provisions;
- the majority of the offtake is subject to a floor price adjusted for inflation over the life of the contract;
- all pricing is in USD with prices typically adjusted based on movements of high-grade feedstock prices;
- the agreements cover 2018<sup>2</sup>, then the first four years of Cataby's operation (2019 through to 2022) with the ability to extend the offtake of 80ktpa of synthetic rutile, at Iluka's option, for an additional four years on the same terms and conditions.

The Cataby project would have an IRR of 10% assuming that only floor prices for synthetic rutile were achieved and all other products were sold at today's market prices and assuming an 80 cent AUD:USD exchange rate.

Rutile from Cataby is suitable for both the pigment and welding markets and is expected to be sold to customers which previously purchased Iluka's premium MB95 material. Zircon from Cataby is a relatively coarse material, making it highly desirable for the foundry and refractory markets. It also has superior opacifying qualities making it suitable for the premium end of the ceramics and sanitary-ware markets.

In parallel with entering into the above arrangements, Iluka has also entered into a 5 year take or pay contract with a synthetic rutile customer for the supply of the majority of ilmenite and HYTI90 (a lower quality titanium feedstock) sourced from Iluka's Jacinth Ambrosia mine in South Australia. Pricing will be adjusted half yearly and capped.

The floor price associated with the above synthetic rutile contracts and the pricing arrangements under the ilmenite and HYTI90 contract provide a high level of certainty in respect of a minimum level of US dollar revenues. Given Cataby's, and Jacinth Ambrosia's, largely Australian dollar cost base, Iluka plans to manage the risk of a rising Australian dollar by hedging a portion of this US dollar exposure, utilising a combination of forward contracts, zero cost collars and Australian dollar call options. Further details of this hedging will be provided in due course.

Further details on Cataby are included in the Appendix.

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<sup>2</sup> 2018 synthetic rutile contracts to be supplied by ilmenite sourced from a variety of Iluka's operations including Tutunup South, Jacinth-Ambrosia, US operations and Sierra Rutile along with external sources of ilmenite.

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**Appendix – Information on the Cataby Deposit**

The deposit was discovered in the 1970s and represents the southern extension of Tronox’s Cooljarloo deposit.



## Mining Method and Concentration

The mining method will use a combination of dozer push in the larger pits and truck and excavator in other pits, feeding two in-pit mobile mining units (specialized skid mounted). Ore is then slurried in a separate surface screening plant located out of the pit before being pumped to an onsite and centrally located wet concentration plant.

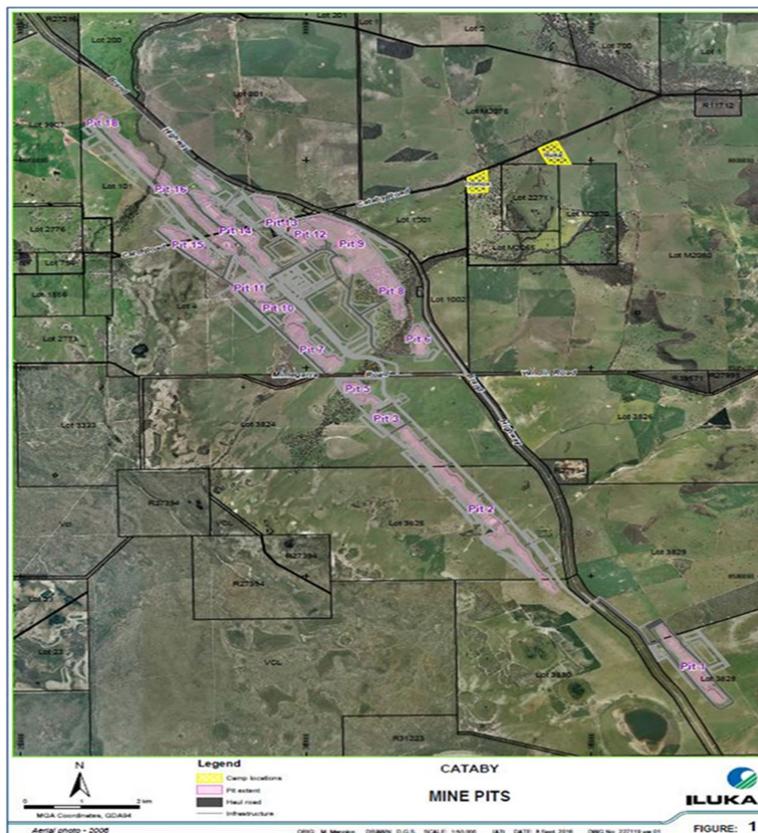
Iluka will relocate the Newman wet concentrator plant (capacity of 1,100 tonnes per hour), currently located at Eneabba. Two thickeners from the Douglas mine in Victoria will be relocated, along with other equipment from Eneabba such as the screening and trommel plants, slurry pumping stations and heavy mineral concentrate stackers.

The wet concentrating plant will separate the magnetic (ilmenite) material from the non-magnetic (zircon and rutile) material, via a WHIMS (Wet High Intensity Magnetic Separation) plant. The magnetic fraction (ilmenite) will be trucked to North Capel for conversion into synthetic rutile, and the non-magnetic fraction (zircon and rutile) will be trucked to the Narngulu mineral separation plant in Geraldton for further processing.

The major infrastructure includes an upgrade to the Cataby substation near the existing Tronox mine and the construction of a 33 kV overhead power line to site, all by Western Power Corporation. Other major capital expenditure items include:

- wet concentrating plant and processing infrastructure;
- camps and associated infrastructure;
- mining units and screening plants;
- infrastructure, including field piping;
- upgrades to some public roads; and
- upgrades at Narngulu and North Capel separation plants.

## Schematic of Mine Pits at Cataby Deposit



## Cataby – Key Project Metrics

Key Parameters		2019-2022 <sup>1</sup>	2023-2026 <sup>1</sup>	Comments
<b>Average annual production</b>				
Zircon	kt	60	40	Higher grade pits mined first
Rutile	kt	35	25	
Synthetic Rutile	kt	200	200	Steady at capacity. Average includes ~10% lower production during years of major maintenance and kiln reline (2019 and 2023).
<b>Total Z/R/SR</b>				
Ilmenite	kt	440	320	All ilmenite production is consumed as SR feed stock. Some 2019-2022 production will be stockpiled (due to higher grade) and consumed over 2023-2026.
<b>Average annual unit costs &amp; capital expenditure</b>				
<b>Unit Cash Costs of Production</b>	A\$/t Z/R/SR	670 -830 (av. 715)	630 -780 (av. 690)	Higher average unit costs in the first kiln campaign due to higher overburden movements in the high grade pit
<b>Non Production Cash Costs<sup>2</sup></b>	A\$/t Z/R/SR	50	55	
<b>Unit Cost of Goods Sold</b>	A\$/t	970 -1,050	1,000 -1,100	
<b>Capital Expenditure<sup>3</sup></b>	A\$m (av. pa)	20	15	Mining and processing sustaining expenditure plus SR major maintenance outage in 2019 and 2023

All unit costs and capital expenditure are stated in real 2017 dollars.

1. Indicative only and should not be construed as guidance. Capital estimates are from a DFS and as such were prepared with the objective of being subject to an accuracy range of +/-15%. Refer to Compliance Statement on Page 7.
2. Non production costs include sales and marketing, inclusive of product storage and handling, royalties and by-product costs
3. Excludes development capital expenditure of \$250-275 million incurred over 2017-2019

## **Compliance Statement**

### **Mineral Resources and Ore Reserves Estimates**

As an Australian company with securities listed on the Australian Securities Exchange (ASX), Iluka is subject to Australian disclosure requirements and standards, including the requirements of the Corporations Act and the ASX. Investors should note that it is a requirement of the ASX listing rules that the reporting of ore reserves and mineral resources in Australia comply with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code") and that the Ore Reserve and Mineral Resource estimates underpinning the production targets in this presentation have been prepared by a Competent Person in accordance with the JORC Code 2012.

Information that relates to Ore Reserves estimates has been previously announced to ASX on 21 February 2017 in a release titled "Updated Mineral Resource and Ore Reserve Statement" and is available at [www.iluka.com/investors-media/asx-disclosures](http://www.iluka.com/investors-media/asx-disclosures). Iluka confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. Iluka confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

### **Production targets**

Production targets and the basis thereof are noted within the relevant disclosure.

The outlook included in this release is indicative only and should not be construed as guidance. The information is subject to changes in market and operating conditions; political risk; and any significant unplanned operational issues.

### Revenue Factors

Commodity price assumptions are established internally based on monitoring supply and demand on an ongoing basis. Price assumptions are benchmarked against commercially available price forecasts by industry observers. Revenue factors are used to establish mine sensitivities and to test for robustness of the Ore Reserve. Detailed price assumptions are deemed to be commercially sensitive and are not disclosed.

### Costs

Capital assumptions are based on budget pricing for the majority of the work packages, other than site buildings and camp construction and demolition for which a design and construct tender was received. Pricing for the contractors direct and indirect works has been derived from a combination of the following sources: tendered quotations procured from suppliers and contractors; purchase quotation from suppliers and contractors; budget quotations procured from suppliers and contractors; historical data sourced from previously tendered or estimated projects of a similar nature and location. Where necessary items have been factored to allow for different size/capacity, etc; estimated, factored or built-up rates; and provisional or lump sum allowances where the use of the aforementioned methods are not possible.

Pricing for the operating cost estimate has been derived from a combination of the following sources: budget quotations procured from suppliers and contractors; estimated, factored or built-up rates; historical data sourced from other Iluka mine sites; and provisional or lump sum allowances where the use of the aforementioned methods are not possible. Cost and recovery penalties have been applied to deleterious elements.

Transportation charges have been procured from contractors. Processing costs are based on actual Iluka operational costs, including overheads. Actual operating costs are used to benchmark the operating cost estimates.

Allowances have been made for royalties payable to Government and private stakeholders.