21 February 2024

Tutunup Ore Reserve Estimate Update

Iluka is pleased to announce an updated Ore Reserve estimate for the Tutunup deposit, located in the south west of Western Australia. The Tutunup deposit had previously been estimated under the JORC Code 2004 edition, however the successful completion of an updated pre-feasibility study (PFS) has enabled reporting in accordance with the JORC Code 2012 edition.

The Tutunup deposit contains a Probable Ore Reserve estimate of 14.1Mt, grading 9.9% heavy mineral (HM) for 1.4Mt of contained HM. This is an increase of 30% HM relative to the previous estimate.

Tutunup deposit Ore Reserve summary

Ore Reserve Category[1]	Reserve Tonnes	In situ HM Tonnes	HM	Mineral Assemblage in HM[2]				
				Ilmenite	Zircon	Rutile	Leucoxene[3]	M + X[4]
	Mt	Mt	%	%	%	%	%	%
Probable	14.1	1.4	9.9	70.5	10.5	0.9	10.3	0.8
Total	**14.1**	**1.4**	**9.9**	**70.5**	**10.5**	**0.9**	**10.3**	**0.8**

Notes:
1. Ore Reserves are a sub-set of Mineral Resources, and reported in accordance with JORC Code 2012 edition
2. The mineral assemblage is reported as a percentage of the HM content
3. Leucoxene comprises magnetic and non-magnetic leucoxene
4. M + X represents the rare earth bearing minerals monazite and xenotime

The ilmenite at Tutunup is suitable as a feedstock for Iluka's synthetic rutile kilns and may unlock additional value across the company's portfolio if blended with other ilmenites with quality constraints. The development is planned to be an open cut wet mine with dredge operations. A definitive feasibility study (DFS) commenced in 2023 and is scheduled to be finalised in 2025.

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

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TUTUNUP MINERAL RESOURCE ESTIMATE – OVERVIEW

The Mineral Resource estimate for the Tutunup deposit is presented in **Table 1** below and was previously reported to the ASX release *Updated Mineral Resource and Ore Reserve Statement,* 20 February 2017. [1]

Table 1: Mineral Resource Summary for Tutunup

Mineral Resource Category	Material Tonnes	In situ HM[2]	HM	Clay	Oversize	Mineral Assemblage in HM[3]				
						Ilmenite	Leucoxene[4]	Rutile	Zircon	M + X[5]
	Mt	Mt	%	%	%	%	%	%	%	%
Measured	26.7	2.9	11.0	17	8	70	10	1	10	1.0
Indicated	1.0	0.1	6.2	13	17	39	22	1	10	0.8
Inferred	1.9	0.1	5.9	14	12	50	19	1	10	0.8
Total[1]	**29.6**	**3.1**	**10.5**	**16**	**9**	**69**	**10**	**1**	**10**	**0.9**

Notes:

1. Rounding may generate differences in the totals
2. Mineral Resources are reported at a cut-off grade of 4.0% HM
3. The mineral assemblage is given as a percentage of the HM content
4. Leucoxene comprises magnetic and non-magnetic leucoxene
5. M + X represents the rare earth bearing minerals monazite and xenotime

The Tutunup deposit is located in south western WA approximately 20km to the east of the township of Busselton. The Tutunup deposit is approximately 7km long and up to 1.5km at its widest point (but is generally between 250m and 400m wide). The thickness of mineralisation varies between 5m and 20m with an average thickness of 8m. The thickest mineralisation is along the eastern edge of the deposit along the palaeo-cliff feature.

The Tutunup deposit lies totally within a number of Mining Licences (ML) which extend over a distance of approximately 15km in a NE to SW orientation aligning with the mineralisation. The project is also supported by a number of General Purpose (GPL) and Miscellaneous (L) licences. All tenements are held by Iluka or wholly owned subsidiary companies.

[1] As set out in Table 6.1, "*Summary of Mineral Resources for the South-west as of 31 December 2016*" of the 20 February 2017 ASX announcement

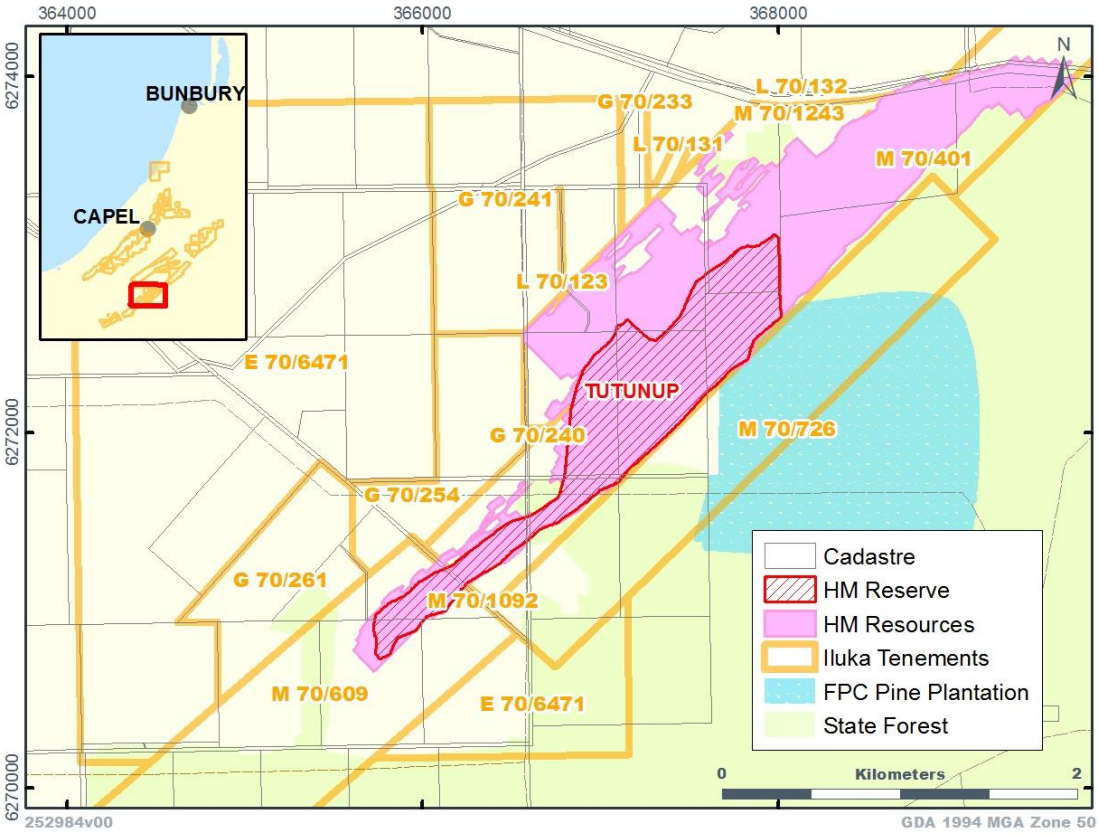


Figure 1: Location plan showing the Tutunup deposit

SUMMARY OF RESOURCE ESTIMATION AND REPORTING CRITERIA

As noted above, this market announcement does not include an update to the Tutunup Mineral Resource estimate (which is unchanged from the 20 February 2017 market announcement). However, as the Tutunup Ore Reserve update contained in this market announcement is derived from the Tutunup Mineral Resource estimate, Iluka has provided the summary below of the information which is material to the Tutunup Mineral Resource estimate disclosed on 20 February 2017 (and subsequent work undertaken in connection with the updated Tutunup Ore Reserve, where applicable).

Deposit geology and interpretation

The Tutunup deposit is located in the Perth Basin. The Perth Basin is an accretionary depositional setting and has received terrestrial and marine sedimentation since the Permian to Early Cretaceous rifting of Australia from India during the breakup of Gondwana[2]. Depositional environments for these sediments cover the full sedimentary spectrum from fluvial to shoreline and shallow marine.

The Tutunup deposit mineralisation primarily occurs within the Yoganup Formation - a mineralised, yellow clay sand that drapes over the Whicher Scarp, a regional geomorphological feature. The deposit interfingers with, and dips gently westward under surface sand and clays of the poorly mineralised Guildford Formation.

The interpretation of the Guildford Formation at Tutunup is complicated by the presence of appreciable HM in the surface stratigraphy, which is attributed to mineralisation shedding from the Whicher Scarp and re-mobilisation of HM from outcropping Yoganup Formation. The surface sand and clay sands are typically in the order of 2% to5% HM.

For modelling purposes, the Guildford and Yoganup Formations have been combined into a single domain. An upper zone where ilmenite is altered to leucoxene is included in the model. This represents an overprinting weathering feature that persists to a depth of up to 10m (average 8m) within the Guildford and Yoganup Formation(s).

The mineralised Yoganup Formation unconformably overlays Cretaceous aged Leederville Formation - a poorly sorted, grey-white, micaceous, fluvial sediment with a high clay content and abundant weathered feldspar grains. The contact between the Yoganup Formation and the basement is distinct and often characterised by a grey-black clay unit, coincident with increased groundwater flow, observed during drilling operations. Mineralisation is essentially limited to the Yoganup Formation, although down-hole contamination or a mixed interval (i.e. part of the interval is Yoganup Formation and the other part is basement) will show mineralisation persisting into the basement materials. This has been accounted for in the geological interpretation by assigning samples where down hole contamination has been identified into the basement.

Rock is prevalent over much of the Tutunup deposit and typically occurs in one of two forms laterite and ironstone. Laterite is associated with near surface sheets of loose gravel, nodules, solid cemented masses and/or coffee rock like material whilst ironstone is typically deeper, irregular shaped sheets or boulders of iron oxide cemented sand. Rock poses a significant risk for mining however any rock identified as having the potential to impact mining has been excluded from the Mineral Resource estimate and Ore Reserve.

A stylised cross section outlining the domains used in the Tutunup block model is in **Figure 2**.

[2] Cawood, P. A. & Nemchin, A. A., 2000. *Provenance record of rift basin: U/Pb ages of detrital zircons from the Perth Basin, Western Australia.* Sedimentary Geology, v. 134; p. 209-234.

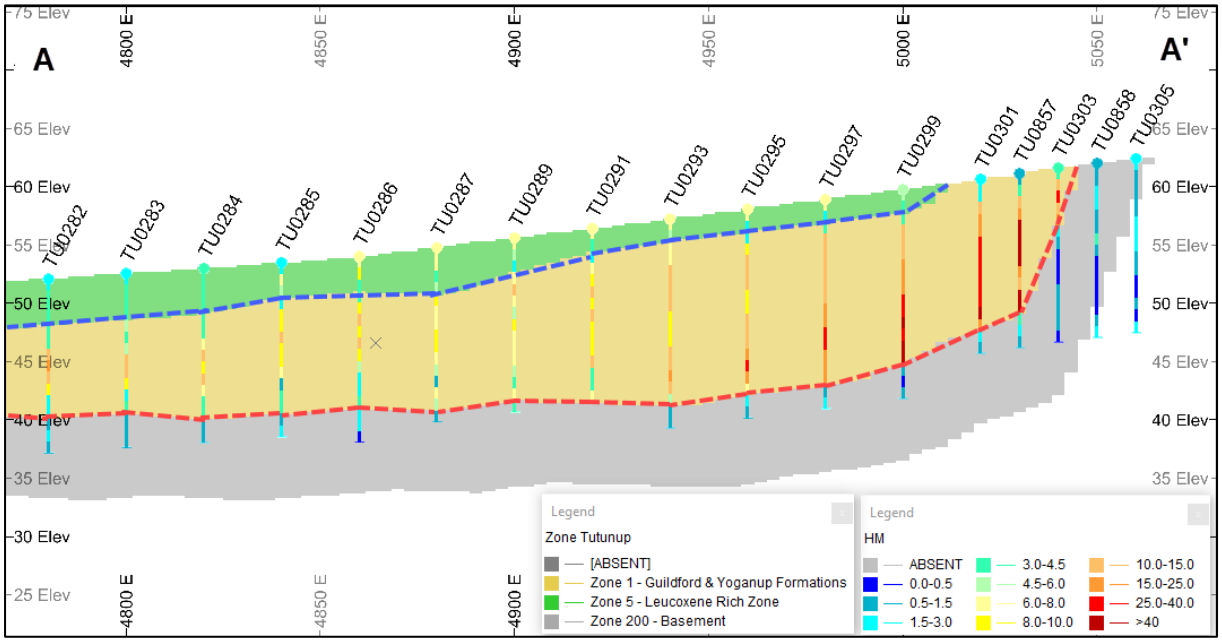


Figure 2: Cross section at A-A' (see Figure 3 for location) showing stratigraphy and model zone assignment (3x vertical exaggeration)

Table 2: Interpreted geology zone descriptions as applied to the resource block model

Model Zone	Zone Description
1	Guildford and Yoganup Formations
5	Leucoxene rich zone straddling the Guildford and Yoganup Formations
200	Base of the Yoganup Formation (Leederville Formation)

Data Storage

Drilling has been completed over a protracted period of time at Tutunup. Older drilling had paper based logging completed. Hard copy data was entered into digital files over a period from the late 1980s to the mid-1990s. In the late 1980s computerised field logging equipment was introduced and geological information was recorded and stored in .dat master files. An Oracle Database was introduced for the storage of geological data in 1998. This was superseded by a custom built SQL database solution introduced in 2006 which was in turn superseded by an acQuire data management solution in 2013.

The results from sample analysis by Iluka owned and operated laboratories is hosted in CCLAS, a laboratory information management system currently owned by Datamine Software Solutions. The assay results are also electronically transferred from CCLAS to the acQuire database system.

Drill technique and hole spacing

A total of 5,127 reverse circulation air core (AC) holes for 68,305.6m have been drilled at Tutunup. The drill hole file used for resource estimation comprised 1,697 holes totalling 23,606 metres. A summary of the holes used in resource estimation is presented in **Table 3**.

Drilling was excluded from resource estimation due to:

- drill holes being located outside the model boundary area;
- older drill holes which have subsequently been re-drilled to provide current Iluka assay methodology data;

- drilling being non-geological in nature, for example drilling for metallurgical bulk samples or possible acid sulphate soils analysis; and
- drilling post-dating the modelling, this additional drilling will not materially impact the resource estimate.

The drilling used in the resource estimation is typically drilled at 20m centres across strike and can vary from 50m up to 400m spacing along strike. The majority of the deposit is covered by a 20m by 100m drilling density with some infill drill sections to 50m along the eastern margin of the deposit. Toward the west of the deposit, drill density decreases to 20m by 200m with minor portions of the deposit drilled to 40m by 400m.

Table 3: AC drill holes and assays completed at Tutunup and used in the Mineral Resource estimate

Drill Year	Holes	Metres	Intervals	HM Assays
1971	5	60	33	33
1991	90	1314	1314	1314
1992	99	1319	1319	1267
1993	93	1207	1207	1207
1994	24	471	471	430
1996	22	292	292	290
1997	32	505	505	503
2006	53	867	867	647
2007	612	8513	8514	8176
2008	573	8251	8251	7932
2010	65	809	809	809
TOTAL	**1697**	**23606**	**23582**	**22608**

Geological logging

All drill intervals have been logged by Iluka company or contracted geologists, or Iluka trained and supervised geo-technicians. The logging was done on site at the time of drilling and recorded pertinent information such as:

- colour;
- grainsize information;
- lithology;
- estimated HM and Slimes content;
- induration type and an estimate of the percentage of induration;
- quality of the HM including trash and grainsize; and
- presence of ground water.

Sampling and sub-sampling techniques

All drilling was conducted using either Iluka-owned or Wallis Drilling 'Mantis 75' or 'Mantis 100' reverse circulation aircore 4WD-mounted drill rigs. Drilling was configured with either BQ (53mm; drilling completed prior to 2010) or NQ (76mm; drilling completed post 2010) rod strings and drill bits. The drill bits are generally configured with 2-winged tungsten bits or a 3-winged bit for the purposes of grinding through hard rock. All drill holes were vertical.

Compressed air (and occasionally water for near surface intervals) was used to retrieve the sample cuttings from the bit drill face and deliver them to the surface. Flushing of the drill rods was carried out as required to ensure contamination was minimised.

For drilling completed before 2000, the whole sample was collected from 1m intervals of BQ (52mm) diameter drill holes. For drilling completed after 2000, a rotary splitter was used to sub sample

approximately 25% of the material exiting the cyclone, generated using NQ (76 mm) diameter drill rods. All samples produced were typically between 1.0kg to 2.0kg (after drying in lab) from 1m sample intervals. More than 99% of samples used in estimation utilised 1m sample lengths.

Data Survey

All holes drilled before 2008 were set out by company surveyors using contemporary equipment and linked to accurately located base stations (+/- 20cm horizontal and vertical accuracy). From 2008 onward, 99% of the Tutunup drill hole collars were surveyed using a RTK_DGPS unit (+/- 10cm horizontal and +/- 5cm vertical accuracy).

The topographic surface used in the modelling is based on the drill collar RLs. Strings were generated along sections and then visually validated and adjusted before a topographic DTM was generated. The use of drill collar RLs is appropriate given the generally flat-lying to gently sloping nature of the topography in the Tutunup region.

Modelling was completed in the Tutunup Local Grid (TLG) which is based on a rotation and translation from GDA1994 MGA Zone 50. The rotation angle is designed to align the majority of the strand in a north-south orientation. The data is translated from 362692E to 4229E and from 6268561N to 20537N then rotated 45.75° anti-clockwise around the Z axis.

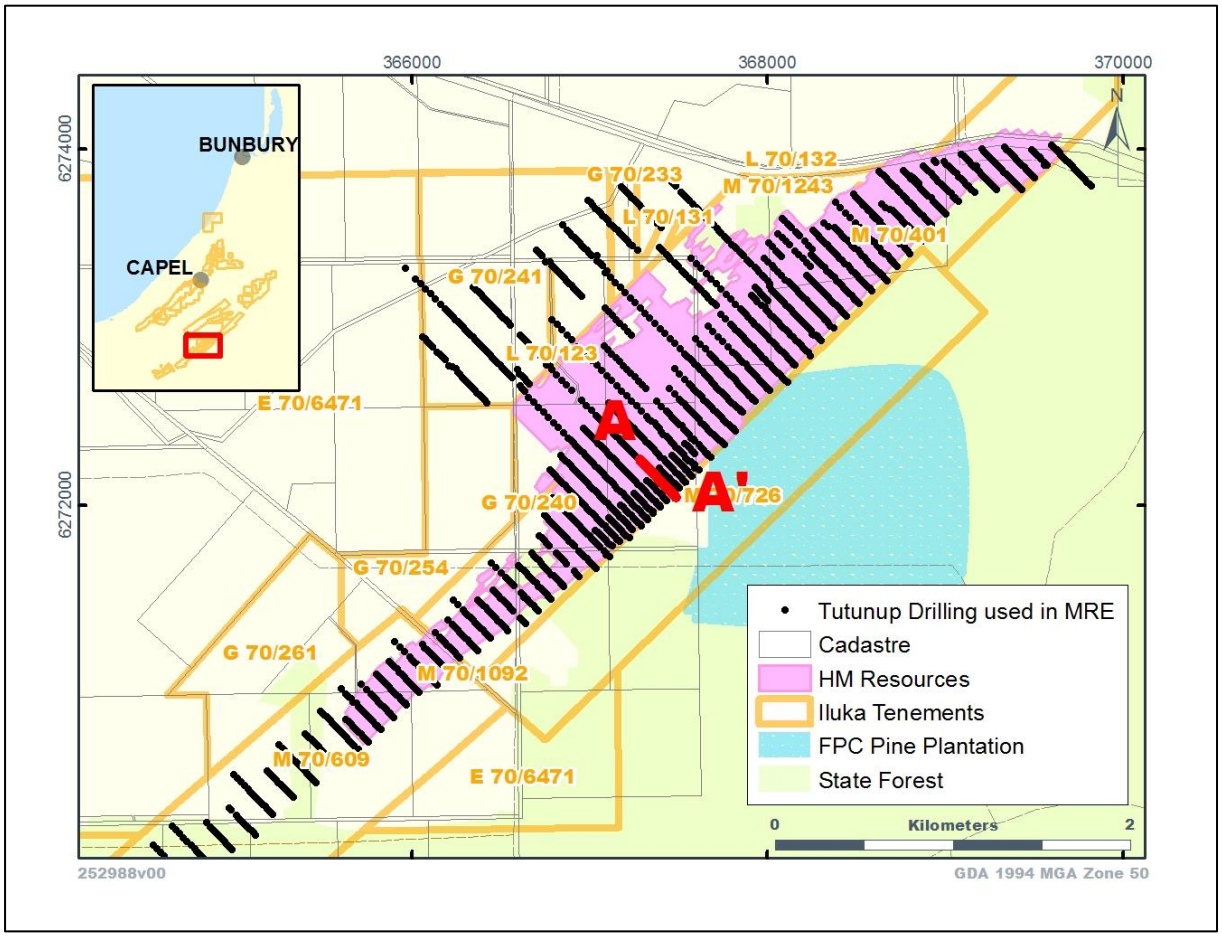


Figure 3: Plan of exploration drilling used in the Tutunup geological model, A to A' represents the location of the cross section presented in Figure 2

Sample analysis method

All samples were analysed at Iluka, and predecessor companies, owned and operated laboratories, located at either Capel (Western Australia), Narngulu (Western Australia) or Hamilton (Victoria).

The HM analysis method employed at Tutunup has changed with various drill campaigns through time. Each method is summarised below:

- Samples analysed from March 2001 (17,564 samples) were dried at 105°C for a minimum of 24 hours and then wet sieved with removal of +2mm oversize (OS) and -53µm slimes. About 100 grams of the dried sand fraction was split out, screened with removal of +710µm coarse sand (SANDC) and the 53µm to 710µm sand fraction subjected to float/sink analysis using Lithium Sodium Tungstate (LST) at 2.85 SG. The HM (sinks) from this fraction was used to calculate the in situ HM content.

- 793 samples analysed between 1995 to 2000 were coned and quartered to produce a 1000g sub sample then dried at 105°C overnight. The sample was then wet sieved with removal of +500µm (SANDC + OS) and -53µm (slimes). Approximately 75g of dried sand fraction was split out and subjected to float/sink analysis using LST or Bromoform (2.85 SG). The HM (sinks) from this fraction was used to calculate the in situ HM content.

- Prior to 1995, 4,215 samples were cone and quartered and a 300g sub sample taken. An additional 100g sub sample was taken for moisture analysis. The 300g sub sample was deslimed by washing and decanting before being dried and sieved to remove +500µm coarse sand and oversize. Approximately 35g of sample was split out and subjected to float/sink analysis using Bromoform (2.95 SG). The HM (sinks) from this fraction was used to calculate the in situ HM content. There is lower confidence in the assay data associated with this technique and is considered inferior to the two methods outlined above. Areas informed by this method have been assigned an Inferred Resource category and are excluded from the Ore Reserve.

A total of 393 mineralogical composite samples have been completed for Tutunup of which 339 were used to support the resource estimate. Sand fraction residues from similar geological domains were grouped together to form mineralogical composite samples to determine the mineral assemblage, mineral sizing and key mineral quality indicators. Composite samples have been taken from the sand residue fractions of exploration samples which also corroborate the validity of the HM mineralisation. The composited samples generate between 0.5kg and 2kg of HM which is then subjected to a process of magnetic, electrostatic and heavy liquid separation followed with XRF analysis of the fractions to determine the mineral assemblage and mineral quality. This information has been used to support the assemblage of the HM present.

In 2022, some remaining Heavy Mineral Concentrate (HMC) from 18 of the mineralogical composites was subjected to further analysis entailing magnetic separation and densometric separation using Thallium Malonate Solution (TMF) to provide indicative chemistry for zircon and rutile.

Estimation methodology

Geological interpretation, wireframe surfaces and grade interpolation were completed using Datamine Studio Software.

The geological interpretation was done on east-west drill sections through the Tutunup deposit. These interpretations were used to create open wireframe surfaces to code the 3D block model with the geological domains. The drill hole data was also coded so that only values within each domain were used to inform model cells within the corresponding model domains.

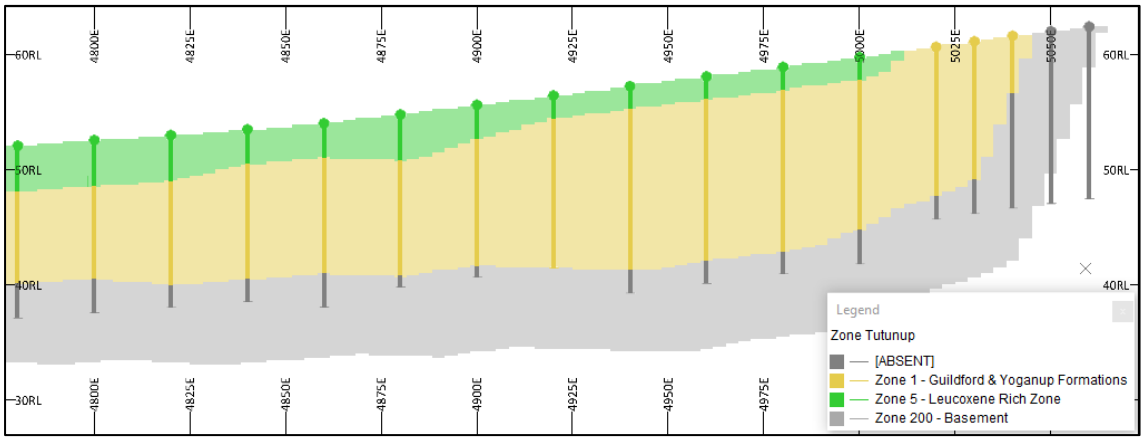
A parent cell dimension of 10m by 50m by 1m (XYZ direction) was selected for the Tutunup deposit given the dominantly 20m by 100m drill spacing and 1m assay length. Sub-celling in the X, Y and Z dimensions is used to assist with volume representation along domain boundaries.

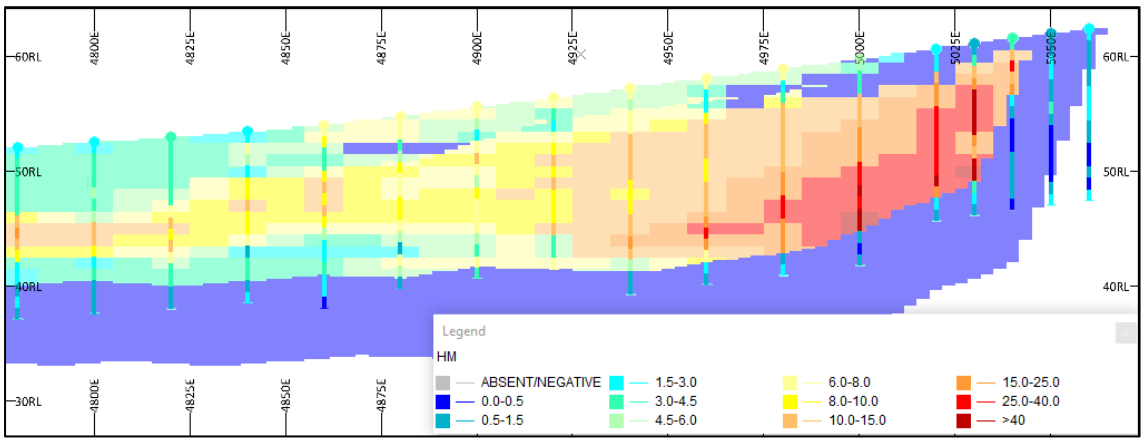
Grade interpolation was done using inverse distance weighting cubed (ID3) for primary assay data while hardness and mineralogical composite identifier were interpolated using nearest neighbour (NN). Selected composite data was joined to the model using the composite identifier as a key value. The orientation of the search ellipse used for grade interpolation was dynamically adjusted to honour variation in geological and mineralised trends. Successive search volume factors of 2 and 4 were applied if insufficient data was available to inform the model cells with the primary search dimensions.

Model and interpolation parameters are tabled below.

Table 4: Tutunup model parameters

	Cell Dimension			Interpolation Method	Search Ellipse Dimension			2nd Search Vol Factor	3rd Search Vol Factor
	East	North	RL		X	Y	Z		
Assay Data	10	50	1	ID3	30	150	2	2	4
Composite ID	10	50	1	NN	50	250	2	2	4





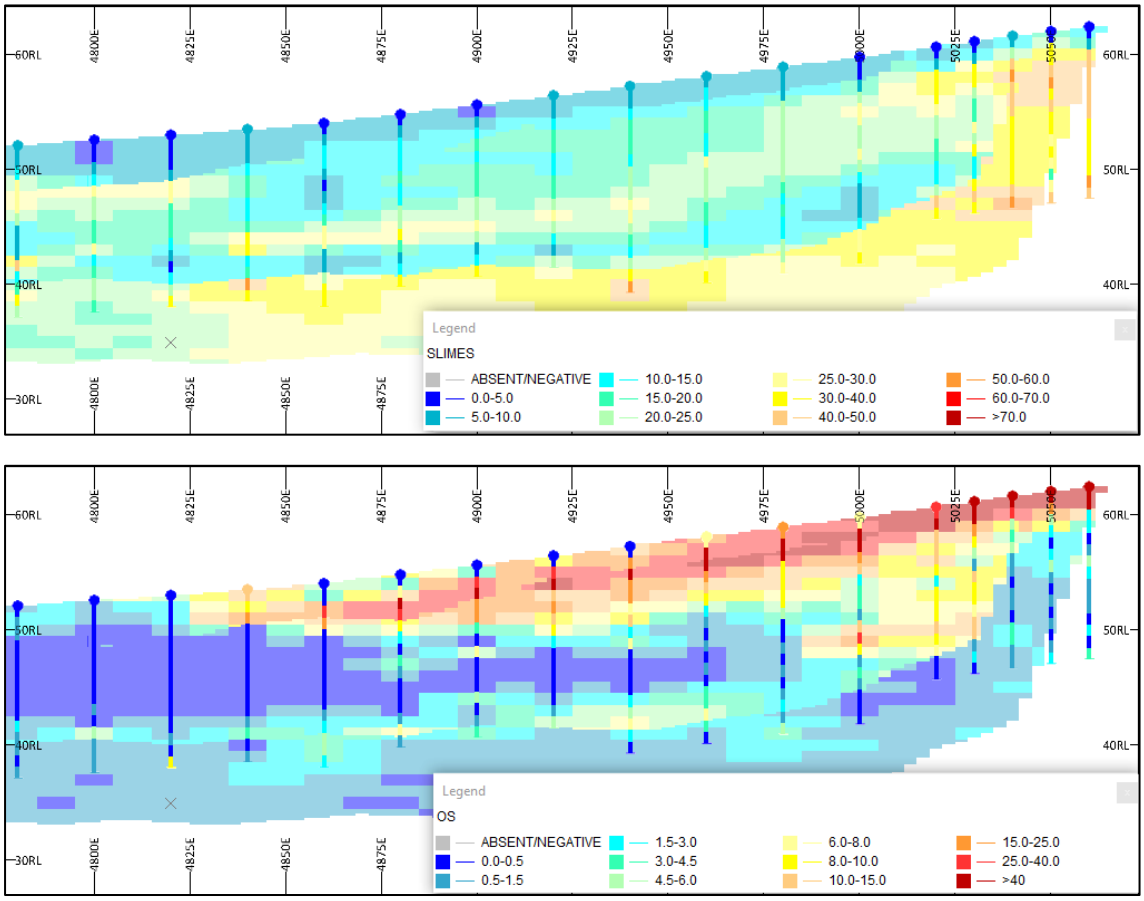


Figure 4: Cross section A – A' (Figure 3) showing drill holes and Model zone assignment, HM, slimes and oversize grades (note: grades associated with high oversize have HM grades re-assigned to 0.05)

Cut-off grade

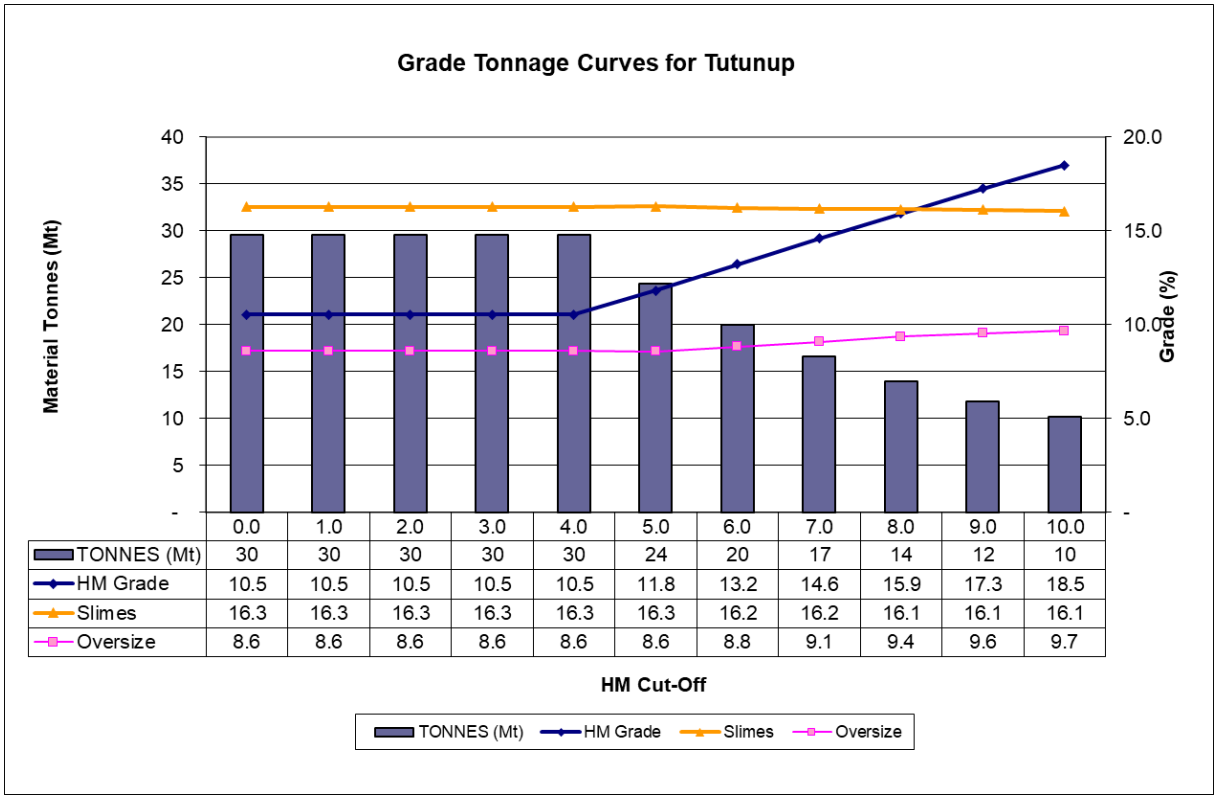
The Tutunup Mineral Resource estimate was reported using the criteria listed below:

- a lower HM cut-off grade of 4% was adopted;
- an upper slimes cut-off of 35% was applied;
- material interpretated as hard rock was excluded; and
- a "grade*thickness to depth of burial" ratio was applied in conjunction with the 4% HM cut-off.

The "grade*thickness to depth of burial" ratio assists in identifying lower grade and/or deeply buried mineralisation that is unlikely to be economic to mine and this mineralisation is excluded from the reported resource estimate.

A hardness index field called Rock Factor (RF) was added to the model and HM grades associated with "hard rock" were reset to 0.05 and excluded from the Mineral Resource estimate.

The 4% HM cut-off grade is defined based on the percentage and composition of VHM in the mineral suite, historical cut-off grades used in adjacent deposits in an identical geological setting and various optimisation studies completed at Tutunup.



HM Cut-Off	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
TONNES (Mt)	30	30	30	30	30	24	20	17	14	12	10
HM Grade	10.5	10.5	10.5	10.5	10.5	11.8	13.2	14.6	15.9	17.3	18.5
Slimes	16.3	16.3	16.3	16.3	16.3	16.3	16.2	16.2	16.1	16.1	16.1
Oversize	8.6	8.6	8.6	8.6	8.6	8.6	8.8	9.1	9.4	9.6	9.7

Figure 5: Grade tonnage curves for the Tutunup Mineral Resource

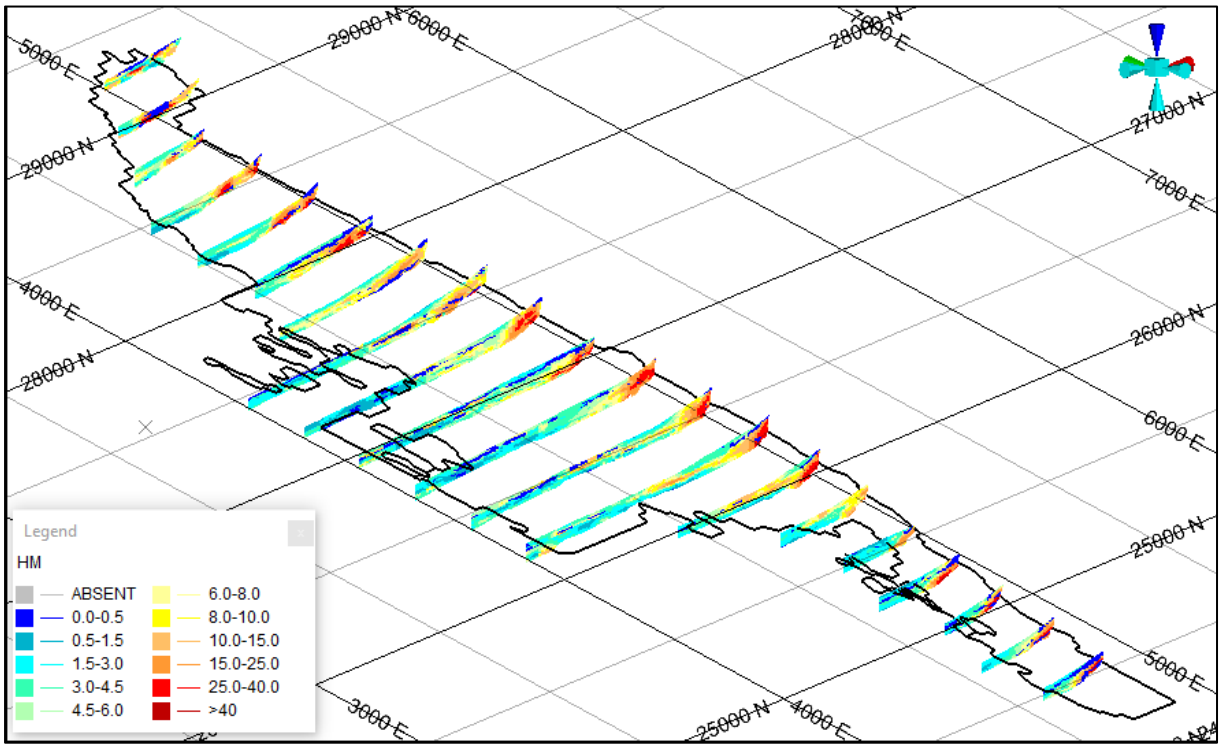


Figure 6: Tutunup deposit block model slices showing HM grade (5x vertical exaggeration; filtered to remove basement cells and cells outside the tenement boundary)

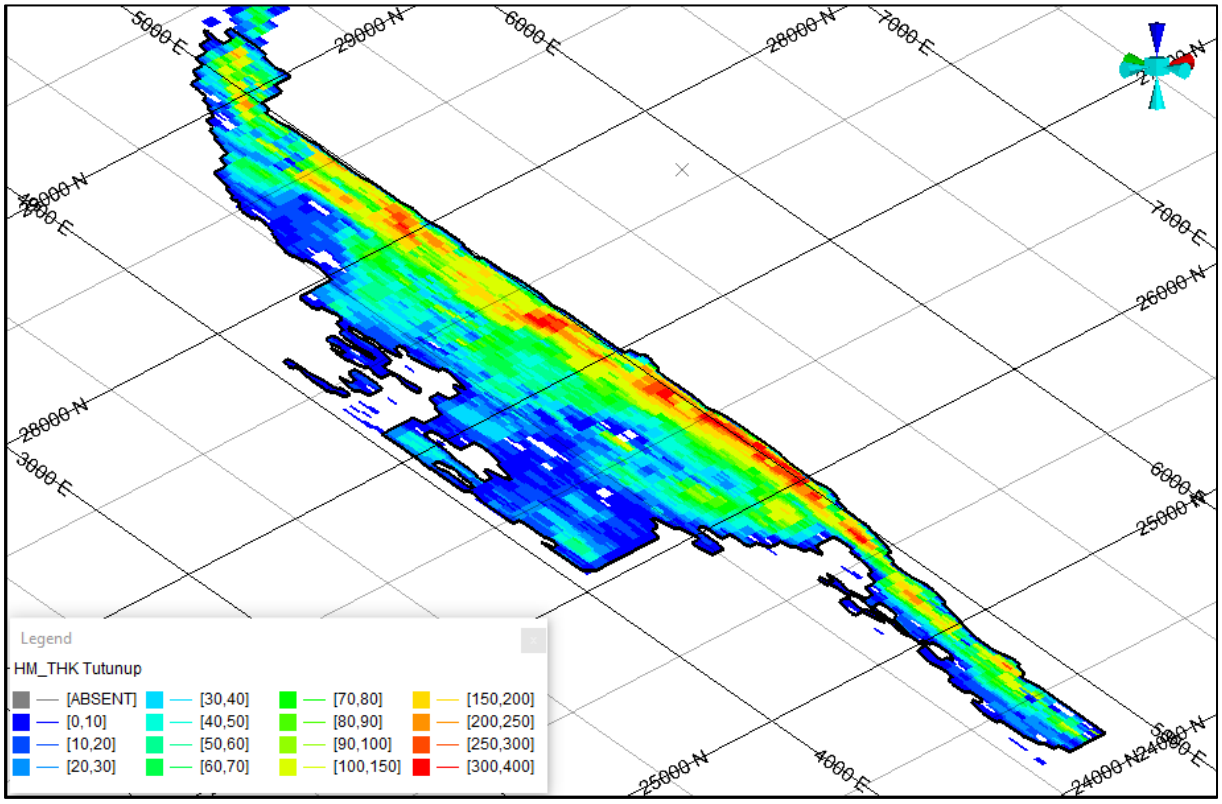


Figure 7: Summary plan showing HM grade * thickness distribution for Tutunup, the black line represents the outline of the reported Mineral Resource

Resource classification assignment

The Mineral Resources at Tutunup were assigned a resource category based on the definitions defined in the JORC Code (2012 Ed.). The resource category applied is based on:

- the drill hole spacing;
- continuity of geology;
- the age of the drilling and assay methods and the confidence in that data;
- distribution of mineral assemblage composites, assay and mineralogical grade continuity; and
- prospects for economic extraction.

Table 5 summarises the drill spacing and drill assay technique associated with each Mineral Resource category.

Table 5: Resource classification

Mineral Resource category	Drill Spacing	Assay Period
Measured Resource	100m by 20m with associated composite data	post 1995
Indicated Resource	200m by 20m with some composite data	post 1995
Inferred Resource	400m by 20m or more with little to no associated composite data	pre 1995

Less than 0.5% of the reported Mineral Resource for Tutunup is based on the extrapolation of geological continuity beyond the limit of current drill hole information.

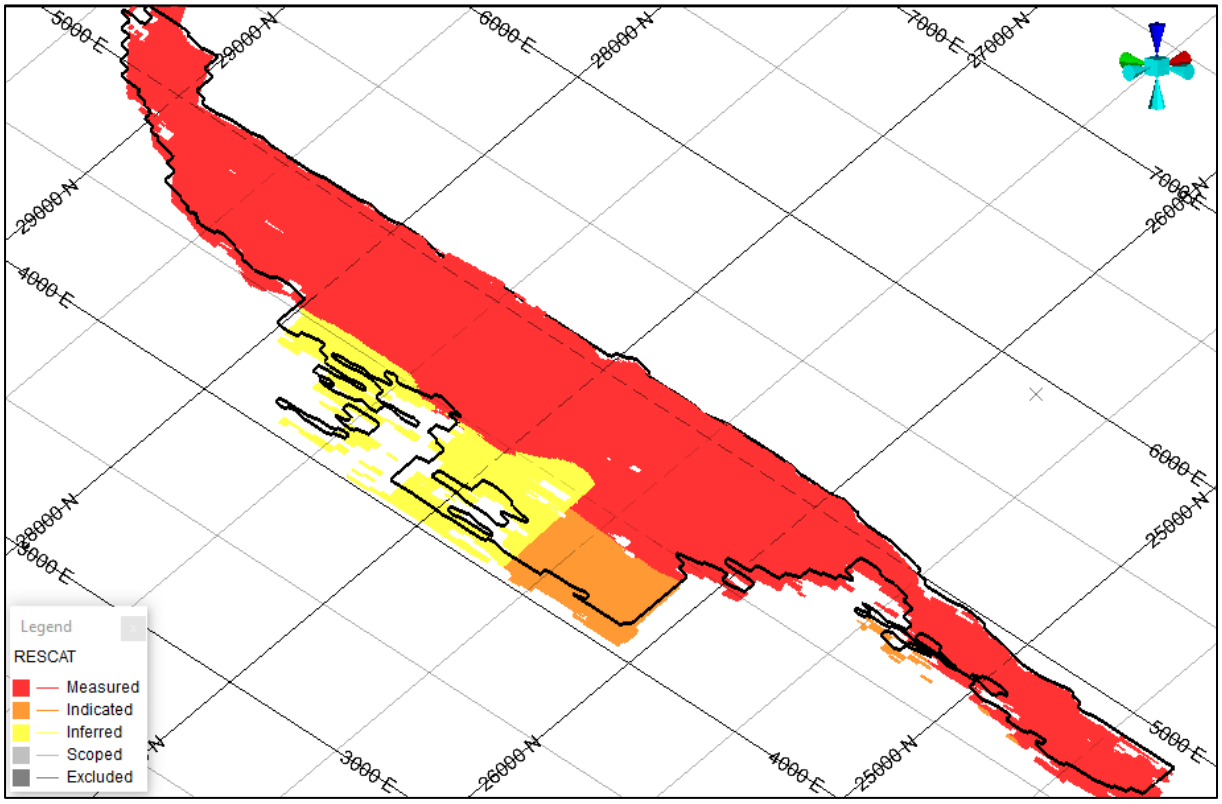


Figure 8: JORC Classification for Mineral Resource assignment for the reported Tutunup deposit

Mining and metallurgical methods and parameters

The Tutunup deposit comprises a high HM grade strand within the Yoganup Formation.

The mining method selected is truck and shovel for overburden and dredge mining of ore. Dredging has been selected due to mining in proximity to a groundwater-dependent restricted vegetation community and a requirement to maintain the existing groundwater levels.

The mineralisation host is identical to that mined historically at other Iluka sites in the South West Western Australia. The metallurgical performance is well understood and supported by metallurgical test work completed during PFS. The mineral can be recovered and products separated using current processing technology which include removal of oversize material, desliming and spiral separation to recover HMC. The HMC will then be processes at one of Iluka's Mineral Separation Plants (MSP) to separate out saleable products such as ilmenite, zircon, rutile, leucoxene and rare earth bearing minerals monazite and xenotime.

Competent Persons Statement

The information in this report relating to the Mineral Resource estimates for the Tutunup deposit is based on and fairly represents information and supporting documentation prepared by Mr Greg Jones, Principal Geologist for GNJ Consulting. Mr Jones is a Fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration, and the activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Mineral Resources and Ore reserves". Mr Jones consents to the inclusion in this release of the matters based on the information in the form and the context in which they appear.

TUTUNUP ORE RESERVE ESTIMATE – OVERVIEW

The Ore Reserve estimate for the Tutunup deposit is presented in Table 6 and background information is presented in Appendix 1 (JORC Code, 2012 edition, Table 1). The location of the Tutunup Ore Reserve is shown in Figure 10.

Table 6: Ore Reserve Summary for Tutunup

Ore Reserve Category[1]	Reserve Tonnes	In situ HM	HM	Oversize	Clay	Mineral Assemblage in HM[2]				
						Ilmenite	Leucoxene[3]	Rutile	Zircon	M + X[4]
	Mt	Mt	%	%	%	%	%	%	%	%
Probable	14.1	1.4	9.9	7.3	18.0	70.5	10.3	0.9	10.5	0.8
Total	**14.1**	**1.4**	**9.9**	**7.3**	**18.0**	**70.5**	**10.3**	**0.9**	**10.5**	**0.8**

Notes:
1. Ore Reserves are a sub-set of Mineral Resources, and reported in accordance with JORC Code 2012 edition
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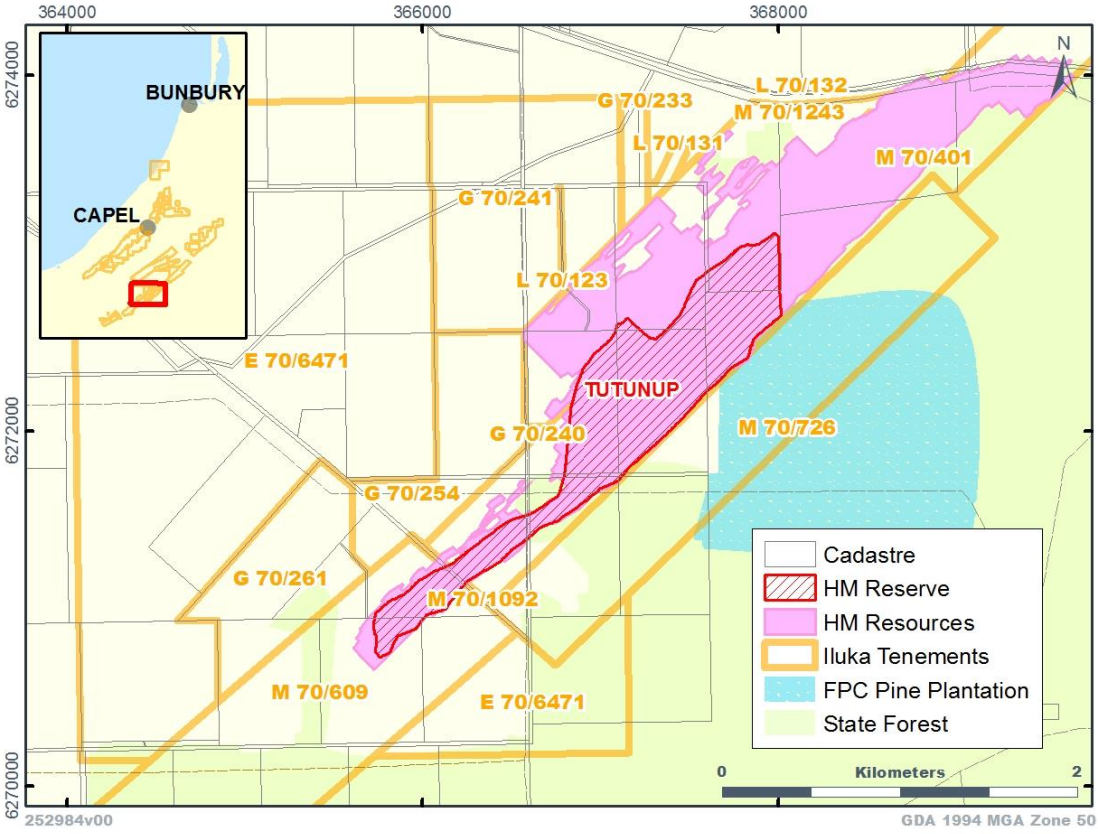


Figure 10: Plan showing the Tutunup Ore Reserve boundary

SUMMARY OF ORE RESERVE ESTIMATE REPORTING CRITERIA

As per ASX Listing Rule 5.9 and the 2012 JORC Code reporting guidelines, a summary of the PFS material assumptions and outcomes used to estimate the Tutunup Ore Reserve is detailed below (for more detail refer to Table 1, Section 4 included as Appendix 1 and the summary sections below).

PFS Material Assumptions and Outcomes

The PFS outcomes have confirmed the economic viability of the Tutunup Project, with financial analysis concluding that the project satisfies Iluka's requirements for economic viability. The project has been determined to deliver positive NPV and IRR outcomes under a range of sensitivities and development scenarios. The PFS analysis is based on:

- revenue from mineral sands and rare earth products;
- capital cost estimates developed through the PFS in accordance with Iluka, AusIMM and AACE guidelines, derived from a combination of Iluka inputs, third party valuations (land) and specialist engineering, construction and mining consultant inputs;
- operating cost estimates developed through the PFS based upon processing Process Flow Diagrams and mass balances, existing mining contracts, third party estimates of dredge mining costs and logistic studies; and
- construction and operational factors (e.g. schedule and ramp up assumptions) aligned with the analysis undertaken in the PFS.

Further detail is included throughout this release and is summarised in this section.

Table 2: Key physicals

Measure	Unit	Ore Reserve Physicals
Ore Mined	Mt	14.1
Life of Mining/Processing Operation	Years	~4.5 years
Product Sold – Synthetic rutile	kt	528
Product Sold – Zircon premium	kt	109
Product Sold – ZiC	kt	12
Product Sold – HyTi90	kt	15
Product Sold – Rare earth concentrate	kt	8

The Ore Reserve was estimated using internal Iluka long-term price forecasts for the mineral sands and rare earths products which are confidential and commercially sensitive. The internally derived commodity price assumptions are established by monitoring supply and demand on an ongoing basis using confidential and commercially sensitive trading arrangements. These internally derived price assumptions are benchmarked against commercially available price forecasts by industry observers including TZMI. The rare earth revenue assumptions are based on Adamas forecasts for a rare earth oxide produced at Iluka's Eneabba rare earth refinery. Revenue factors are used to establish pit sensitivities and to test for robustness of the Ore Reserve.

The PFS has selected a conventional truck and excavator mining of the overburden material at Tutunup, with an excavator dredge selected as the method to mine the ore. A dredging operation is required to maintain natural groundwater levels, due to mining in proximity to a groundwater-dependent restricted vegetation community. Oversize and slimes are removed from the ore via a combination of screens and cyclones.

The remaining sand is processed through a wet concentrator plant (WCP) where the heavy mineral is concentrated into a heavy mineral concentrate through conventional mineral sands gravity and magnetic separation techniques. The HMC is transported to Iluka's North Capel processing facility

where a magnetic and non-magnetic HMC is produced. The magnetic fraction is fed into the synthetic rutile (SR) kilns at North Capel to produce SR while the non-magnetic fraction is transported to Iluka's Narngulu mineral separation plant (MSP) for further separation into zircon, rutile and a rare earth concentrate product streams. The rare earth concentrate will be transported to Iluka's Eneabba rare earth refinery (under development) to produce separated rare earth oxides.

Table 3: Recoveries

Mineral Species	Overall Recovery
Ilmenite	87%
Zircon	75%
Rutile	85%
Monazite	55%
Mag Leucoxene	65%
Non-mag Leucoxene	25%

The capital cost estimate includes:

- mine development costs;
- mine infrastructure and dredger;
- water management infrastructure;
- all processing infrastructure including feed preparation and product storage requirements;
- non-processing-infrastructure including site communication and IT, utilities and services;
- project management costs; and
- contingency.

The capital cost estimate developed within the PFS has been determined as a Class 3 estimate.

Execute capital cost is estimated to be $270 million -15%/+30% and the project remains economic across these ranges.

Table 4: Material PFS assumptions

Criteria	Assumption (real 2023 terms)
Tutunup production physicals	First production – 2026 Mine life (processing ore) – ~4.5 years Average strip ratio – 0.3:1 waste:ore Mining equipment: • overburden: truck and shovel • ore: backhoe dredge Dredge mining rate – 300 tph RHF Clay tailings processed through the accelerated mechanical consolidation method Sand tailings are pumped back to the pit or stockpiled ex-pit dependent on void space
Project timing assumptions	Execute capex – 2025-26 First production – 2026 Final production – 2030
Ramp-up assumptions	6 months ramp-up
Closure rehabilitation	Total area to be rehabilitated – 390ha Total rehabilitation cost estimate – ~$40m
Operating costs	LOM average costs: • direct mining: TS/SS/OB all-in $4.85/BCM, based on current mining contract rates • dredge mining: $2.60/t ore, based on 3rd party engineering estimates • concentrating: $8.00/t RHF, based on consultant estimates • site overheads: $2.20/t ore
Escalation	Revenue, opex and capex is subject to short term escalation estimates, ranging from 2.6% - 3.4%, and then at 2.5% thereafter. Some category specific modifications were made to diesel, transport, contract mining and labour to reflect inflation for 2022.
FX rate	US$0.73 : A$1.00
Discount rate	7.3% real for project (10% nominal)

The Ore Reserve estimate is based on the PFS finalised in March 2023. A DFS is currently underway and may change assumptions outlined above.

Ore Reserve Classification

The stated Probable Ore Reserves include Measured Resources only (following the application of modifying factors at a confidence level generally consistent with the level of a pre-feasibility study, in accordance with JORC 2012) and values reported are in situ. There are no Inferred Resources included in the stated reserve estimate.

Mining and recovery factors

Pit optimisations were conducted using Minemax mine planning software which is industry standard software. Optimisation parameters used consisted of current and projected costs, revenues and recoveries. Localised areas of the deposits were excluded due to environmental constraints. The results of the pit optimisations were used for production scheduling and economic evaluation.

The mining method selected is truck and shovel for overburden. This method has been used successfully at nearby historic Iluka mines, most recently at the Tutunup South and Yoganup mines.

Dredge mining is the selected ore mining method due to mining in proximity to a groundwater-dependent restricted vegetation community and a requirement to maintain the existing groundwater levels. Approximately 30% of the deposit sits below the groundwater table and material above the

dredge pond can be either pushed to the dredge by a dozer or is able to be reached by the excavator dredge. There are anticipated to be small irregular areas of harder material and rock below the ground water table that would be difficult to mine with a more traditional suction cutter dredge which is why an excavator dredge has been selected.

A floating feed hopper and oversize screening plant will be adjacent to the excavator dredge. Large oversize will be deposited back into the dredge pond and the remaining ore slurry pumped via a floating pipeline to land based processing infrastructure.

A mining recovery factor of 98.5% was applied in the pit optimisations to account for ore spillage remaining in the pond following dredge clean-up cycles. Approximately 1% ore dilution, due to pit design practicalities and the dredge mining method, has been included in the mine plan.

Modifying Factors

Modifying factors such as revenues, processing recoveries, ore loss and dilution, operating costs, cultural heritage, environment and government royalties have been applied in the Ore Reserve estimate, which was derived from work completed during the PFS.

Mining costs were based on contract rates at existing Iluka operations, and project-specific estimates by dredging specialists.

Tutunup's mineral sands products include chloride ilmenite upgraded to synthetic rutile, zircon, natural rutile, leucoxene and rare earths. The revenue calculated uses price assumptions based on internal long-term forecasts. The rare earths revenue assumptions are based on Adamas forecasts for a rare earth concentrate produced at Iluka's Eneabba Rare Earth Refinery.

Based on the outcomes of the PFS, the project has a positive NPV.

Cut-off grades

As there are multiple saleable products, cut-off grades vary depending on the overall HM grade and individual assemblage of each block in the Mineral Resource model.

Cut-off grades have been calculated within optimisation software and an individual cut-off grade applied to each block within the model. The calculations consider overall heavy mineral grade, mineral assemblage, operating costs, recoveries, strip ratio and other modifying factors.

Processing

Iluka has developed extensive knowledge in applied mineral separation and processing techniques which will be unique to mineral sands production.

The ore slurry will be pumped from the dredge to the WCP via a land-based screening and scrubbing plant. Small oversize material is removed before the sand and fines components of the ore are subject to further mineral separation and concentration. Processing infrastructure will include a WCP with 300tph rougher head feed (RHF) throughput capacity.

Processing plant recovery assumptions for Tutunup have been validated via in-house test work programs on multiple samples throughout various study phases including technical development and PFS. Process recovery factors have been included in Table 1 Section 4 in Appendix 1.

The preferred approach for tails disposal is in-pit sand tails disposal and accelerated mechanical consolidation (AMC) for clay fines. An off-path sand tailings storage area is to be established for sand disposal for a period up until the pit can accept sand tails.

Power is planned to be extended approximately 7.5km from the existing network grid. Water supply is planned to be drawn on site from the Yarragadee aquifer.

As is common at most mineral sands operations, HM concentrates produced at site may potentially contain levels of radiation above occupational exposure limits. Management plans will be in place to ensure health risks to employees are managed appropriately.

Other material Modifying Factors

The Ore Reserves are located within existing mining tenements. The Tutunup deposit is located adjacent to Tompsett road in the Tutunup locality in the southwest of Western Australia and is approximately 20km by road to Iluka's existing MSP and SR upgrading assets at Capel. Larger nearby regional towns of Bunbury and Busselton are expected to service the mine and workforce. The Port of Bunbury is a large deep-water port that allows the sale of end-products to customers and the transport of non-magnetic heavy mineral and rare earth minerals to Iluka's Eneabba rare earth refinery.

The Tutunup project area is within the ancestral lands of the Wadandi Southwest Noongar People (the Wadandi People). In August 2021, a Noongar Standard Heritage Agreement was reached to address project heritage issues. For matters of mutual interest regarding potential economic, environmental and social initiatives, Iluka will work with the Southwest Boojarah, through the Corporation Karri Karrak, which is an entity required by the Southwest Native Title Settlement to hold all rights and interests.

Whilst there are Western Australian and Commonwealth Government regulatory approvals required for the project that are yet to be granted, based on Iluka's detailed assessments and previous experience with similar projects there are reasonable grounds to expect that these will be in place before the project is executed. Studies required to gain the necessary State and Commonwealth government approvals have commenced.

Competent Persons Statement

The information in this report that relates to Ore Reserve estimates is based on information and supporting documentation prepared by Mr Andrew Walkenhorst who is a member of the Australasian Institute of Mining and Metallurgy (AUSIMM) and a permanent employee of Iluka Resources Limited.

Mr Walkenhorst has sufficient experience that is relevant to the styles of mineralisation and types of deposits under consideration, and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves', the JORC Code 2012 edition. Mr Walkenhorst consents to the inclusion in this release of the matters based on the information in the form and the context in which they appear. Mr Walkenhorst is a shareholder of Iluka.

Appendix 1

JORC Code 2012 edition – Table 1 report

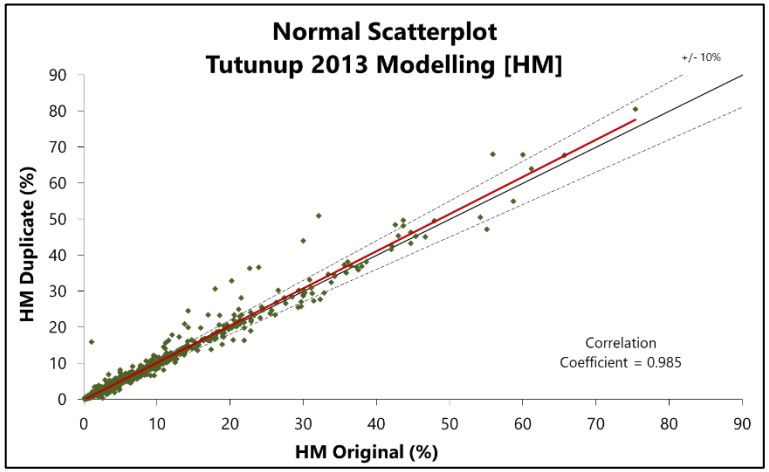
Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria		Commentary
Sampling techniques	*Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	The Tutunup deposit was sampled using Reverse Circulation Air-Core (AC) drill holes. All 1,697 drill holes used in the resource estimation were drilled vertically which is essentially perpendicular to the mineralisation. Samples were collected at 1m intervals through the mineralisation. For drilling completed before 2000, the whole sample was collected from the cyclone whilst drilling completed after 2000 were sub samples using a rotary splitter. Duplicate samples were taken (872 total) from drilling programs post 2005 at a rate of approximately 1 in 26 primary samples assayed. All of the drilling utilised the same drilling methodology however different assay methodologies exist based on the age of the drilling. The three assay methods employed are summarised as: • Samples analysed from March 2001 (17,564 samples) were dried at 105°C for a minimum of 24 hours and then wet sieved with removal of +2mm oversize (OS) and -53µm slimes. About 100 grams of the dried sand fraction was split out, screened at 710µm with the 53µm to 710µm sand fraction subjected to float/sink analysis using Lithium Sodium Tungstate (LST) at 2.85 SG. The HM (sinks) from this fraction was used to calculate the in situ HM content. • 793 samples analysed between 1995 to 2000 were coned and quartered to produce a 1000g sub sample then dried at 105°C overnight. The sample was then wet sieved with removal of +500µm (SANDC + OS) and -53µm (slimes). Approximately 75g of dried sand fraction was split out and subjected to float/sink analysis using LST or Bromoform (2.85 SG). The HM (sinks) from this fraction was used to calculate the in situ HM content. • 4,215 samples were cone and quartered and a 300g sub sample taken. An additional 100g sub sample was taken for moisture analysis. The 300g sub sample was deslimed by washing and decanting before being dried and sieved to remove +500µm coarse sand and oversize. Approximately 35g of sample was split out and subjected to float/sink analysis using Bromoform (2.95 SG). The HM (sinks) from this fraction was used to calculate the in situ HM content. Mineralogical Composite Samples were collated from the sand fraction (53 to 2000um) retained from the assay of drill samples. Wet tabling was conducted to produce a HM

Criteria		Commentary
		concentrate which underwent magnetic separation using a permanent magnetic roll separator and electrostatic separation. The various fractions were analysed using XRF and stoichiometric calculations were applied to determine the mineral species present based on elemental abundance and mineral chemistry. In 2022, a portion of the HMC from 18 mineralogical composite samples was subject to magnetic and densometric separation using Thallium Malonate Solution (TMF) to determine grain size and indicative chemistry for zircon and rutile.
Drilling techniques	*Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, Sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	All AC sampling was based on vertical drill holes with a diameter of either NQ (76 mm) or BQ (56mm). All drilling associated with the Mineral Resource estimate utilised BQ diameter drill rods.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.* *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Both sample quality and water content were recorded in the field logging. Any factors that have affected sample recovery were recorded in the logging comments. Sample weights are recorded for all holes used in the resource estimate drilled from 2006 onwards which represent 78% of all intervals drilled at Tutunup. Sample weights (dried weight) were generally between 500g to 1kg although some variation is noted particularly when drilling through induration. AC samples were visually checked for recovery, moisture and contamination. Sample weights recorded at the laboratory indicate reasonable sample quality and representivity. Heavily indurated parts of the deposit may result in creation of lateritic fines and this can present as HM. Sachet scanning and the application of a rock factor has been used to exclude these samples from the Mineral Resource estimate.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* *The total length and percentage of the relevant intersections logged.*	Geological logging of AC samples recorded colour, lithology, grainsize, sorting, induration type, hardness and an estimate of the rock, clay and HM content. Whether the sample was dry or wet or water was injected during drilling was also noted. Drilling completed prior to 2000 were logged onsite by trained drillers or geotechnicians. For drilling after 2000, a small portion of all samples were panned and logged on site at the time of drilling. 99% of the samples were logged.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	No diamond coring was used to support the estimate of contained mineralisation. Diamond core was drilled for a historical study on the impact and distribution of induration. Test pits were completed in 2021 and 2022 and sonic drilling was done in 2022 to collect bulk samples for metallurgical test work however these samples were not examined nor used to inform the resource estimate.

Criteria		Commentary
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	A rotary splitter was used to produce sub samples of typically wet substrate. Most of the mineralisation drilled at the Tutunup deposit is located below the water table and some water injection was used to assist the sample return.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation is consistent with industry standard techniques used for sampling mineral sand deposits. A quarter sample split was taken by rotary splitter mounted on the drill rig which is considered to provide a representative sample.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	QA/QC is absent from drilling completed before 2005. From 2006 onward, blind field standards (278 in total) were routinely inserted during drilling (1 in 63 samples submitted from 2006 onward). Results show reasonable correlation for HM and slimes though some bias is noted in some generations of drilling. This bias is not expected to materially impact the resource estimate.
		From 2006 onward, duplicate sample pairs consisting of an additional quarter split were collected from the rig mounted rotary splitter at specified rates. A total of 872 field duplicates were collected from drilling on the Tutunup deposit (1 in 20 samples collected). Results show good correlation between the original and duplicate values for HM, slimes and oversize. A comparison of the HM and slimes gave correlation coefficients of 0.99 and 0.98 respectively with no significant bias.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	The sampling methodology is considered consistent with typical industry methods for sampling HM mineralisation and appropriate for providing representative samples of the material hosting the Tutunup deposit.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample size collected at the time of drilling is deemed appropriate for the material intersected in the Tutunup deposit to provide a reliable representation of the HM, slime, sand and oversize characteristics.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	The assay technique utilised is appropriate for the mineralisation at Tutunup and is supported by decades of reconciliation of mining of other deposits by Iluka and delineated using the same or very similar techniques. The Mineralogical Composite Bulk Sample evaluation processes are appropriate for the current level of study and applied Mineral Resource classification. The method is considered a total analysis.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical data has been used in the interpretation or interpolation of the Tutunup resource estimate. A geophysical survey (ground penetrating radar; GPR) was completed in 2022 which has shown the technique may be suitable in mapping the location and density of induration at Tutunup. Work associated with the application of GPR and how this data could be used in geological modelling is ongoing. Due to the amount of AC drill data and the quality of that data, the additional geophysical data is not expected to materially impact the Tutunup Mineral Resource estimate.

Criteria		Commentary
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	QA/QC is absent from drilling completed before 2005. A total of 278 field standards were analysed (about 1 per 63 routine samples) in conjunction with the Tutunup exploration programs carried out between 2006 and 2010. The HM analysis of the field standards returned a fail rate of 13% (36 fails) whilst the slimes fail rate was 54% (149 fails). A failure is defined as a result outside 3 standard deviations (SD) of the variance of the standard material determined by analysis of a number of the standard samples. Whilst a large number of failures (HM 29 failures and slimes 77 failures) are associated with two standards, other standards analyses at the same time suggest the analysis results are acceptable and no change to the HM or slimes data is required. Standards reported as failures were investigated at the time with relevant reanalysis of the failed standard and samples from the associated sample batch. A total of 872 field duplicate samples were assayed synchronously with the Tutunup exploration samples. All samples were submitted after 2005 when QAQC processes were introduced at Iluka. The duplicate samples show reasonable correlation (as shown in the figure below) confirming the data is suitable to support the Tutunup Mineral Resource estimate. 
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.*	All assay data was inspected visually and statistically prior to resource estimation. The data was reviewed by both exploration and resource development personnel at Iluka and again by GNJ Consulting at the time of resource estimation. The HM component from select samples was verified by examining the sinks after LST separation under a microscope and comparison to adjacent samples within the drill hole and drill holes on the same section. Seventy-three twin hole pairs are recorded in Iluka's Geology Database. After removing invalid pairs due to different lengths, thirty-two sample pairs remain. A comparison of the twin hole pairs (same length) shows HM and slimes performed adequately with 26 of the 32 pairs within +/-20% mean difference.

Criteria		Commentary
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Logging of AC samples was either paper based or input directly into a laptop computer depending on the age of the drilling. Hard copy data recoded from drilling programs prior to 1989 were transferred into digital files during the late 1980s/early 1990s. Digital data was originally stored in .dat master files and transferred to an Oracle database in 1998 and is currently stored in a customised acQuire data management solution.
	Discuss any adjustment to assay data.	Minor adjustments to assay data was made prior to model interpolation. This consisted of the omission of slimes values for older drilling where historically known issues had been identified. Post model interpolation, a hardness index field called Rock Factor (RF) was added to the model and HM grades associated with "hard rock" (RF = 4) were reset to 0.05 and excluded from the Mineral Resource estimate.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	All drill collars drilled before 2008 were set out by company surveyors using contemporary equipment and linked to accurately located base stations (+/- 20cm horizontal and vertical accuracy). From 2008 onward, 99% of the Tutunup drill hole collars were surveyed using a RTK_DGPS unit (+/-1cm horizontal and +/- 5cm vertical accuracy).
	Specification of the grid system used.	The eastings and northings were recorded in GDA94 MGA Zone 50. Modelling was completed in the Tutunup Local Grid (TLG) which is based on a rotation and translation from GDA1994 MGA Zone 50. The rotation angle is designed to align the majority of the strand in a north-south orientation. The data is translated from 362692E to 4229E and from 6268561N to 20537N then rotated 45.75° anti-clockwise around the Z axis.
	Quality and adequacy of topographic control.	The topographic surface used in the modelling is based on the drill collar RL's. Strings were generated along sections and then visually validated and adjusted before a topographic DTM was generated. The use of drill collar RL's is appropriate given the generally flat-lying to gently sloping nature of the topography in the Tutunup region.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.* *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* *Whether sample compositing has been applied.*	Based on the experience of the Competent Person, the data spacing and distribution of drilling is considered adequate for the resource classification. Where drill spacing is wider, or where the supporting data is from exploration prior to 2005, the resource classification was downgraded. No compositing was used for assay data however assemblage and mineral quality information was derived from compositing of sand remaining after the HM determination.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	No bias has been identified or expected as the vertically orientated drill holes are effectively perpendicular to the horizontal mineralisation of the Tutunup deposit. No sampling bias is noted.

Criteria		Commentary
Sample security	*The measures taken to ensure sample security.*	Samples were stored at secure Iluka compounds following transport from the exploration site. After analysis, all samples are numbered, with sample splits and residues stored along with HM sinks.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No audits have been conducted of the sampling done on the Tutunup deposits. However, the sampling techniques used were audited for Iluka during exploration over other deposits. A similar assaying process supports Iluka's current mining operations and is a standard method used widely in the exploration for mineral sands. The in-house laboratory undergoes regular inspections by Iluka geology staff.

Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections.)

<table>
<tr><th>Criteria</th><th></th><th>Commentary</th></tr>
<tr><td>Mineral tenement and land tenure status</td><td>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</td><td>Iluka’s Tutunup deposit is located approximately 14km west of Busselton in Western Australia. The Tutunup deposit is hosted by a number of Mining (ML) licences which extend over a distance of approximately 15km in a NE to SW orientation aligning with the mineralisation. The project is also supported by a number of General Purpose (GPL) and Miscellaneous (L) licences. All tenements are held by Iluka or wholly owned subsidiary companies.
<table>
<tr><th>Tenement</th><th>Status</th></tr>
<tr><td>G 70/233</td><td>Live - registration date of 26/11/2008</td></tr>
<tr><td>G 70/240</td><td>Live - registration date of 19/08/2009</td></tr>
<tr><td>G 70/241</td><td>Live - registration date of 19/08/2009</td></tr>
<tr><td>G 70/254</td><td>Live - registration date of 26/11/2015</td></tr>
<tr><td>G 70/261</td><td>Live - registration date of 4/10/2021</td></tr>
<tr><td>L 70/123</td><td>Live - registration date of 22/07/2014</td></tr>
<tr><td>L 70/131</td><td>Live - registration date of 22/06/2010</td></tr>
<tr><td>L 70/132</td><td>Live - registration date of 22/06/2010</td></tr>
<tr><td>M 70/1092</td><td>Live - registration date of 25/09/2001</td></tr>
<tr><td>M 70/1243</td><td>Live - registration date of 30/03/2007</td></tr>
<tr><td>M 70/401</td><td>Live - registration date of 28/05/1992</td></tr>
<tr><td>M 70/609</td><td>Live - registration date of 8/10/1992</td></tr>
<tr><td>M 70/726</td><td>Live - registration date of 5/02/1993</td></tr>
</table>

The deposit lies adjacent to and under State Forest. Mineral Resources in these areas are currently included until a decision on whether mining can occur is made. This material accounts for approximately 4% of the total Mineral Resource (HM tonnes) reported.

The deposit is located adjacent to environmentally sensitive areas (Cartis Ironstone Communities). Mining within the sensitive area is restricted.</td></tr>
</table>

Criteria		Commentary
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Tutunup Project area is within the ancestral lands of the Wadandi Southwest Noongar People (the Wadandi People). In August 2021 an agreement was reached to work through the process of a Noongar Standard Heritage Agreement to address project heritage issues. For matters of mutual interest regarding potential economic, environmental and social initiatives Iluka will work with the Southwest Boojarah, through the Corporation Karri Karrak, which is an entity required by the Southwest Native Title Settlement to hold all rights and interests. There are no known impediments to the security of tenure at the Tutunup deposit. It is expected that Iluka will obtain the necessary approvals to mine the Tutunup deposit following completion of the requisite studies.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	A significant number of exploration programs have been done on the Tutunup deposit dating back to the early 1960s. Iluka and its predecessor companies have completed all the exploration used to support the Tutunup Mineral Resource estimate. Cable Sands Pty Ltd conducted trial test pits in 2007 however no data from these pits were used in the preparation of the Tutunup model and resultant Mineral Resource estimate.
Geology	*Deposit type, geological setting and style of mineralisation.*	The Tutunup deposit is a marine beach placer enriched with HM hosted by the Yoganup Formation; a mineralised, yellow clay sand that drapes over the Whicher Scarp, a regional geomorphological feature. The deposit interfingers with and dips gently westward under surface sand and clays of the poorly mineralised Guildford Formation. The basement to mineralisation comprises the Leederville Formation; a poorly sorted, grey-white, micaceous, fluviatile sediment with a high clay content and abundant weathered feldspar grains. The Tutunup deposit has a strike length of approximately 7km and is up to 1km wide (however is typically 250-400m across strike). The mineralisation is between 5m and 20m in thickness and is thicker toward the eastern margin of the deposit where it resides in a wave cut notch eroded into the underlying Leederville Formation.
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.*	A total of 4549 reverse circulation air core (AC) holes for 61,409.4m has been drilled at Tutunup. The drill hole file used for resource estimation comprised 1697 holes totalling 23,606 metres. A summary of the holes used in resource estimation is presented in the main text. Drill holes have been excluded from use in the resource estimate due to: • drill holes being located outside the model boundary area; • older drill holes being re-drilled to provide assay data in line with current industry standards; and • Drilling post-dating the modelling. This additional drilling will not materially impact the resource estimate. Significant intercepts are not presented due to the large number of drill holes and (in the context of the disclosure of the Mineral Resource estimate(s)) is not material. The Competent Person

Criteria		Commentary
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	confirms that this exclusion does not detract from the understanding of the Report, on the basis that all relevant drill hole information was used in the estimation of the reported Mineral Resources.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No weighting or bottom/top cuts were deemed necessary and have not been used in the estimation of Mineral Resources for the Tutunup deposit. No aggregate intercepts were used in the estimation of the Mineral Resources for Tutunup. No metal equivalents were used for reporting the Tutunup Mineral Resource estimate.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	All holes were drilled vertically which is essentially perpendicular to the horizontally orientated mineralisation so all intercepts represent true widths.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	Figures and representative cross sections showing the distribution of drill hole and grade information are presented in the main text of the Release.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Mineral Resource estimates are presented which consider the grade distribution and supersede the reporting on exploration results.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	Logging of the samples includes visually estimating the HM present with the results corroborating the presence of valuable HM mineralisation. The HM "sinks" fraction from the assays are also reviewed to corroborate the presence of valuable HM and/or trash components. This is taken into account when creating the geological and mineralised framework for the block modelling and resource estimation. Composite samples have been taken from the sand residue fractions of exploration samples which also corroborate the validity of the HM mineralisation. The composited samples generate between 0.5 and 2kg of HM which is then subjected to a process of magnetic, electrostatic and heavy liquid separation followed with XRF analysis of the fractions to determine the mineral

Criteria		Commentary
		assemblage and mineral quality. This information has been use to support the assemblage of the HM present. The bulk density applied is the Iluka Standard formula applied to all resource models in the Perth Basin. The calculation of the bulk density takes into account the weight percent of each of the major components of a typical mineral sands sample: HM, Sand and Slimes. The formula used accounts for the ratio of HM and quartz present in a sample and the weight percentage of clay which can be added to that sample without changing the volume that the sample occupies. The formula was used for other geologically similar HM deposits, including other deposits mined by Iluka Resources in the Capel region of the Perth Basin. 94 holes for 1,494m of AC drilling was complete in 2022 and 2023. This drilling is located in the area immediately south of the Tutunup Mineral Resource. Assay and composite analysis and geological modelling is underway. An additional 46 holes for 864m of AC drilling was also completed in 2023 toward the northern end of the Mineral Resource and will be used to further inform the model grades and rock interpretations. Test pits have been completed in 2021 and 2022 to test the extent and physical characteristics of the induration present at Tutunup and to collect bulk sample for metallurgical test work. Geological mapping was completed however has not been used to update the geological block model nor resource estimate. The exposure in these pits is in-line with the current geological framework used to support the Tutunup Mineral Resource estimate. Geophysical work (GPR) was completed in 2022 during test pitting. This was used to determine the suitability of this technique in identifying and mapping the induration at Tutunup. Work associated with the application of GPR is ongoing however due to the amount of AC drill data and the quality of that data, the additional geophysical data is not expected to materially impact the Tutunup Mineral Resource estimate. Potential acid sulphate soils have been identified within the mineralisation at Tutunup. Blending options and management of this material is under investigation however will not impact the Tutunup Mineral Resource.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Drill programs are forecast to be done to test the southern extensions of the Tutunup deposit in 2024 and to support ongoing project development. Metallurgical test work is ongoing to support the separation and processing of the HM at Tutunup. Widely spaced drilling completed in 2022 and 2023 has confirmed mineralisation extends to the south of the currently reported Tutunup Resource. Composite analysis and geological modelling of this area is ongoing and may provide additional Mineral Resources.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria		Commentary
Database integrity	*Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	Drilling has been completed over a protracted period of time at Tutunup. Older drilling had paper based logging completed. Hard copy data was entered into digital files over a period from the late 1980s to the mid-1990s. In the late 1980s computerised field logging equipment was introduced and geological information was recorded and stored in text files. An Oracle Database was introduced for the storage of geological data in the early 2000s. This was superseded by a custom built SQL database solution introduced in 2006 which was in turn superseded by an acQuire data management solution. The results from sample analysis by Iluka owned and operated laboratories is hosted in CCLAS, a laboratory information management system currently owned by Datamine Software Solutions. The assay results are also electronically transferred from CCLAS to the acQuire database system.
	Data validation procedures used.	Drill data was reviewed to ensure no duplicate records were present and statistical evaluation was conducted to ensure all results were within acceptable ranges. Datamine Software was used to visually check the grade magnitude and spatial distribution of data was as expected.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	All AC programs were visited by experienced Iluka staff geologists. A number of Competent Persons have visited the site many times over the past 60 years. Mr Jones, the Competent Person signing off on the Tutunup Mineral Resource estimate, visited site many times with the most recent being in 2022 during excavation of two test pits designed to collect sample for metallurgical test work.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* *Nature of the data used and of any assumptions made.*	The geological framework for the Tutunup deposit is well understood from many years of exploration by Iluka and its predecessor companies. The geological interpretation was undertaken by Iluka exploration geologists and then validated and extended by GNJ Consulting using all logging and sampling data and observations.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Interpretation of geological surfaces was restricted to the altered leucoxene zone that is visible in logging of sachet samples of HM sinks. The basement was identified from field logging and laboratory assays of HM and slimes.
	The use of geology in guiding and controlling Mineral Resource estimation.	Appropriate geological domaining and corresponding flagging of drill data was used to control the mineralisation estimation.
	The factors affecting continuity both of grade and geology.	The mineralisation, which is hosted by the Yoganup Formation, sits conformably on an erosional surface associated with the Leederville Formation. This package of marine sands is open to the north and south. The northern most extent of the mineralisation has been eroded by the Ludlow River and the southern extent of the mineralisation, located south west of the State Forest, has

Criteria		Commentary
		previously been mined by Cable Sands Pty Ltd. (during mining of Cable Sands Tutunup West mine) and Iluka Resource (Tutunup South mine).
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The Mineral Resource is approximately 7km long and up to 1km wide at its widest point, but is more typically between 300m to 400m wide. The mineralisation is approximately 5-20m thick with an average thickness of 8m. Along the eastern edge of the deposit, mineralisation outcrops at surface and has been eroded at localised points, however generally there may be anywhere up to 2m to 10m of low HM grade material overlying the mineralisation that will need to be removed as overburden.
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	Grade interpolation was done using the Estima Superprocess within Datamine Studio software. Grade estimation was completed using Inverse Distance Cubed which is an Iluka standard and is deemed appropriate for this style of mineralisation. Mineralogy composite identifier and Hardness values were interpolated using Nearest Neighbour (NN) method. No HM top cut has been used nor deemed necessary. Drill hole sample data were flagged with domain codes corresponding to the geology of the deposit. The domains were imprinted on the model from 3-dimensional surfaces generated from the geological interpretations. A primary search dimension of 30m across strike by 150m along strike by 2m RL (X*Y*Z) was used for all assay data with limitations placed on the minimum and maximum number of samples used to inform model cells. Successive search volume factors of 2 and 4 were adopted to interpolate grade in areas of lower data density. An increased lateral search distance of 50m by 250m was used to interpolate the composite data. In the event that a cell still remained uniformed, a domain average value was applied and the cell would be excluded from the resource estimate.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. *The assumptions made regarding recovery of by-products.*	Nearest Neighbour grade interpolation was carried out which resulted in a similar grade distribution and tenor as the Inverse Distance Cubed results. No by-products were considered as part of the resource estimates for Iluka's Tutunup deposit.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	Estimation of deleterious elements were made during the resource estimation and these were derived from mineralogical bulk sampling that was conducted by Iluka from composited drill hole samples.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	A parent cell dimension of 10m by 50m by 1m was selected for the Tutunup deposit given the dominantly 20m by 100m drill spacing and 1m assay length. Sub-celling in the X, Y and Z dimensions is used to assist with volume representation within closed surfaces and along domain boundaries
	Any assumptions behind modelling of selective mining units.	No assumptions were made regarding the modelling of selective mining units however it is assumed that a form of open cut mining such as truck and shovel or dredge would be employed.

Criteria		Commentary
	Any assumptions about correlation between variables.	No assumptions were made about correlations between variable however the rock factor (RF) value is known to correlate with HM recovery and this was used prior to reporting of the Mineral Resource estimate to exclude mineralisation with corresponding elevated RF values.
	Description of how the geological interpretation was used to control the resource estimates.	Appropriate geological domaining and corresponding flagging of drill data and model cells was used to control the grade interpolation. Geological surfaces were used to constrain the interpolation of HM grade however this was limited to a leucoxene rich zone, a more ilmenite dominated zone and a basement surface that reflects the interpreted top of Leederville Formation. Rock strings were used to downgrade HM grades associated with hard rock that is expected to heavily impact mining.
	Discussion of basis for using or not using grade cutting or capping.	A top cut was not deemed necessary for HM assays following evaluation of statistics and consideration of the extent and consistency of the sample grades.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available	Validation of the grade interpolation was done for all Iluka's Tutunup deposit by comparing model statistics to sample statistics and a visual comparison of drill to model grades using Datamine Studio Software. The modelled grades are in line with the input drill assay data. Given no mining has taken place no reconciliation data is available.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	The tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	A nominal cut-off grade of 4.0 per cent HM was chosen for reporting the Mineral Resource for Tutunup. A 4.0 per cent HM cut-off is considered appropriate for a deposit of this magnitude and contained valuable HM assemblage to represent an inventory of the contained mineralisation.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	Mining at Tutunup is likely to be by open cut mining using suitable excavation machinery or dredging. The geometry of the deposit makes it amenable to bulk open cut mining methods currently employed in other open cut mines operated by Iluka and in other mineral sands mines with similar geomorphology.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is*	The metallurgical understanding is based on mineralogical data and testing of a number of bulk samples (collected from Tutunup in 2021 and 2022) which demonstrates that the Tutunup mineralisation is similar to other deposits historically mined along the Yoganup shoreline, e.g. Tutunup South to the south and Yoganup to the north, and can be processed through standard separation equipment (i.e. spirals).

Criteria		Commentary
	the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	No assumptions were made regarding possible waste and process streams in the estimation of the Tutunup Mineral Resource. All material removed from the mine void will be replaced following processing to remove the HM. The Environmental Impact Assessment (EIA) is currently in progress, for inclusion in the Environmental Review Document (ERD) to be submitted to the EPA for assessment. Elements of some baseline studies remain underway, the outcomes of which are required for the EIA.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	The tonnages are estimated on a dry basis using an Iluka proprietary density formula. The formula is considered appropriate and has been used and verified at other Iluka deposits which are geologically similar and were mined for HM. The Iluka Standard Bulk Density formula used accounts for void space and variable material composition. It is assumed that the material in the Tutunup deposit has the same density relationship that is seen in other Iluka deposits that were previously mined in the Perth Basin. This assumption is considered valid as the deposit is geologically identical to other deposits mined in the Perth Basin by Iluka.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.* *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* *Whether the result appropriately reflects the Competent Person's view of the deposit.*	In consideration of the JORC Code Classification of Measured, Indicated or Inferred, the following aspects were considered: • the drill hole spacing; • the age of the drilling and assay methodologies used; • the quality and distribution of sample data as demonstrated by supporting QA/QC; • level of supporting mineralogical data; and • confidence in the style of mineralisation under consideration. It is the view of the Competent Person that the frequency and integrity of data, and the resource estimation methodology are appropriate for this style of mineralisation and the Resource Classification applied.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	The geological model was prepared by external consultant GNJ Consulting in 2013 and was reviewed internally by Iluka. Though minor updates to rock factor interpretations and possible acid sulphate soil (PASS) information have been made in subsequent years, the underlying

Criteria		Commentary
		geological model and assumptions have not changed and there has been no change to the resource estimate.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	There was no geostatistical process undertaken (such as variography or conditional simulation) during the resource estimation of the Tutunup deposit. However, qualitative assessment of the Mineral Resource estimate along with comparison to previous resource estimates by other workers points to the robustness of the current Mineral Resource estimate. The biggest potential risk to the appropriateness of the resource estimate and the recoverable HM from the deposit is the estimation and impact of the induration. The Tutunup deposit is significantly affected by induration and the interpretation of induration from AC drilling can be difficult. Test pits were completed in 2021 and 2022 to test the extent and physical characteristics of the induration present at Tutunup and to collect additional bulk sample for metallurgical test work. Work programs including drilling and geophysical surveys have been proposed for the DFS to assess the impact rock will have on mining.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This statement refers to global estimates for the Tutunup HM deposit.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation data is available as the Tutunup deposit is not in production.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria		Commentary
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	The Mineral Resource estimate is based on a model created in 2013 by external consultant GNJ Consulting. Minor updates to include PASS and additional rock information were made with the final iteration being completed in July 2021 by Iluka Resources (Iluka). The resource model named "mtutpas20c" was compiled by Iluka resource development geologists and reviewed and approved by the company's Competent Person (CP) for Mineral Resources. This revised Mineral Resource estimate was used as the basis for the conversion to an Ore Reserve but these revisions did not result in any material changes to the previously reported Mineral Resource estimate for the Tutunup deposit. The Ore Reserves were compiled by Iluka mine planning engineers and reviewed and approved by the company's competent person (CP) for Ore Reserves. Mineral Resources are reported inclusive of the Ore Reserves.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	The CP has visited the site. No additional site issues were found that could impact the Ore Reserves.
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	A Prefeasibility Study (PFS) was completed in 2023. Funding for a Definitive Feasibility Study (DFS) has been approved by the Iluka Board with DFS activities commencing in Q2 2023. The PFS incorporated technically achievable mine plans that have formed the basis of detailed financial modelling showing positive results for key metrics including NPV, IRR and payback period. Modifying factors considered include current and projected costs, product revenues and processing recoveries based on detailed test work and a mining recovery factor to account for ore loss associated with dredge mining.
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	As there are multiple saleable products, cut-off grades vary depending on the overall HM grade and individual assemblage of each block in the Mineral Resource model. Cut-off parameter calculations performed by the pit optimisation software incorporate revenue, operating costs,

Criteria		Commentary
		recoveries and other modifying factors. Blocks included in the Ore Reserve are economic to mine and process based on these calculations.
Mining factors or assumptions	*The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* *The mining dilution factors used.* *The mining recovery factors used.* *Any minimum mining widths used.* *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* *The infrastructure requirements of the selected mining methods.*	Pit optimisations were conducted by Iluka mine planning engineers using Minemax industry standard mine planning software. Localised areas of the deposit were excluded due to proximity to groundwater-dependent restricted vegetation communities. The Mineral Resource was converted to an Ore Reserve using the results of the pit optimisations to inform detailed, practical and economic pit designs appropriate for the selected mining methods. The mining method selected is truck and shovel for overburden. This method has been used successfully at nearby historic Iluka mines, most recently at the Tutunup South and Yoganup mines. Mining costs were derived from contract rates at existing Iluka operations. Excavator dredge mining was selected as the ore mining method following detailed studies considering multiple options. A wet mining method was chosen due to mining in proximity to a groundwater-dependent restricted vegetation community. Approximately 30% of the deposit sits below the groundwater table and material above the dredge pond can be either pushed to the dredge by a dozer or is able to be reached by the excavator dredge. There are anticipated to be small irregular areas of harder material and rock below the ground water table that would be difficult to mine with a more traditional suction cutter dredge which is why an excavator dredge has been selected. The overall slope applied in the pit optimisations and pit designs was 35 degrees. This is based on geotechnical investigations and slope stability assessments completed during the PFS. A mining recovery factor of 98.5% was applied in the pit optimisations to account for ore spillage remaining in the pond following dredge clean-up cycles. Planned dilution due to pit design practicalities is estimated to be ~1%. The dredge mining width has been designed at typically 100m wide, or 5x 20m dredge panels, based on operational practicalities, including mining advance rates and infrastructure and services management. There are small areaS of the deposit <100m wide where less panels will be mined. Inferred Mineral Resources are not included in the Ore Reserve or related mining studies. Infrastructure requirements are typical for a dredging operation and include power, pumping and piping for ore slurry transportation as well as provision for a work boat and landing stations for maintenance and access purposes.
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.*	The Ore Reserve is based on wet ore mining using an excavator dredge, followed by oversize and slimes removal via a combination of screens and cyclones. The remaining sand then passes

Criteria		Commentary
	Whether the metallurgical process is well-tested technology or novel in nature. *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* *Any assumptions or allowances made for deleterious elements.* *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	through a series of spirals and magnetic separators to remove the lighter fraction of the sand with the heavy mineral recovered stockpiled as HMC. The HMC is transported to a Mineral Separation Plant (MSP) at Iluka's North Capel operations where a magnetic and non-magnetic concentrate will be produced. The magnetic fraction contains the ilmenite and is processed into synthetic rutile through the existing kilns at North Capel. The non-magnetic fraction is transported to Iluka's Narngulu MSP for further separation into zircon, rutile and a rare earth concentrate. The metallurgical separation processes utilises known technology where the performance and recovery of the mineral products has been established by Iluka in current and past operations and represents low risk. The processing technology is utilised worldwide in the mineral sands industry. Rare earth concentrate will be transported to Iluka's Eneabba rare earth refinery, through which saleable rare earth oxides will be produced. The Eneabba rare earth refinery is currently under development, with commissioning scheduled for 2026. Bulk samples were collected in 2021 and 2022 and are considered to provide representative samples of the deposit. The samples were obtained to complete the following outcomes: • A spiral test work program to inform the PSDs; • A mining by-product study on the clay fines; and • A MSP simulation geo-metallurgical test work program that informed product recoveries, final product specifications and to identify potential process bottlenecks within existing North Capel and Narngulu MSPs A SR feed ilmenite from the MSP simulation underwent a laboratory based SR simulation to confirm expected product specifications. Overall recoveries for saleable products are shown below.

Mineral Species	Overall Recovery
Ilmenite	87%
Zircon	75%
Rutile	85%
Monazite	55%
Mag Leucoxene	65%
Non-mag Leucoxene	25%

Criteria		Commentary
		As is common at most mineral sands operations, HM concentrates produced at site may potentially contain levels of radiation above occupational exposure limits. Management plans will be in place to ensure health risks to employees are managed appropriately.
Environmental	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	The Environmental Impact Assessment (EIA) is currently in progress, for inclusion in the Environmental Review Document (ERD) to be submitted to the EPA for assessment. Test work has shown that Potential Acid Sulphate Soils (PASS) will be encountered in the ore. Processing contingencies have been developed to manage PASS material if encountered. Mining of waste material is not considered acid-forming or potentially acid forming. Due to the low strip ratio of the deposit, the majority of the overburden will be utilised to construct tailings embankments, with only a small amount to be placed in stockpile. Oversize and tailings are planned to be progressively returned to the pit void. Accelerated mechanical consolidation (AMC) will be used to dewater fine tailings contained in on and off path tailings storage cells. The AMC method requires less land to dewater the fine tailings than traditional solar drying dams (SDDs) used previously in most historic Iluka operations in the region. Progressive rehabilitation and timely return to final land use is planned.
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	A proposed location for plant and infrastructure has been identified and is appropriate in size. The Tutunup deposit is located adjacent to the Tompsett road in the Tutunup locality in the southwest of Western Australia and is approximately 20km by road to Iluka's existing MSP and SR upgrading assets at Capel. Larger nearby regional towns of Bunbury and Busselton are expected to service the mine and workforce. The Port of Bunbury is a large deep water port that allows the sale of end-products to customers and the transport of rare earth mineral to Iluka's Eneabba rare earth refinery. The majority of the workforce is assumed to come from Bunbury and Busselton and surrounding areas. Power is planned to be extended approximately 7.5km from the existing network grid. Water supply is planned to be drawn on site from the Yarragadee aquifer. Iluka owns the majority of the land that will be disturbed during mining operations. Negotiations are ongoing with landowners to access the remaining required land.

Criteria		Commentary
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.* *The methodology used to estimate operating costs.* *Allowances made for the content of deleterious elements.* *The source of exchange rates used in the study.* *Derivation of transportation charges.* *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* *The allowances made for royalties payable, both Government and private*	The capital cost estimate has been prepared in accordance with Iluka, AusIMM and AACE guidelines. The estimate is derived from a combination of Iluka inputs and specialist engineering, construction and mining consultant inputs developed during the PFS. The operating cost estimate has been derived from PFDs and mass balances developed for the mineral processing facilities; existing mining and supply contracts; and dredge mining assessments. Accuracy of capital and operating cost estimates is considered to be -15% to +30%. The foreign exchange rate is an internal long-term estimate by Iluka. Transport and logistics costs derived from a detailed logistics study undertaken as part of the PFS. Penalties for failure to meet product specifications have been included in the financial model, where applicable, as a discount on the product price. A Western Australian state royalty is applied to the mineral sands products and the rare earth concentrate transported to Eneabba rare earth refinery.
Revenue factors	*The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	The Ore Reserve was estimated using internal Iluka long-term price forecasts (some of which are confidential and commercially sensitive) for the mineral sands products as well as Adamas price forecasts for the contained rare earth product. The internally derived commodity price assumptions are established by 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 pit sensitivities and to test the robustness of the Ore Reserve. Revenue applied against Ilmenite includes an increased margin due to upgrading the product to synthetic rutile whilst also accounting for any recovery losses during the process. Iluka periodically discloses current pricing in the company's Quarterly Reports.
Market assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* *A customer and competitor analysis along with the identification of likely market windows for the product.* *Price and volume forecasts and the basis for these forecasts.* *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	It is expected that the Tutunup ilmenite will be upgraded to synthetic rutile and sold into existing markets. The titanium dioxide pigment market is currently soft, with paints and coatings producers experiencing lower levels of activity during 2023 however pigment prices remain resilient as major producers reduce operating rates to match production to demand. The zircon market is currently subdued due to global economic uncertainty. However in the longer term, demand outlook remains positive mainly driven by urbanization trends in emerging economies and global industrial activity trends while the global zircon industry face declining grades and production volumes of existing operations, requiring new sources of supply. Tutunup

Criteria		Commentary
		zircon meets premium grade specifications and is expected to be sold into similar market segments as Iluka's current zircon sales. Mineral sands market analysis is conducted using data from various industry bodies and experts, independent research and Iluka's assessment of trade data. Iluka often establishes contractual agreements with customers which reflect the pricing forecasts adopted for mineral sands products. The details of these contracts is commercially sensitive and not disclosed. Product undergoes customer testing and acceptance prior to executing a supply contract. Ongoing provision of product must be in accordance with the agreed contractual specifications. Iluka customers are provided with reports in accordance with customer and product specifications.
Economic	*The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	Macro-economic assumptions used in the economic analysis of the mineral sands reserves such as foreign exchange, inflation and discount rates have been internally generated and determined through detailed analysis by Iluka and benchmarked against external sources where applicable. The long term inflation rate used in financial modelling is 2.5% with a discount rate of 10% (nominal). Sensitivity analysis is undertaken on key economic assumptions such as costs and price to ensure the reserves are robust. Changes in product prices and costs have the potential to increase or decrease the total Ore Reserve. Cashflows from the optimised Ore Reserve on current assumptions produce a financially viable project. The NPV remains positive under a range of sensitivity analysis.
Social	*The status of agreements with key stakeholders and matters leading to social licence to operate.*	A risk based Stakeholder engagement strategy for the Project covering the period from pre-referral through to completion of formal assessment by the Western Australian Environmental Protection Authority (EPA) has been developed. Iluka has adopted an early engagement approach to help address any social factors associated with stakeholders. The Tutunup Project area is within the ancestral lands of the Wadandi Southwest Noongar People (the Wadandi People). In August 2021 an agreement was reached to work through the process of a Noongar Standard Heritage Agreement to address project heritage issues. For matters of mutual interest regarding potential economic, environmental and social initiatives Iluka will work with the Southwest Boojarah, through the Corporation Karri Karrak, which is an entity required by the Southwest Native Title Settlement to hold all rights and interests.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*	No identifiable naturally occurring risks have been identified to impact the Ore Reserves.

Criteria		Commentary
	Any identified material naturally occurring risks. *The status of material legal agreements and marketing arrangements.* *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	There are no known risks to the Ore Reserves due to any material legal or marketing arrangements. Iluka holds a number of General Purpose, Miscellaneous and Mining licenses over the Tutunup deposit. Both State (EPA) and Commonwealth (DCCEEW) referrals for the Tutunup Mineral Sands Project have been submitted and assessed, with the levels of assessment set at Environmental Review Document (ERD), and a Controlled Action, respectively. The Environmental Scoping Document (ESD), the document that dictates the studies required for the ERD, has been returned to Iluka to address EPA and DCCEEW comments on the first submission. Changes during the early phase of the DFS to operating strategies as well as delays due to extended regulatory assessment timeframes will likely extend the timing of approvals past what was anticipated at the conclusion of the PFS. The impact of any changes will be assessed and managed during the DFS.
Classification	*The basis for the classification of the Ore Reserves into varying confidence categories.* *Whether the result appropriately reflects the Competent Person's view of the deposit.* *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	Measured Resources are converted to Probable Ore Reserves and reflect the pre-feasibility studies completed and level of confidence in the modifying factors. Indicated and Inferred Mineral Resources are not included in the reported Ore Reserve. The results reflect the Competent Person's view of the deposit. All of the 14.1 Mt Probable Ore Reserves have been derived from Measured Mineral Resources.
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	The Tutunup Ore Reserve estimate has not been reviewed externally, however detailed internal reviews of optimisation input parameters, assumptions and proposed mining methods have been undertaken. External Ore Reserve process audits have taken place on other Ore Reserves Iluka reports with no significant issues previously raised.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.*	Iluka has considerable experience in reconciliation of its Mineral Resources and Ore Reserves. Actual results generally indicate very good agreement with the geological model and close reconciliation with product tonnes, ore tonnes and heavy mineral head grade. The risk of not achieving good physical Ore Reserve reconciliation is considered to be low. This is indicative of a robust estimation process. The ore mining method selected is not typical for mineral sands and is not used, to the CPs knowledge in any other mineral sands operations. It is commonly used in civil marine projects. The processing proposed for Tutunup is typical and widely used for mineral sands, both within

Criteria		Commentary
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	Iluka and internationally. Iluka's test work specific to Tutunup ore supports the view that this method is considered a low risk of impacting the Ore Reserves. No mining of the Tutunup mineralisation has taken place to date therefore no reconciliation is available.