20 December 2019

BOONANARRING ORE RESERVE UPDATE YIELDS 24% HIGHER ORE GRADE; 50% HIGHER IN-SITU ZIRCON GRADE

Image Resources NL (ASX: IMA) **("Image" or "the Company")** is pleased to advise the update of the Ore Reserves at its 100%-owned, high-grade, zircon-rich Boonanarring mineral sands project located 80 km north of Perth in the infrastructure-rich North Perth Basin in Western Australia has resulted in **a 24% increase in the total heavy minerals (THM) ore grade and a 50% increase in the in-situ zircon grade.**

- **Ore grade increased to 8.9% THM** (up from 7.2% in 2017 Ore Reserve)
- **Zircon content increased to 27.5% in the THM** (up from 22.7%)
- **In-situ zircon grade in the ore increased to 2.4%** (up from 1.6%)

Higher THM ore grade and significantly higher in-situ zircon grades in the Ore Reserve provides for increased total HMC production for 2020, 2021 and 2022. Total forecast production for the three calendar years ended 31 December 2022 is now estimated at 830,000 tonnes HMC compared to the 2017 Bankable Feasibility Study updated in July 2018, of 740,000 tonnes HMC over the same period. Additional details regarding updated project financial forecast and updated guidance for 2020 will be published separately in January 2020.

Excluding 2.7M tonnes ore as depletion of the Ore Reserve from production through September 2019, the ore tonnes decreased by 33% (13.4Mt, down from 19.9Mt). Total ore in the Ore Reserve after depletion is 10.7M tonnes.

The reduction in tonnes of ore in the Ore Reserve (other than from depletion) was due principally to changes to the Mineral Resources with the elimination of low grade, low-zircon ore in the overlying layer found to contain a significant proportion of iron-rich laterite which assays as heavy mineral, and the elimination of laterite-rich zones in the main ore strands.

Importantly, despite the reduction of ore tonnes**, there was no loss of high-value zircon tonnes in the updated Ore Reserve** (other than depletion from the production from Block C) and the loss of TiO_2 tonnes is considered minimal from a value perspective.

Managing Director and CEO Patrick Mutz commented, "*The increase in ore grade, and in particular the significantly higher in-situ zircon grade from the new Ore Reserve reaffirms Boonanarring as one of the highest grade, zircon-rich mineral sand projects in Australia. While the reduction in ore tonnes is disappointing, the* ***improved project economics due to higher overall ore grades and the elimination of marginal ore will almost certainly provide a net positive result for shareholders****. We are also confident in our ability to add mine life through a robust and systematic exploration program which is already showing great promise on multiple fronts around Boonanarring due to the very high prospectivity of the area. 2020 will no doubt be a very exciting year for Image."*

The updated Ore Reserves for Boonanarring was completed by Entech Pty Ltd and is reported in accordance with the guidelines of the JORC Code (2012). See Schedule 1 for additional details.

Table 1. December 2019 Boonanarring Ore Reserve Summary

Classification	Ore Tonnes million	THM %	Slimes %	Oversize %	% of total heavy minerals (THM)			
					Zircon	Rutile	Leucoxene	Ilmenite
Proved	3.5	13.9	16	8.9	31.9	2.2	4.6	44
Probable	7.1	6.4	16	5.9	23.1	2.8	1.7	49
Total	10.7	8.9	16	6.9	27.5	2.5	3.2	46

Table 1 notes:
Estimates have been rounded to the nearest 100,000 t of ore, 0.1% for HM/OS/ZIR/RUT/LEU and 0% for ILM and SL.
Ore Reserves are reported using a cashflow value cut-off and limited to a below top of ore surface generated from the optimisation value modelling, excluding domain 240 (overlying mineralisation). All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus sum of columns may not equal.

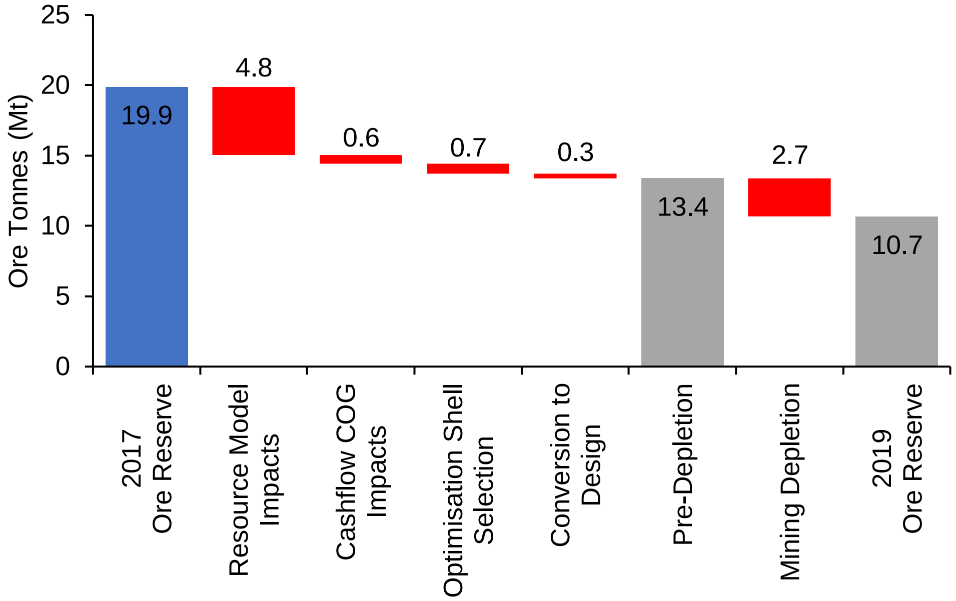
Table 2. August 2017 Boonanarring Ore Reserve Summary at 2.0% HM cut-off grade[1-5]

Classification	Ore Tonnes million	THM %	Slimes %	Oversize %	% of total heavy minerals (THM)			
					Zircon	Rutile	Leucoxene	Ilmenite
Strandline mineralisation								
Proved	9.3	8.6	14	6.7	23.2	2.2	1.8	48.9
Probable	8.3	6.7	17	7.8	23.5	2.5	1.7	51.1
Sub-total	17.6	7.7	16	7.2	23.3	2.3	1.7	49.8
Overlying layer mineralisation								
Probable	2.2	3.0	20	6.9	8.9	4.1	2.7	61.8
Sub-total	2.2	3.0	20	6.9	8.9	4.1	2.7	61.8
Total								
Proved	9.3	8.6	14	6.7	23.2	2.2	1.8	48.9
Probable	10.5	5.9	18	7.6	21.9	2.7	1.8	52.3
Total	**19.9**	**7.2**	**16**	**7.2**	**22.7**	**2.4**	**1.8**	**50.4**

Table 2 notes:
1. *Ore Reserves are based upon a cut-off grade of 2% total heavy minerals (THM) and resource materials in domain 11 containing less than 6% zircon have been excluded from the Ore Reserve estimation.*
2. *Ore Reserves are based upon an FX rate US$0.73:A$1.00; and the following commodity prices: ilmenite - US$144/t, leucoxene - US$522/t, rutile US$936/t and zircon - US$1,126/t.*
3. *Mineral Resources have been reported as inclusive of Ore Reserves.*
4. *The mineral assemblages are reported as a percentage of in-situ THM content.*
5. *Ore tonnes and grade data have been rounded to one significant figure. Discrepancies in summaries may occur due to rounding.*

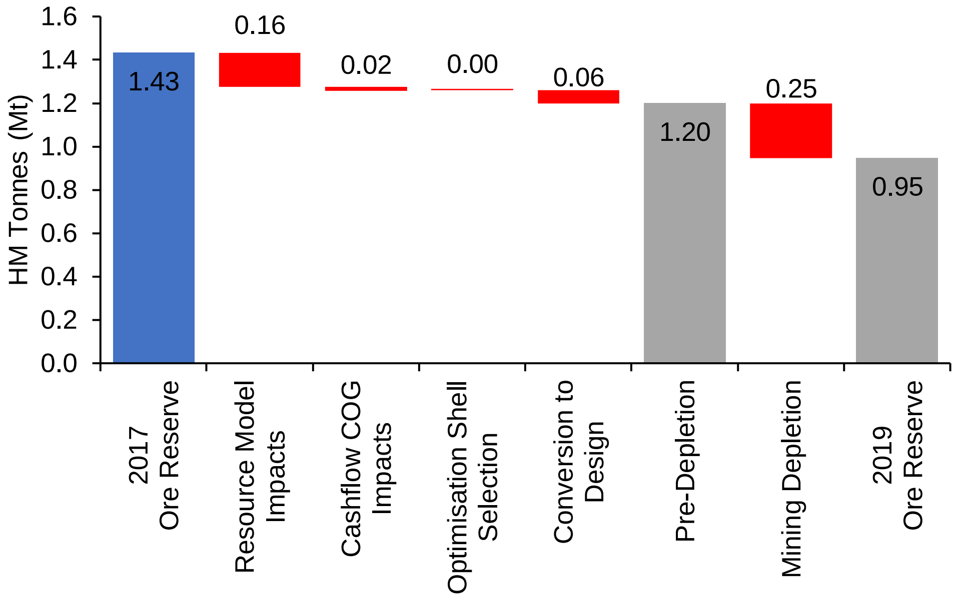
The primary contributors to the decrease in tonnes of ore from the 2017 to the 2019 Ore Reserve Estimate were reduction of ore tonnes in the Mineral Resource Estimate (see Schedule 2) and depletion from ore mining as presented in Figure 1.

Figure 1: Change in Ore Tonnes (Mt)



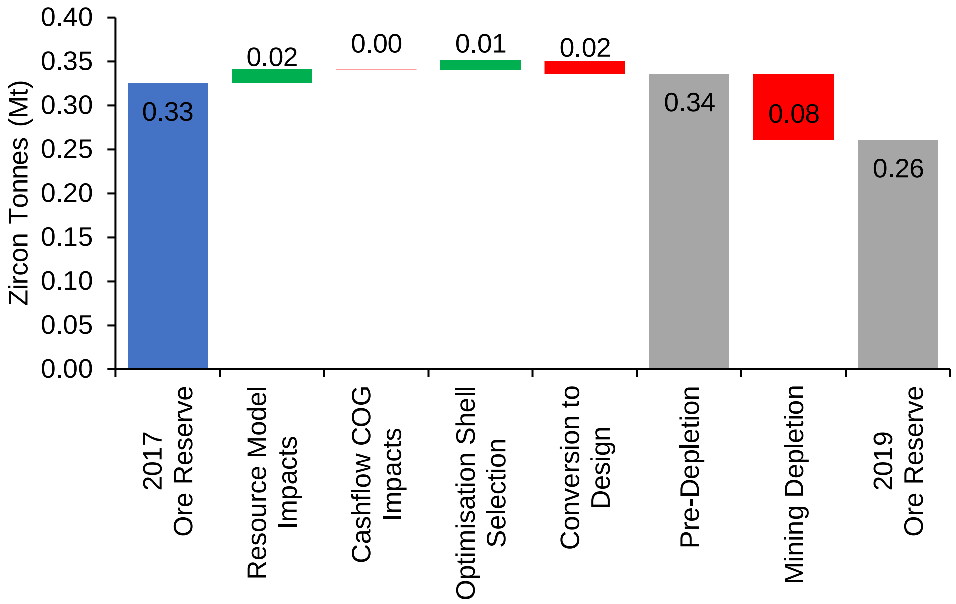
The primary contributors to the decrease tonnes of total in-situ heavy minerals (HM) from the 2017 to the 2019 Ore Reserve were depletion of HM inventory due to ore mining and the reduction of ore tonnes in the Mineral Resources estimate (Schedule 1) as shown in Figure 2.

Figure 2: Change in HM Tonnes (Mt)



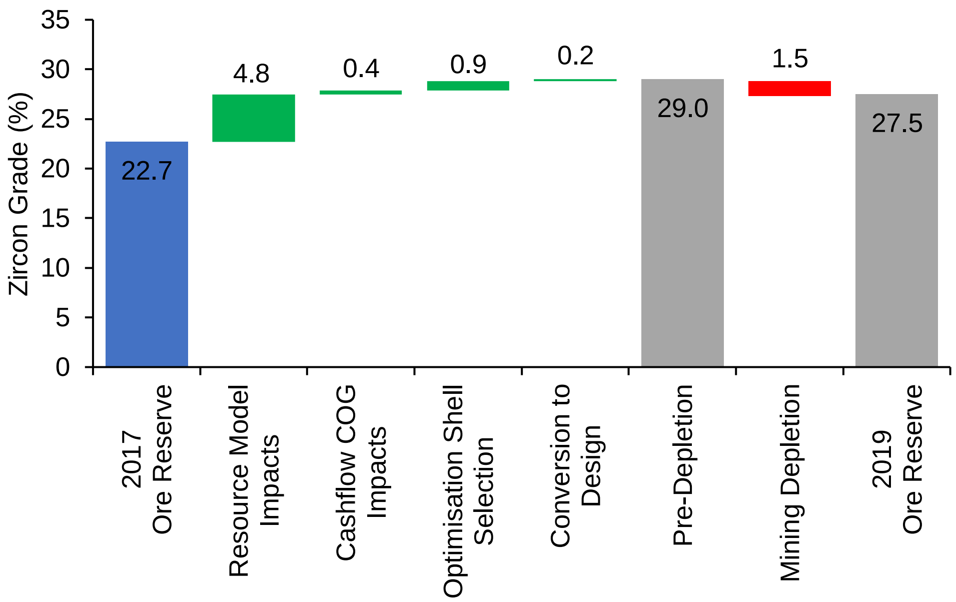
The only reduction to total in-situ zircon tonnes from the 2017 to the 2019 Ore Reserve was depletion of zircon tonnes due to ore mining as presented in Figure 3.

Figure 3: Change in Zircon Tonnes (Mt)



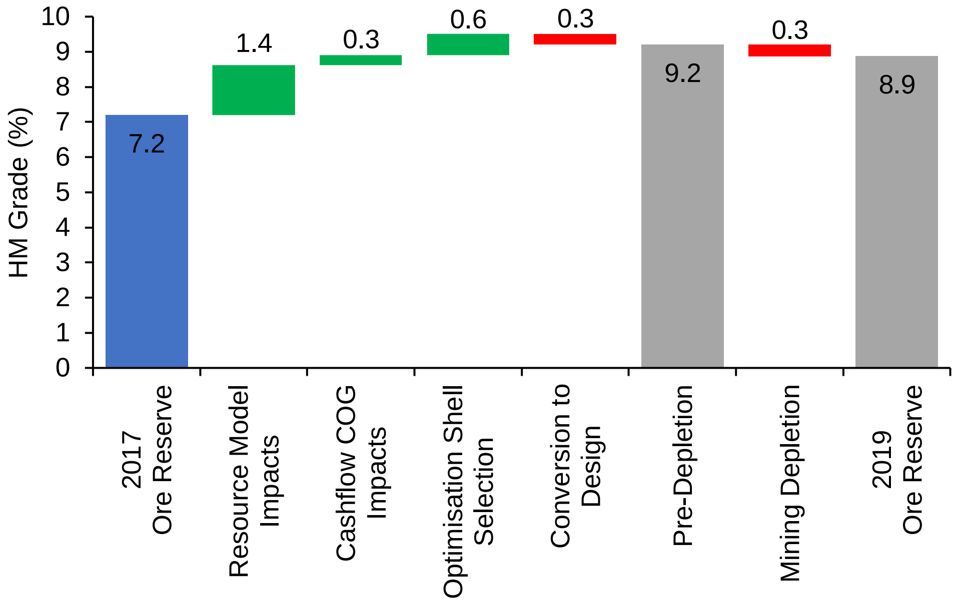
Zircon grade as a proportion of HM has increased from 22.7% to 27.5% as a result of the improved resource estimate as presented in Figure 4.

Figure 4: Change in Zircon Grade (%)



HM grade in ore has increased from 7.2% HM in the 2017 Ore Reserve to 8.9% HM in the updated 2019 Ore Reserve as presented in Figure 5.

Figure 5: Change in HM Grade (%)



Ore Reserves, Mine Life and Extension Potential

Background

In 2016 Image made a decision to develop the Boonanarring Project as rapidly and as cost effectively as practicable based on the known Ore Reserves at that time. This decision led to **a restriction on exploration drilling aimed at expanding the Ore Reserve at Boonanarring until after the Company achieved positive cash flow from operations**.

Image's 2017 Bankable Feasibility Study (BFS), was based upon an updated Ore Reserve published in April 2017 (see 10 April 2017 ASX announcement – *Updated Ore Reserves for Boonanarring Project Increases Ore Tonnes by 39%*). BFS results published in May 2017 (see 30 May 2017 ASX announcement - *Strong Bankable Feasibility Study Results Boonanarring / Atlas Project*) outlined an estimated mine-life at Boonanarring to be 5.5 years based on the Ore Reserve and a mining and ore processing rate of 3.7 million tonnes/annum.

In 2017-19, a limited amount of scout drilling was conducted to test potential mineralised extensions around Boonanarring. In 2017, scout drilling to the north of Boonanarring identified a potential extension of the high-grade, zircon-rich eastern strand at Boonanarring for up to 5.6km north of the Brand Highway (see 13 March 2017 ASX announcement - *Outstanding Results Confirm a 5.6km High Grade Extension of Boonanarring Deposit*). Scout drilling in 2018 and 2019 also identified mineralisation to the west of Boonanarring.

Commercial production at Boonanarring commenced in December 2018, and in 2nd QTR 2019, operations were deemed to be cashflow positive. As such, **the exploration budget**

was increased in 3rd QTR 2019 to allow for drilling to commence with the aim of expanding the Ore Reserves and mine life at Boonanarring.

Current Status

The current Boonanarring mine life, based on the revised 2019 Ore Reserve, is estimated at 3 years. In addition, per the 2017 BFS, there is an additional 3 years of mine life in Ore Reserves at the Company's 100%-owned Atlas Project.

In 3rd QTR 2019, the Company commenced drilling aimed at identifying additional mineralisation for conversion into Mineral Resources and Ore Reserves and ultimately extending the mine life at Boonanarring. **Areas immediately surrounding the current Boonanarring Ore Reserve are being assessed as a matter of priority so that any new Ore Reserves will be within economic pumping distance of the current location of the wet concentration plant (WCP)**. For Boonanarring, the area considered within economic pumping distance is highlighted on Figure 5 as a radius of 10km from the WCP.

Early drilling results have been positive. Based on a combination of drill results and ground-based magnetic signatures, **a new mineralised shoreline has been identified that is located to the immediate west of the current Boonanarring Ore Reserve.** This new shoreline has the potential to stretch for up to 40km, and with the northern half within economic pumping distance of the WCP. See 11 December 2019 ASX announcement – *New Potentially 40km Long Mineralised Shoreline Identified Adjacent to Boonanarring*.

In addition, in the 11 December 2019 ASX announcement it was reported that there is a substantial potential extension of the Boonanarring deposit directly to the north and to the south. **This prospective high-grade shoreline starting from Image's Red Gully project in the north, running through the Boonanarring Deposit (Ore Reserve length 9km) and ending at Image's Gingin North project in the south, is 32km in length,** with numerous areas yet to be drill tested and with some sections subject to access and potential infrastructure encroachment.

The Company is confident it will add to the mine life at Boonanarring by increasing the Boonanarring Ore Reserves incrementally starting in 2020.

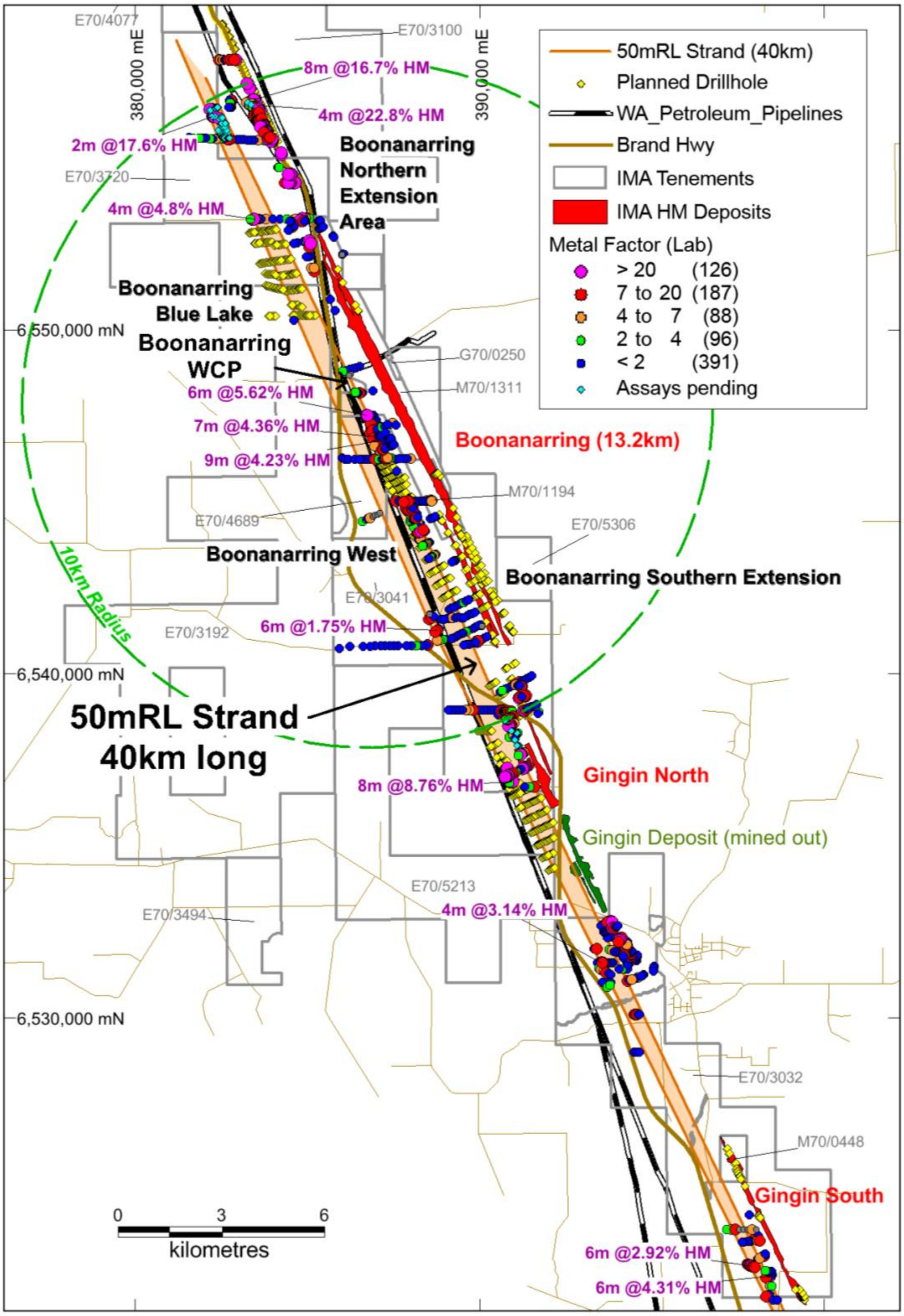


Figure 5. **Boonanarring Deposit showing extension drilling to north, south and west, and newly identified 40km-long 50mRL Strandline**

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Boonanarring Project Background Information

The Boonanarring Project is arguably one of the highest heavy mineral grade, zircon-rich, mineral sands projects in Australia. Construction and project commissioning were completed on-time and on-budget in 2018. Production commenced December 2018 and HMC production ramped-up to exceed name-plate capacity in only the second month of operation (January 2019). The Company achieved profitability in Q1 and was cashflow positive in Q2 and has completed three full quarters of successful operations with performance exceeding targets in all major categories, including significantly higher HMC production and lower costs than forecast. CY2019 market guidance was increased in July and again in October. Image is focused on delivering on published guidance for CY2019 and identifying additional Mineral Resources and Ore Reserves to extend the mine life at Boonanarring.

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COMPETENT PERSON'S STATEMENTS – EXPLORATION RESULTS, MINERAL RESOURCES AND ORE RESERVES

The information in this report that relates to the estimation of Mineral Resources is based on information compiled by Mrs Christine Standing, who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG). Mrs Standing is a full-time employee of Optiro Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking 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'. Mrs Standing consents to the inclusion in this report of the matters based on her information in the form and context in which it appears.

The information in this report that relates to the estimation of Ore Reserves is based on information compiled by Mr Per Scrimshaw, who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Scrimshaw is a full-time employee of Entech Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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 Scrimshaw consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Information in this report that relates to Exploration Results, Mineral Resources and Ore Reserves (other than Boonanarring and Atlas Mineral Resources and Ore Reserves) is based on information compiled by George Sakalidis BSc (Hons) who is a member of the Australasian Institute of Mining and Metallurgy. At the time that the Exploration Results, Mineral Resources and Ore Reserves were compiled, George Sakalidis was a director of Image Resources NL. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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'. George Sakalidis consents to the inclusion of this information in the form and context in which it appears in this report.

FORWARD LOOKING STATEMENTS

Certain statements made during or in connection with this communication, including, without limitation, those concerning the economic outlook for the mining industry, expectations regarding prices, exploration or development costs and other operating results, growth prospects and the outlook of Image's operations contain or comprise certain forward-looking statements regarding Image's operations, economic performance and financial condition. Although Image believes that the expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such expectations will prove to have been correct.

Accordingly, results could differ materially from those set out in the forward looking statements as a result of, among other factors, changes in economic and market conditions, success of business and operating initiatives, changes that could result from future acquisitions of new exploration properties, the risks and hazards inherent in the mining business (including industrial accidents, environmental hazards or geologically related conditions), changes in the regulatory environment and other government actions, risks inherent in the ownership, exploration and operation of or investment in mining properties, fluctuations in prices and exchange rates and business and operations risks management, as well as generally those additional factors set forth in our periodic filings with ASX. Image undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events.

Schedule 1

Boonanarring Heavy Mineral Sands Deposit Ore Reserve Estimate – 2019

This Ore Reserve estimate is based on modifying factors and processing inputs determined from analysis of actual operating performance at the Boonanarring site. Mining recovery is assumed to be 100% with provision for a 1% mining dilution factor. Feed Preparation Plant (FPP) recovery is based on the operating site reconciliation estimate of 99%. Wet Concentration Plant (WCP) mineral recoveries use estimates of 98% (ZrO_2) and 90% (TiO_2), which have been reconciled to actual plant performance metrics post commissioning.

Revenue estimates are based on contained ZrO_2 and TiO_2 percentages estimated throughout the Resource model and aligned with the current methodology for calculating bulk HMC sales revenues under the current offtake agreement pricing models.

All material was subjected to an economic evaluation in a high-level financial model compiled by Entech as well as a detailed financial model compiled by Image and reviewed by Entech. The mine plan is shown to be technically and financially feasible with positive period cashflows generated under both models. A suitable cashflow positive buffer exists below the assumed product prices to provide confidence that the Ore Reserve estimate will be financially viable within a reasonably expectable range of possible product prices.

In general, this Ore Reserve estimate shows a significant decrease in the ore tonnage and contained HM tonnage, compared to the previous, after allowances for mining depletion. However, the uplift in HM and Zircon grades this estimate presents means that the overall impact on contained Zircon tonnage (which is the main driver for the project revenue) is minimal. Specifically, the main areas of variance have been identified as being due to:

- Mining depletion for the period to 30 September 2019;
- Revised geological modelling impacts (additional drilling, domain re-interpretation, density adjustments, exclusion of high FeOx regions);
- Changes in the application of cut-off from a more general HM% based one to a more economically targeted cashflow based method;
- Selection of a more targeted optimisation shell upon which to base detailed design; and;
- Conversion of optimisation shell to a practical design suitable for extraction.

Figure 6 shows the spatial comparison between 2017 and 2019 Ore Reserve Pit footprints.

Block model cell values have been estimated using the intrinsic Mineral Resource estimate model fields and applying suitable cost, recovery and revenue parameters as agreed with Image. Operating cost inputs have been based on actual site operating data, contracted rates or current budget estimates. Process recoveries reflect actual operating recoveries achieved post commissioning. Revenue estimates are based on existing offtake pricing models. Cost and revenue cell values are then used as inputs to pit optimisation software to determine economic pit shells over a range of revenue factors. Pit limits have been applied to restrict shell generation into regions subject to mining exclusion constraints (Dampier to Bunbury Natural Gas Pipeline, Road Reserve, Nature Reserve). Analysis of pit shell progression with increasing revenue factor highlights that, in general, the eastern strand presents a robust economic core to the optimised shells, whilst the western strand presents as much more sensitive to changes in economic inputs. This is consistent with the high-grade nature (both in terms of HM and Zircon) of the eastern strand, whilst the western strand exhibits lower value ore and in places less consistent grade and thickness characteristics.

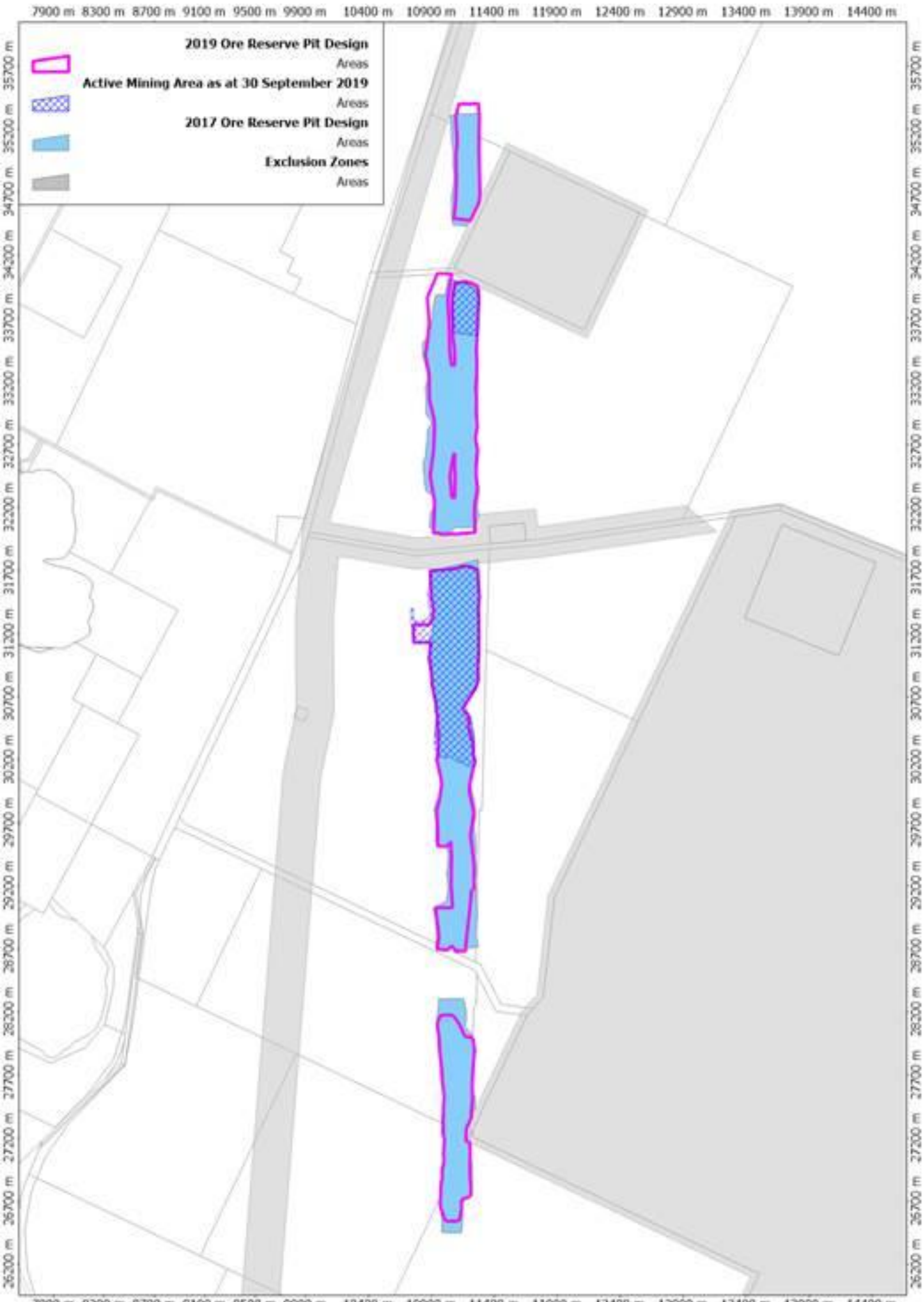

Figure 6. 2017 and 2019 Ore Reserve Pit Outlines

The optimal shell (RF 1) is not considered to present a practical shape for basing a pit design on as, particularly in relation to the western strand, it does not offer a continuous mining path for exploitation. This is an important consideration in a continuous advance mining method, with backfill into the void behind the advancing mining face, as is currently undertaken at the Boonanarring site.

A selection of shells has been identified as presenting practical development shapes for mining. Namely shells were identified that were:

- Smaller than the RF1 shell, where shell development is primarily limited to the high-grade eastern strand;
- Slightly larger than the RF1 shell, where shell development provides both a spatially continuous mine path (where shell progression extends to the western strand) and satisfies minimum mining width considerations; and
- Significantly larger than the RF1 shell, where shell development provides continuity between the currently planned Pits C and D at the southern end of the project area.

These have then been subjected to a high-level schedule and, after consideration of factors such as discounted operating surplus, inventory and geometry suitable for the proposed mining method, a target design shell has been selected in collaboration with Image. The target design shell for basing detailed mine design on is one generated at a revenue factor of 1.18 (i.e. 118% of the base case revenue), reflective of adopting the second development scenario as outlined above. Whilst this shell yields a small reduction in operating cash from the optimum shell, it presents a significantly more cohesive and practical shape than the RF1 shell upon which to base design.

All pit designs and surfaces used for Ore Reserve scheduling and reporting have been provided to site technical personnel for review / feedback prior to finalisation.

The current mine sequence is based on:

- Completing ore mining from the currently stripped Pit C; then
- Commence mining on the eastern strand Pit B at the northern end and mine to the south; then
- Once sufficient void is established in Pit B east, commence overburden removal in Pit A and Pit B west, with Pit A mining in a northerly direction and Pit B west mining in a southerly direction; then
- Commence ore mining in Pit A once the bulk of the overburden has been removed at that Pit, at reduced mining rates (due to the restricted nature of this location), in conjunction with ore mining in Pit B west; then
- After ore mining completes in Pit A and B, recommence mining in Pit C and mine to completion in a southerly direction; finally
- Mine Pit D in a southerly direction.

Schedule 2

Boonanarring Heavy Mineral Sands Deposit Mineral Resource Estimate – 2019

Executive Summary

The Boonanarring Heavy Minerals Sands deposit is located in the north of the Perth Basin, Western Australia, approximately 100 km north of Perth. The Boonanarring mineralisation is hosted by the Pleistocene Yoganup Formation. The Yoganup Formation is a buried pro-graded shoreline deposit, with dunes, beach ridge and deltaic facies. This formation lies unconformably over the Lower Cretaceous Leederville Formation and is overlain by the Quaternary Bassendean and Guildford Formations. The basement to the main strandline mineralisation is demarcated by the increased slimes content of the Leederville Formation. Some lower grade mineralisation that overlies the strandlines may have been concentrated in an aeolian setting.

Mining commenced at the Boonanarring Project during November 2018 and additional geological, drilling, density, mineral assemblage and reconciliation data, obtained after the 2017 Mineral Resource estimate, was used to revise the mineralisation interpretation and to update the Mineral Resource estimate. In-pit mapping and production data from the eastern strandline identified a core of high-grade total heavy minerals (HM) and zircon. It also indicated that areas of the eastern strandline, included in the 2017 resource estimates, are associated with high iron oxide contents and are not suitable for processing. Infill drilling and analysis of additional mineral composites were undertaken by Image during 2019 to improve definition of the strandline mineralisation and, in particular, the high-grade core and the high zircon core within the main eastern strandline.

Optiro's updated Mineral Resource incorporates results from an additional 590 drillholes (for a total 24,916 m) drilled by Image during 2018 and 2019 and an additional 130 composite samples that were analysed to determine the HM assemblage components. The 2019 Mineral Resource comprises data from 2,248 vertical, reverse circulation (aircore) drillholes for a total of 93,175.5 m.

The heavy minerals within the Yoganup Formation have been concentrated in two main strandlines that are continuous over a north-south strike length of 13.2 km and are 100 m to 250 m wide. The strandlines are separated by sands with low concentrations of heavy minerals of 50 m to 100 m in the north and the strandlines merge in the south. The strandlines are up to 15 m thick and have an average thickness of 4.5 m. Two additional strandlines, to the west and to the east of the main strandlines, are present in the southern part of the project area. The far eastern strandline has a strike length of 2.6 km and is up to 100 m wide. The far western strandline (referred to as the Piggery) has been shown from drilling to extend for approximately 4 km north-south, has an across strike width of up to 200 m.

The strandline mineralisation was interpreted using a nominal cut-off grade of 2% total HM. Within the eastern, western and far eastern strandline a high-grade core was identified where there was a sharp increase in HM grade to around 20% and within the eastern strandline a core with high zircon content was interpreted. The eastern strandline is higher in HM grade and the HM has a higher zircon content than the other strandlines.

In addition to the HM content, the interpretation of the mineralised strandlines included consideration of the slimes, oversize and iron oxide contents and the grain size data. Image undertook sachet logging of the HM concentrates from the 2019 samples and available HM concentrates from earlier drilling. Sachet logging included assessment of the zircon content and quality and to provide estimates of the iron oxide contents of the HM concentrates. The sachet logging was used to interpret areas of high iron oxide and to exclude these from the strandline interpretation.

Lower grade, overlying mineralisation, was included in the 2017 resource estimates and was reported separately. In-pit mapping and trenching indicated that some of the overlying mineralisation is associated with high iron oxide contents and is not suitable for processing. Much of this overlying mineralisation has been excluded from the 2019 resource estimate. Image requested that mineralisation of ≥1.5% total HM, that is within the Yoganup Formation and external to the interpreted strandlines, be included in the 2019 model. Optiro used a categorical model to identify blocks that are likely to have a grade of ≥1.5% HM that are external to the interpreted strandline mineralisation.

Optiro has prepared an updated mineral resource model for Blocks A, B, C and D (>26,412.5 mN) using the revised interpretation and all drilling, mineral assemblage and density data as at 17 October 2019. The July 2017 mineral resource model for Block E (<26,412.5 mN) and all of domain 12 (defined in July 2017) were re-estimated, using the same estimation parameters that were used for the 2017 model, and the parent block size and model origin that were used for the 2019 resource model for Blocks A, B, C and D. This was combined with the 2019 model to produce a single block model that encompasses Blocks A, B, C, D and E.

The 2019 resource model was constructed using a parent block size of 5 mE by 25 mN on 1 m benches; the parent blocks were allowed to sub-cell down to 1.25 mE by 12.5 mN by 0.25 mRL to more accurately represent the geometry and volumes of the geological and mineralisation horizons. A soil horizon of 0.5 m was incorporated into the model and block grade estimates were removed from this horizon.

Total HM, slimes and oversize block grades were estimated using ordinary kriging techniques and total HM was also estimated using inverse distance cubed (ID3) techniques. Reconciliation data indicates that the total HM recorded from production data is in-line with the total HM estimated using ID3 techniques and this has been used for resource reporting.

The Mineral Resource includes the results of 405 composite samples (from 727 holes totalling 4,282.5 m) which were analysed to determine the HM assemblage. The mineral assemblage data includes information from Iluka (magnetic separation followed by density separation using solutions of 3.85 g/cm3 and 4.05 g/cm3); XRF data (after microscope examination to exclude non-representative samples e.g. laterite); and QEMSCAN data. The results from QEMSCAN analysis of 20 composite samples, originally analysed using XRF, were used to calibrate the results from XRF. The QEMSCAN rules for the titanium mineral determination are ilmenite 50 to 70% TiO_2; leucoxene 70 to 95% TiO_2, and rutile >95% TiO_2. Block grades were estimated for the mineral assemblage components (ilmenite, rutile, leucoxene and zircon) using ID3 techniques. The mining study is to use the TiO_2 and ZrO_2 contents of the HM and the available TiO_2 and ZrO_2 data (from XRF analyses) were used to estimate block contents of TiO_2 and ZrO_2 using ID3 techniques.

A combination of lithology and grades (total HM, slimes and ZrO_2) were used to determine the density values for the 2019 resource model. Revised bulk density formulae for the strandline mineralisation were determined using 19 bulk density measurements from the 2016 geotechnical drilling programme and 93 density measurements obtained during 2019.

The resource estimate has been classified according to the guidelines of the JORC Code (2012) into Measured, Indicated and Inferred Mineral Resources, taking into account data quality, data density, geological continuity, grade continuity and confidence in the estimation of heavy mineral content and mineral assemblage. Measured Resources are generally defined where drilling is at 20 m to 40 m on 100 m spaced section lines and where there is good coverage of mineral assemblage data. The Measured Resources include all of the high grade core of the eastern strandline where the drilling is at a spacing of 5m to 10m across strike and on section lines spaced at 50m to 100m. Indicated

Resources are generally defined where drilling is at 20 m to 40 m on 200 m lines, and Inferred Resources are defined where the drill spacing is up to 80 m on 400 m lines.

Resource estimation of the mineral assemblage components is based on drillhole composites; however, the variability of the mineral assemblage components between the composites is low. There is a high degree of confidence in the quality of the zircon and ilmenite data and lower confidence in the rutile and leucoxene data. The combined leucoxene and rutile contribute less than 7% of the total heavy minerals and so the classifications applied to the total HM Mineral Resources have been applied to the mineral assemblage concentrations.

The Mineral Resource estimate, as at 30 September 2019, for the Boonanarring Heavy Mineral Sands deposit is reported in Table 3.

This information has been classified and reported in accordance with the guidelines of the JORC Code (2012) and is reported above a cut-off grade of 2.0% total heavy minerals. This cut-off grade was selected by Image based on technical and economic assessment and current mining practise at the Boonanarring Project. Mineral Resources within the lower grade halo that are adjacent to the main strandlines (and reported with the strandline mineralisation) are reported above a cut-off grade of 2.0% total HM and below a slimes cut-off of 35%. The resource model has been reported outside of the exclusion zones and the pit as at 30 September 2019 (i.e. mineralisation that has been mined and is below the base of the 30 September 2019 pit is excluded).

Production data for total HM and ZrO_2 from the strandline mineralisation from the start of mining (November 2018) to 30 September 2019 are in-line with the ID3 estimates. Depletion of the resource model by the 30 September 2019 pit surface and the base of pit polygon indicates that the mined volume is within 0.3% of the resource volume, the processed tonnage (including the stockpiles) is within 1% of the resource tonnage, the estimated total HM, zircon and ZrO_2 grades are within 5% of production and the contained total HM, zircon and ZrO_2 are within 3% of production.

Compared to the July 2017 resource estimate, the tonnage of the 2019 resource has decreased, due in part to mining, and also by the revised interpretation of the strandline mineralisation and the exclusion of material with high iron oxide contents. The additional drilling and definition of the high-grade core within the strandlines has resulted in an increase in the total HM grade has increased the Measured Resources. The overall Mineral Resource tonnes have decreased by 30%, the total HM, zircon, rutile and leucoxene grades have all increased (by 7%, 10%, 4% and 57% respectively) and the ilmenite grade has decreased (by 5%).

Table 3 Boonanarring Mineral Resource as at 30 September 2019 reported above a cut-off grade of 2.0% total heavy minerals

Classification	Million tonnes	Total HM %	Slimes %	Oversize %	% of total heavy mineral			
					Zircon	Rutile	Leucoxene	Ilmenite
Strandline mineralisation								
Measured	8.8	10.3	14	6.6	26.2	2.3	3.9	45
Indicated	12.7	4.7	17	6.8	19.4	2.8	2.4	49
Inferred	4.0	3.5	16	5.8	8.3	5.2	5.5	64
Sub-total	25.5	6.5	16	6.6	22.2	2.7	3.5	48
Overlying mineralisation								
Indicated	1.9	3.5	19	12.5	3.6	1.9	4.3	35
Inferred	2.9	3.5	25	13.1	2.0	2.0	3.9	20
Sub-total	4.8	3.5	23	12.8	2.6	2.0	4.1	26
Total								
Measured	8.8	10.3	14	6.6	26.0	2.3	3.8	46
Indicated	14.6	4.6	17	7.6	17.9	2.7	2.6	48
Inferred	6.9	3.5	20	8.8	5.6	3.9	4.9	45
Total	**30.3**	**6.0**	**17**	**7.6**	**20.4**	**2.7**	**3.6**	**46**

Notes:
1. Strandline and overlying mineralisation reported above a cut-off grade of 2.0% total heavy minerals (HM). Resources external to the main strandlines (and included with the strandline mineralisation) are reported above a cut-off grade of 2.0% total HM and below a slimes cut-off of 35%.
2. The Boonanarring Mineral Resource has been classified and reported in accordance with the guidelines of the JORC Code (2012).
3. Total HM is within the +63µm to -1mm size fraction and is reported as a percentage of the total material; oversize material is +1mm and slimes is -63µm.
4. Estimates of the mineral assemblage (zircon, ilmenite, rutile and leucoxene) are presented as percentages of the total HM component of the deposit, as determined by Iluka's in-house methods, along with QEMSCAN and XRF methods. QEMSCAN rules used for mineral determination are: ilmenite: 50 to 70% TiO_2; leucoxene: 70 to 95% TiO_2; rutile: >95% TiO_2.
5. All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus sum of columns may not equal.
6. The resource excludes environmental zones, within 50 m of the Bartlett's Well and the Boonanarring Nature Reserves and buffers around major roads and the Dampier to Bunbury pipeline.

Appendix A JORC Code Table 1 criteria

The table below summaries the assessment and reporting criteria used for the Boonanarring deposit Mineral Resource estimates and reflects the guidelines in Table 1 of *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012).

SECTION 1 SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling. These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.*	• Sampling of the deposit has been by a vertical reverse-circulation air-core method (RCAC). This is a mineral sands industry-standard drilling technique. • Samples are from intervals of 0.5 m, 0.7 m, 1 m and 1.5 m and 2 m. The majority of samples (over 98%) are from intervals of 1 m. • For resource definition drilling, duplicate samples were taken at the cone splitter on the rig for QAQC analysis and to assess the retrospectivity of the samples • 11 vertical diamond core holes were drilled in 2016 to obtain geotechnical and bulk density data.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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 Image RCAC drill-holes are drilled vertically using an NQ-sized (76 mm diameter) drill bit. • All Iluka RCAC drill-holes are vertical and were drilled using a BQ-sized drill bit (60 mm diameter). • Water injection is used to convert the sample to a slurry so it can be incrementally sampled by a rotary splitter. • 11 vertical diamond core holes were drilled to obtain geotechnical and density data in 2016 using a PQ sized drill bit (85 mm diameter).
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.*	• At the drill site, Image's geologist estimates sample recovery qualitatively (as good, moderate or poor) for each 1 m down hole sampling interval. Specifically, the supervising geologist visually estimates the volume recovered to sample and reject bags based on prior experience as to what constitutes good recovery.
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*	• Image's supervising geologist logs the sample reject material at the rig and pans a small sub-sample of the reject, to visually estimate the proportions of sands, heavy mineral (HM) sands, 'slimes' (clays), and oversize (rock chips) in each sample, in a semi-quantitative manner. • The geologist also logs colour, grain size, an estimate of induration (a hardness estimate) and sample 'washability' (ease of separation of slimes from sands by manual attrition). • To preclude data entry and transcription errors, the logging data is captured into a digital data logger at the rig, which contains

	relevant intersections logged.	pre-set logging codes. • No photographs of samples are taken. HMC concentrates are retained. • The digital logs are downloaded daily and emailed to Image's head office for data security and compilation into the main database server. • Samples visually estimated by the geologist to contain more than 0.5% HM (by weight) are despatched for analysis along with the 1 m intervals above and below the mineralised interval. • The level and detail of logging is of sufficient quality to support Mineral Resource estimates. • 80% of the drilling has been logged. • Geotechnical holes have been logged and assessments as to pit stability determined.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representativity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• The majority of the samples (98%) are from 1 m intervals and 52% of samples were analysed for total HM, slimes and oversize. • The sample from the internal RC rods is directed to a cyclone and then through a 'rotating-chute' custom-built splitting device. This device allows different fraction splits from the cyclone sample stream to be directed to either 25 cm by 35 cm calico bags (as the laboratory despatch samples) or to large plastic polyweave bags for the sample rejects. The rotary splitter directs ≈10 increments from the stream to the laboratory despatch samples, for a specified sampling interval. • Sample tickets with the interval's unique sample ID are placed in each bag. • For resource definition drilling, two splits are collected from the rotary splitter into a pre-numbered calico bag (1/8 mass) and pre-numbered polyweave bag (7/8 mass) for each 1 m down hole interval. A selection of the replicate samples are later collected and analysed to quantify field sampling precision, or as samples contributing to potential future mineral assemblage composites. • Iluka reports having used a similar procedure (ILU Report TR-T15147), albeit no records are available to support this assertion. • To monitor sample representation and sample number correctness, Image weighs the laboratory despatch samples prior to despatch. The laboratory then weighs the received sample and reports the mass to Image. This identifies any potential mix up of sample numbers and is also a proxy for sample recovery. • Image considers the nature, quality and size of the sub-samples collected are consistent with best industry practices of mineral sands explorers in the Perth Basin region.
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.* • *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.* • *Nature of quality control procedures*	• Image and Iluka used industry standard approaches to estimating the contents of total HM, slimes and oversize involving screening to remove oversize, washing slimes from samples and then extracting the heavy minerals from the residual sands using heavy media. • Image engaged four laboratories (Western GeoLabs, Diamantina Laboratory, Diamond Recovery Services Laboratory and Robbins Metallurgical Laboratory). • Iluka used a few internal standards to quantify the accuracy of the drilling with acceptable results. Image inserted standards for drilling undertaken during 2014, 2015, 2016, 2017, 2018 and

	adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	2019. • Both Iluka and Image collected duplicate samples including field-duplicates of the primary sample, laboratory duplicates at the laboratory sub-sampling stage (post de-sliming) and laboratory re-submission duplicates to the original or alternative laboratories used by Iluka and/or Image. • Analysis of QAQC data for the drilling programmes indicates that it is of moderate to high quality and supports Mineral Resource estimation. • Three sets of mineral assemblage data have been used to estimate the ilmenite, leucoxene, rutile and zircon concentrations within the HM: – data from Iluka (magnetic separation followed by density separation using solutions of 3.85 g/cm^3 and 4.05 g/cm^3) – XRF data (after microscope examination to exclude non-representative samples e.g. laterite) – QEMSCAN data.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Image drilled a number of twin holes (within 10 m of Iluka holes). The twin holes compare favourably for HM and slimes grades. Oversize grades could not be compared as Image and Iluka use different size thresholds for oversize. • Image collected primary data on hard copy logs and also used a data logger. Data from laboratories was provided in digital form and compiled in Microsoft Access databases and spreadsheets. • Almost 33% of the assayed intervals have been analysed using a -53 µm grain size for slimes and a -710µm+53µm grain size for HM, and 66% of the data has been analysed using a -63 µm grain size for slimes and a -1mm+63um grain size for HM. Less than 1% of the HM data is from a grain size fraction of -1mm+53µm. Grain size analysis was used to generate adjustment factors that have been applied to convert the +53 µm HM data to +63 µm HM data and to convert the -53 µm slimes data to -63 µm slimes data. • Grain size analysis indicates that the zircon and TiO_2 minerals are all ≤850 µm. • Results from QEMSCAN analysis of 20 composite samples, originally analysed using XRF, were used to calibrate the results from XRF with the QEMSCAN results. • All of the 2019 samples were analysed by QEMSCAN and XRF, which was used to verify the QEMSCAN mineral counts.
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drill-hole collars at Boonanarring have been surveyed using hand-held GPS and RTK DGPS methods, with the latter method deemed most accurate. • The collar coordinates and survey ground controls have been tied to the Landgate GOLA database by a registered surveyor. • All collars for the Mineral Resource estimate have been adjusted to a LiDAR topographic model described below. • Data for Boonanarring has been surveyed in MGA Zone 50 GDA94. The Mineral Resource has been estimated in a local grid system based on a two-point transformation. This transformation has been validated by Image's survey contractor. • The topographic model for Boonanarring is based on LiDAR survey. A review of this survey by Image's survey contractor revealed that the survey had an incorrect vertical datum;

		elevations are 0.3 m higher than measured at collars using RTK DGPS. The corrected LiDAR surface was used to constrain the Mineral Resource model.
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.*	• The drill-hole spacing is generally 20 m to 40 m across strike on section lines spaced at 100 m or 200 m along strike. Several sections on Block C were infilled to 5 m by 50 m, Block B down to 5 m by 100 m and Block A to 10 m by 100 m. Some areas have been drilled at a wider spacing of up to 80 m by 400 m. • The drill database used in the resource estimate comprises 2,248 drill-holes for a total 93,175.5 m drilled by Image and Iluka between 1998 and 2019. • Samples for HM assemblage determination were composited on intervals according to a combination of grade and geology appropriate to reflect resource estimation domains. A total of 405 mineral assemblage composites (from 4,282.5 m) from within the mineralised domains were used in the Mineral Resource estimate. • The data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimation procedure and classification applied.
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.*	• All drill-holes are vertical and intersect sub-horizontal strata. This is appropriate for the orientation of the mineralisation and will not have introduced a bias.
Sample security	• *The measures taken to ensure sample security.*	• All samples are collected from site by Image's staff as soon as practicable once drilling is completed and then delivered to Image's locked storage sheds. • Image's staff deliver samples to the laboratory and collect heavy mineral floats from the laboratory, which are also stored in Image's locked storage. • Image considers there is negligible risk of deliberate or accidental contamination of samples. Occasional sample mix-ups are corrected using Images checking and quality control procedures.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The results and logging have been reviewed internally by Image's senior exploration personnel including checking of masses despatched and delivered, checking of CRM results, and verification logging of significant intercepts. • The database, sampling procedures and documentation were reviewed by Harlequin Consulting Pty Ltd in 2015. • In April 2013, CSA Global audited Robbins Metallurgical Laboratory and found the laboratory practices acceptable to support results for Mineral Resource estimation • In 2019 audits were conducted at both the Diamantina and Western GeoLabs facilities by Image contractors.

SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *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.* • *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 Boonanarring deposit is within mining leases M70/1194 (expiry 15/12/2026) and M70/1311 (expiry 11/03/2034), exploration licence E70/3041 (expiry 9/06/2020) and general-purpose licence G70/250 (expiry 7/05/2034). Image has a 100% interest in each of these licences. • M70/1311 abuts Bartlett's Well and Boonanarring Nature Reserves and Image has allowed for a 50 m buffer zone (of no mining activity) adjacent to these reserves.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Boonanarring deposit was discovered by Iluka, who drilled out the central area to a Measured Resource status. The work is well documented in reports from Iluka, prior Mineral Resource estimators McDonald Speijers (2005) and Widenbar and Associates (2013), and Harlequin Consulting Pty Ltd (2014 and 2015).
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Boonanarring is hosted in the Perth Basin, in the Pleistocene Yoganup Formation on the eastern margin of the Swan Coastal Plain. • The Yoganup Formation is a buried pro-graded shoreline deposit, with dunes, beach ridge and deltaic facies. This formation lies unconformably over the Lower Cretaceous Leederville Formation and is overlain by the Pleistocene Guildford Formation and the Quaternary Bassendean Sand. • The Yoganup Formation consists of unconsolidated poorly sorted sands and gravels, with local interstitial clay and heavy minerals that occur sporadically along the Gingin Scarp, which is interpreted to be an ancient shoreline that was stable during a period of marine regression. • Boonanarring has three major strandlines of heavy minerals, which are interpreted to have been deposited during the Pleistocene in a notch in the local basement rock that may represent an ancient sea cliff. Lower grade mineralisation is present in the sands overlying the higher-grade strandlines. • The basement to the strandline mineralisation is identified by the increased slimes content of the Leederville Formation or at the base of the Yoganup Formation. Mineralisation within this has high zircon concentrations.
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*	• Not relevant – Mineral Resource defined. Exploration results are not being reported for the Mineral Resource area.

	○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. 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.*	• Not relevant – Mineral Resource defined. Exploration results are not being reported for the Mineral Resource area. • There are no metal equivalent values assumptions applied in the Mineral Resource reporting.
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.*	• The geometry of the Boonanarring mineralisation is effectively horizontal and the vertical drill-holes used to define the Mineral Resource give the approximate true thicknesses of mineralisation.
Diagrams	• *Appropriate maps and sections and tabulations of intercepts should be included for any significant discovery being reported*	• Refer to diagrams in report
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.*	• Not relevant – Mineral Resource defined. Exploration results are not being reported for the Mineral Resource area.
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.*	• Slimes and HM grain size analysis reported under "Verification of sampling and assaying". • Bulk density and geotechnical work reported under "Bulk Density" and "Logging". • Metallurgical test results of bulk samples reported under "Metallurgical factors or assumptions".
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas*	• Drilling has been completed over the Boonanarring Northern Extension (Central Stockcare) with 83 holes totalling 3,129 m (averaging 38 m per hole). This programme has shown that the high-grade core within the eastern strandline would mainly extend under the Brand Highway and potentially further east. A

	of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	roadside drilling programme of 130 holes totalling 5,200 m (subject to Main Roads and POW approval) and the Deaken &Associates drilling of 86 holes totalling 3440 m (access agreement is waiting final signatures) will complete the Northern Extension drilling. • A 94-hole 2,511 m programme at the newly defined Boonanarring Northwestern extension was recently completed and very encouraging visual results of 2 m at 25% HM from 16 m in both holes IM01074 and IM1076 within a 50 mRL. Further drilling is planned here after further POW approvals within the water catchment areas. • The southern extension of the Boonanarring deposit into Blocks E and F covers a sizable 3.5 km distance which will be drill tested. The most eastern strand (at the 75 mRL) has 37 holes for 1,885 m designed to test the southern extension which is open, whilst in the Piggery strand the19 holes for 810 m are mainly for infill purposes as the drill density is too coarse at 20 m and sometimes 40 m spacings.

SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

Criteria	JORC Code explanation	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.* • *Data validation procedures used.*	• The drill-hole database is managed by Image and has been compiled by CSA from Image's internal databases and from databases provided by Iluka. Maintenance of the database includes internal data validation protocols by Image. • Harlequin Consulting Pty Ltd completed a high-level review of the database in 2014 and found the method of construction of the database and validation procedures are acceptable and that the data is acceptable for Mineral Resource estimation. • For the Mineral Resource estimate the drill-hole data was extracted directly from the Access drill-hole database maintained by Image. • Data was further verified and validated by Optiro using mining software (Datamine) validation protocols, and visually in plan and section views.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• Mrs Christine Standing (CP for the Mineral Resource estimate) visited the Boonanarring deposit during December 2016. • The sites of the geotechnical drill-holes and exclusion zones for reporting of the Mineral Resources were inspected.
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 effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• Three stratigraphic (Bassendean/Guildford, Yoganup and Leederville Formations) units within the deposit area were defined using a combination of total HM, slimes and oversize data and drill-hole lithological logs. • For the purposes of resource estimation, these units were used in combination with grade criteria to define the following domains: – mineralised strandlines with +2% HM – high grade HM (generally over 10%) – high grade zircon contents within the eastern strandline – top of Leederville Formation – top of Yoganup Formation – areas of high iron oxide – lower grade mineralisation (1.5% to 2% HM) that is adjacent and external to the strandlines – lower grade overlying mineralisation (+1.8% HM). • There is good confidence in the geological interpretation of the main strandlines. Confidence in the other lower grade domains is lower, as reflected by the classification.
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 heavy minerals within the Yoganup Formation have been concentrated in two main strandlines that are continuous over a north-south strike length of 13.2 km and are 100 m to 250 m wide. The strandlines are separated by sands with low concentrations of heavy minerals of 50 to 100 m in the north and the strandlines merge in the south. • Two additional strandlines, to the west and to the east of the main strandlines, are present in the southern part of the project area. The far eastern strandline has a strike length of 2.6 km and is up to 100 m wide. The far western strandline (referred to as the Piggery) has been shown from drilling to extend for approximately 4 km north-south, has an across strike width of up to 200 m and extends from 11 m to 35 m depth. The strandlines are up to 15 m thick and have an average thickness of 4.5 m.

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.* • *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.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill-hole data, and use of reconciliation data if available.*	• Image used Surpac software to develop string files of the mineralisation interpretation. Data analysis and estimation was undertaken by Optiro using Snowden Supervisor, Datamine and Gretl software. • Optiro assessed the robustness of the mineralised domains by critically examining the geological interpretation and by using a variety of measures, including statistical and geostatistical analysis. The domains are considered geologically robust in the context of the resource classification applied to the estimate. • Drill-hole sample data was flagged from the three-dimensional interpretation of the mineralised horizons. • Samples are from intervals of 0.5 m, 0.7 m, 1 m and 1.5 m and 2 m. As the majority of samples (98%) are from intervals of 1 m the data was composited to 1 m downhole intervals for resource estimation. • Extrapolation of up to 50 m along strike and approximately half the drill spacing across strike was used for the interpretation. • HM grade was estimated using ordinary kriging (OK) and inverse distance (cubed) into blocks of 5 mE by 25 mN by 1 mRL. • Slimes and oversize quantities were estimated using ordinary kriging (OK) into blocks of 5 mE by 25 mN by 1 mRL. • Zircon, leucoxene, rutile and ilmenite (VHM components) percentages within the HM fraction were estimated using inverse distance (cubed) into the parent blocks. • The mining study is to use the TiO_2 and ZrO_2 contents of the HM and the available TiO_2 and ZrO_2 data (from XRF analyses) were used to estimate block contents of TiO_2 and ZrO_2 using ID^3 techniques. • The majority of the total HM and slimes, total HM and oversize, and slimes and oversize data is uncorrelated. • Correlation coefficients of the mineral assemblage data indicate a moderate positive relationship between ilmenite and rutile, a poor positive correlation between leucoxene and rutile and poor negative correlations between zircon and the other mineral assemblage components. • Block dimensions were selected from kriging neighbourhood analysis and reflect the variability of the deposit and the model's practicality for future mine planning. Sub-cells to a minimum dimension of 1.25 mE by 6.25 mN by 0.25 mRL were used to represent volume. • The drill-hole spacing is generally 20 m to 40 m across strike on section lines spaced at 100 m or 200 m along strike. Several sections on Block C were infilled to 5 m by 50 m, Block B down to 5 m by 100 m and Block A to 10 m by 100 m. Some areas have been drilled at a wider spacing of up to 80 m by 400 m. • All variables were estimated separately and independently. • Boundary analysis was undertaken to determine the boundary conditions that were applied to the estimation of HM, slimes and oversize and the mineral assemblage components within the mineralisation domains and the high iron oxide domains. • Grade capping was applied to slimes% and oversize%. The top cut levels were determined using a combination of top cut analysis

		tools, including grade histograms, log probability plots and the coefficient of variation. • Variogram analysis was undertaken to determine the kriging estimation parameters used for OK estimation of HM, slimes and oversize and the search dimensions used for ID estimation of HM and VHM components. • HM mineralisation continuity was interpreted from variogram analyses to have continuity ranges are 830 m and 630 m along strike, 35 m and 53 m across-strike and 6.5 m and 8.8 m within the vertical direction for the eastern and western strandlines respectively. Maximum continuity ranges of 330 m along strike direction, 70 m down and 8 m in the vertical direction were interpreted for the far eastern strandline. • The along strike continuity of the zircon and the titanium minerals was interpreted from variogram analyses to have along strike ranges of 430 m and 630 m respectively. As the composite samples consist of material collected and combined within drill-holes, it was not possible to investigate the continuity of the mineral assemblage components in the vertical and across strike directions. • Kriging neighbourhood analysis was performed in order to determine the block size, sample numbers and discretisation levels. • Three estimation passes were used for HM; the first search was based upon the variogram ranges; the second search was double the initial search with reduced sample numbers required for estimation and the third search was expanded to completed grade estimation within each of the mineralised domains (up to six times the second search). Approximately 73% of the total HM block grades were estimated in the first search pass, 22% within the second search pass and the remaining 6% estimated in the third search pass. • The HM, slimes and oversize estimated block model grades were visually validated against the input drill-hole data and comparisons were carried out against the de-clustered drill-hole data and by northing, easting and elevation slices. • The VHM estimated block model grades were visually validated against the input drill-hole data and comparisons were carried out against the drill-hole data and by northing and easting slices. • Compared to the July 2017 resource estimate, the tonnage of the 2019 resource has decreased, due in part to mining, and also by the revised interpretation of the strandline mineralisation and the exclusion of material with high iron oxide contents. The additional drilling and definition of the high-grade core within the strandlines has resulted in an increase in the total HM grade has increased in the Measured Resources. The overall resource tonnes have decreased by 30%, the total HM, zircon, rutile and leucoxene grades have all increased (by 7%, 10%, 4% and 57% respectively) and the ilmenite grade has decreased (by 5%). • Production data to 30 September is in-line with the ID estimates for total HM and ZrO_2.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and*	• Tonnages are estimated on a dry basis.

	the method of determination of the moisture content.	
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The Mineral Resource estimate for the Boonanarring deposit has been reported at a 2.0% HM cut-off. This cut-off grade was selected by Image based on technical and economic assessment and current mining practises at the Boonanarring Project.
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.*	• Open pit mining methods are being used at Boonanarring. • The parent block size, selected from kriging neighbourhood analysis, is in-line with the current mining selectivity at Boonanarring. • Production data to 30 September is in-line with the ID estimates for total HM and ZrO_2.
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.*	• Mineral assemblage data within the Mineral Resource estimate has been sourced from three different assemblage programs: – data from Iluka (magnetic separation followed by density separation using solutions of 3.85 g/cm^3 and 4.05 g/cm^3) – XRF data (after microscope examination to exclude non-representative samples e.g. laterite) – QEMSCAN data. • Results from QEMSCAN analysis of 20 composite samples, originally analysed using XRF, were used to calibrate the results from XRF with the QEMSCAN results. • The QEMSCAN rules for the titanium mineral determination are as follows: – Ilmenite: 50-70% TiO_2 – Leucoxene: 70-95% TiO_2 – Rutile: >95% TiO_2 • Process metallurgical studies of bulk samples from Boonanarring were undertaken in 2013, 2015 and 2016 for the purpose of developing a process flowsheet for the deposit. • Mining and processing of the HM mineralisation commenced at Boonanarring in November 2018. Production data to 30 September is in-line with the ID estimates for total HM and ZrO_2.
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.*	• Environmental exclusion zones, within 50 m of the Bartlett's Well and Boonanarring Nature Reserves, have been defined and these areas are excluded from the reported Mineral Resource.
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*	• Revised bulk density values and formulae for the strandline mineralisation were determined using 19 bulk density measurements from the 2016 geotechnical drilling programme and 93 density measurements obtained during 2019.

	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 2019 density testwork programme was designed to test the range lithologies and mineralisation grades within the pit area. Stainless steel tubes (75 mm long with a 74 mm diameter) were used to collect the samples and the samples were dried and weighted and the dry bulk density determined. • The 2019 samples were submitted for analysis of total HM, slimes and oversize and 43 of the samples, with higher grade total HM, were submitted for XRF analysis which included determination of the ZrO_2. • A combination of lithology and grades (total HM, slimes and ZrO_2) were used to determine the density values and density formulae for the 2019 resource model.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. 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.*	• The estimate has been classified according to the guidelines of the JORC Code (2012), into Measured, Indicated and Inferred Resources taking into account data quality, data density, geological continuity, grade continuity and confidence in estimation of heavy mineral content and mineral assemblage. In plan, polygons were used to define zones of different classification within each of the mineralised domains. • Measured Resources are defined within the high-grade core of the eastern strandline where the drilling is at a spacing of 5 m to 10 m across strike on section lines spaced at 50 m to 100 m. Within the strandlines, Measured Resources are generally defined where drilling is at 20 m to 40 m on 100 m spaced section lines and where there is good coverage of mineral assemblage data. • Indicated Resources are generally defined where drilling is at 20 m to 40 m on 200 m lines, and. The overlying mineralisation is classified as indicated at best and where drilling is within 40 mE by 200 mN. • Inferred Resources are defined where the drill spacing is up to 80 m on 400 m lines.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The Mineral Resource has been reviewed internally as part of normal validation processes by Optiro. • No external audit or review of the current Mineral Resource has been conducted.
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.* • *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.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The assigned classification of Measured, Indicated and Inferred reflects the Competent Persons' assessment of the accuracy and confidence levels in the Mineral Resource estimate. • The confidence levels reflect production volumes on a monthly basis. • Mining and processing of the HM mineralisation commenced at Boonanarring in November 2018. Production data from the strandline mineralisation from the start of mining (November 2018) to 30 September is in-line with the ID estimates for total HM and ZrO_2. Depletion of the resource model by the 30 September 2019 pit surface and the base of pit polygon indicates that the mined volume is within 0.3% of the resource volume, the processed tonnage (including the stockpiles) is within 1% of the resource tonnage, the estimated total HM, zircon and ZrO_2 grades are within 5% of production and the contained total HM, zircon and ZrO_2 are with 3% of 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	JORC Code explanation	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.*	The Mineral Resource estimate used was prepared by Christine Standing of Optiro Pty Ltd and classified in accordance with the JORC 2012 guidelines. The basis of this resource estimate is as at 30 September 2019.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The 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.*	Site visit undertaken in September 2019 by Per Scrimshaw of Entech Pty Ltd (the Competent Person for Estimation and Reporting of Ore Reserves) with the purpose of the visit being to assess requirements for evaluating the updated reserve
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.*	Image Resources completed a Pre-feasibility study in 2013 and completed a Bankable Feasibility Study in May 2017. Image Resources commenced mining operations in May 2018 and processing operations in November 2018. The mine plan underpinning the economic assessment of the Ore Reserve is derived from the actual site operating budget plan. The physicals from this have been evaluated through the Image corporate financial model.
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	The cut-off grade has been calculated using optimisation software on a cashflow basis and an individual cut-off applied to each block within the model. The calculations consider, among other considerations, individual mineral and product values, operating costs and other practical considerations (including ore and overburden variabilities) and HM and product recoveries. A top of ore surface has been generated through this process, which excludes any material in the overlying mineralisation (Domain 240) as this is not considered selectively mineable. Ore material is that which passes both the cashflow cut off test and which lies underneath this surface.
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 process for converting the Mineral Resource to an Ore Reserve estimate included pit optimisation studies, followed by detailed mine design and scheduling. Pit designs and life-of-mine schedules generated as part of the Ore Reserve estimate have been reviewed by the mine site operating technical personnel and have been deemed suitable by them as a basis for site budgeting purposes.

Criteria	JORC Code explanation	Commentary
	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 truck and shovel method is employed for the mining of the Boonanarring project. The truck and shovel method is used in similar operations in Australia. Appropriate factors have been applied to the Mineral Resource by optimization and design to derive the Ore Reserves based on operating experience from the first 15 months of mining.
	The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc), grade control and pre-production drilling.	Due to the depth of the Boonanarring deposit a geotechnical study was conducted by SRK Consulting. A total of 11 holes were drilled to depths of 60m. Eastern walls are approximately 32 degrees and western walls range from 38 to 44 degrees. Grade control is conducted by a geologist in pit using panning to establish ore contacts, in conjunction with the Mine Surveyor who is used to stake out ore surfaces.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	The Resource block model used as a basis for mine planning models supporting this Ore Reserve estimate is bn_or_191206.dm. This model has been depleted for mining as at the date of the Ore Reserve estimate.
	The mining dilution factors used. *The mining recovery factors used.*	Mining dilution (1%) and recovery factors (100%) are based on current mining operations and mining techniques.
	Any minimum mining widths used.	A minimum mining width of 30m was applied. Design for Pit C includes provision for a breakthrough between east and west strands at the southern end of that Pit to ensure practical mineability.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Inferred resources were not used in the Ore Reserve reporting. However, minimal amounts of inferred material may be included in an operations schedule for internal production purposes.
	The infrastructure requirements of the selected mining methods.	Infrastructure required including office blocks, mining contractor workshop and associated facilities have been constructed and are being utilised.
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.*	The ore is processed through a wet concentration plant (WCP) to produce a Heavy Mineral Concentrate (HMC) which is shipped through the Port of Bunbury to customers with offshore Mineral Separation Plants (MSP).
	Whether the metallurgical process is well-tested technology or novel in nature	The WCP uses traditional mineral sands separation techniques. The process has been widely utilised in similar operations.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	The Metallurgical parameters have been derived from reconciled recoveries based on the first 9 months of operation. Process recoveries used for the Ore Reserve estimate are • FPP Recovery of 99% • WCP ZrO_2 Recovery of 98% • WCP TiO_2 Recovery of 90%

Criteria	JORC Code explanation	Commentary
	Any assumptions or allowances made for deleterious elements.	Deleterious materials include oversize material and clay fines which are managed as part of Image's rehabilitation management plan and mildly radioactive material, which is shipped with the HM concentrate at levels well below public safety limits.
	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.	The Ore Reserve estimation has been based on the recoveries and processes outlined above which are derived from actual operational experience in this deposit.
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Yes, mine planning filters and metallurgical recovery through to final products.
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 Boonanarring Project has been operational since 2018. All environmental, heritage and tenure approvals required under Sate and Commonwealth legislation were granted prior to operations commencing.
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.*	Image has purchased most of the land required. Mining part of Block D will require the finalisation of lease arrangements with two local landowners. The Competent Person is not aware of any reason these agreements will not be executed. Image owns and operates a WCP, feed preparation plant (FPP), pipes, pumps and power infrastructure for mining at Boonanarring. Labour has been sourced from the local area and surrounds.
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.*	Projected capital costs relate to sustaining capital only and are considered appropriate. These include suitable allowance for process related sustaining capital and an additional two FPP relocations throughout the remainder of the project life.
	The methodology used to estimate operating costs.	Boonanarring is an operating mine and the assumptions made during the BFS have been replaced by an Image maintained business model using stand cost centres and cost elements which are used for annual budgeting purposes and monthly reporting. Extracts from this model have been used to derive cost inputs unless otherwise noted. Mining costs have been estimated using current mining contract schedule of rates based on estimated haulage distances consistent with the current mine plan. HMC related cartage and port handling costs have been based on recent invoiced unit rates submitted by the haulage contractor.
	Allowances made for the content of deleterious elements.	Cost penalties are applied to deleterious elements associated with slime disposal through detailed analysis of flocculant usage following commencement of tailing co-disposal.

Criteria	JORC Code explanation	Commentary
		Product specifications deals with deleterious elements.
	The source of exchange rates used in the study.	Image monitors a range of recognised external forecasters of foreign exchange rates but ultimately the exchange rates applied are an Image assessment. An exchange rate of 0.7 USD:AUD has been used in this study.
	Derivation of transportation charges.	Transportation charges reflect contract quotes with service providers. The transportation charges are included in logistics costs. Logistics costs include provision for bagging, handling, transport to port, port costs and shipping.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Allowances for these aspects are considered within the HMC pricing model as currently applicable to offtake agreements.
	The allowances made for royalties' payable, both Government and private.	Allowances made for royalties include a 5.0% revenue royalty. There will be no landowner payments as Image intends to purchase all the land.
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.*	Revenue factors are used to establish pit sensitivities and to test for robustness of the Ore Reserve. Optimisation shells have been generated on 1% revenue increments, encompassing the bulk of the Resource. Revenue calculations for pit optimisation studies are based on a value per unit of ZrO_2 and TiO_2. ZrO_2 revenue assumptions at the southern end of the project (remaining block C and D) are approximately 7% higher than that for the northern end as the quality of the Zircon is anticipated to improve whilst mining in that area, and hence no adjustments for product quality have been applied there.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	HMC product pricing is based upon a detailed pricing model contained within Image's offtake agreements. These agreements are commercial-in-confidence; however the pricing model calculates the value of the HMC based on an agreed estimate of the value of the contained HM products (ZrO_2 and TiO_2) at Chinese CIF market prices. The underlying pricing assumptions of contained HM products (zircon, ilmenite, rutile and leucoxene) are based upon TZMI long term prices adjusted for product quality and other factors.
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.*	Market analysis is based on independent reports and Image marketing activities, with demand for mineral sands typically following global GDP.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Image produce an HMC containing ZrO_2 and TiO_2 products which are forecast to be in relatively short supply in the medium term.

Criteria	JORC Code explanation	Commentary
	Price and volume forecasts and the basis for these forecasts.	100% of Image HMC product is contracted under a life of mine offtake to two parties, with no upper or lower limits.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	HMC sales are based on assayed TiO2 and ZrO2 % within the Heavy Mineral Concentrate produced. Discounts to Premium quality Zircon prices have been allowed for within Blocks A and B. All shipments produced to date have met customer specification.
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.*	To demonstrate the Ore Reserve is economic it has been evaluated through both a high-level economic analysis using the optimisation value model, as well as a more detailed corporate financial model. This process has demonstrated the Ore Reserve generates positive period cash flows under both models. Discounted cashflows have been assessed in the high-level economic model using rates of 6%, 8% and 10%. Macro-economic assumptions used in the economic analysis of the Ore Reserves, such as foreign exchange, inflation and discount rates have been internally generated and determined through detailed analysis by Image Resources and benchmarked against commercially available consensus data where applicable.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	The optimisation shell upon which pit design was based is a shell generated at 118% of the base revenue. This shell was chosen as being the first shell closest to the Revenue Factor 1 shell to provide the most practical mining widths and continuous mining of the various pits and strands within them. Typically, the high-grade eastern strand is more economically robust than the western strand and so shell progression is more sensitive to changes in input variables in the west of the deposit. Whilst selection of a shell above RF1 does yield a small reduction in total cash over the optimal shell (RF1) it offers a significantly more practical shape for mining and slightly greater cash than not exploiting the west strand at all. Project sensitivity analysis has been undertaken within the detailed financial model on five key economic assumptions, with cash flow most sensitive to zircon price and exchange rates. At -20% individual variances to either of these variables the project remains highly economic over life of mine and generates significant positive cashflows.
Social	*The status of agreements with key stakeholders and matters leading to social licence to operate.*	Agreements are in place with current relevant stakeholders to allow the continued extraction of Ore Reserves until the last few months of the current mine plan. Negotiations are well advanced to secure access to these Reserves in the time required. IMA has a comprehensive and well received community engagement program established well before commencement of operations.

Criteria	JORC Code explanation	Commentary
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*	100% of Image HMC product is contracted under a life of mine offtake to two parties
	Any identified material naturally occurring risks.	No identifiable naturally occurring risks have been identified impacting the Ore Reserves.
	The status of material legal agreements and marketing arrangements.	Legal agreements and government approvals are in place to allow the continued extraction of the remaining Ore Reserves, with the exception of Landowner agreements for the last few months of the current mine plan. Negotiations are well advanced to secure access to the remaining Reserves in the time required.
	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.	The Boonanarring Project has been operational since 2018. All environmental, heritage and tenure approvals required under Sate and Commonwealth legislation were granted prior to operations commencing.
Classification	*The basis for the classification of the Ore Reserves into varying confidence categories.*	Mineral Resources converted to Ore Reserves as per JORC 2012 guidelines in Pits A to C and E. i.e. Measured to Proven, Indicated to Probable. In Pit D the Measured Ore has been downgraded to Probable as there is insufficient ZrO_2 and TiO_2 data to support a Proven Reserve. Most mineralogy samples have been done by Iluka using physical separation methods that do not provide elemental analysis. No Inferred category material used or reported.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The result 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).	A total of 2.02 Mt of Measured Mineral Resource at 8.3% HM has been converted to Probable Ore Reserves which represents 28% of the total declared Probable Ore Reserves (on an ore tonnage basis).
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	The Ore Reserve has been estimated by Independent consultants Entech Pty Ltd with Image providing the relevant direction and Entech providing CP signing off on the Ore Reserve. Entech have undertaken internal peer review during the process.

Criteria	JORC Code explanation	Commentary
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.*	Confidence in mine design and schedule are high as mining rates and modifying factors are based on actual site performance. Confidence in operational costs is high given the mine is in operation and costs, prices and recoveries are well understood.
	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.	The statement relates to global estimates.
	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.	Boonanarring is an on-going operation and as such there is the opportunity to compare the Ore Reserves estimation with actual production data. Historically Boonanarring has encountered positive mine grade reconciliations. This Ore Reserve estimate includes greater drilling definition and reconciliation study work now shows minimal variation and greater confidence to the block model.