image resources

8th May 2017

68% INCREASE IN MINERAL RESOURCES FOR ATLAS PROJECT

Image Resources NL (ASX: IMA) ("Image" or "the Company") is pleased to announce **a substantial increase of the total tonnes of Mineral Resources** for its 100%-owned **Atlas Minerals Sand Project** located 170 km north of Perth in the **North Perth Basin**.

As part of the bankable feasibility study being conducted for the Company's **high-grade Boonanarring and Atlas** mineral sand projects, Optiro Pty Ltd (**Optiro**) has completed an update of the Mineral Resource estimate for Atlas in accordance with the guidelines of the **JORC Code (2012).** When compared to the Mineral Resource estimate for Atlas prepared for Image in 2011, the **total Mineral Resource tonnes have increased by 68%, from 10.8 million to 18.1 million tonnes**, albeit at lower heavy mineral (HM) grade and mineral assemblage as detailed below. **Total contained HM has increased by 30% to over 1 million tonnes, from previous 840,000 tonnes.**

A summary of the Mineral Resource estimate by Optiro for the Atlas deposit as at May 2017, reported at a cut-off grade of 2.0% total HM, is presented in Table 1. The Mineral Resource summary from 2011, reported at a cut-off grade of 2.5% HM is shown in Table 2.

Table 1. 2017 Atlas Mineral Resource Summary at 2.0% HM cut-off grade

Classification	Million tonnes	HM %	Slimes %	Oversize %	% of total heavy mineral			
					Zircon	Rutile	Leucoxene	Ilmenite
Strandline Mineralisation								
Measured	9.9	7.9	16.1	5.8	10.5	7.2	4.2	49.1
Indicated	6.4	3.7	17.3	5.2	6.8	4.7	3.4	41.6
Inferred	1.8	4.0	19.9	7.2	4.8	4.4	3.3	29.0
Total	**18.1**	**6.0**	**16.9**	**5.7**	**9.3**	**6.4**	**4.0**	**46.1**

Table 2. 2011 Atlas Mineral Resource Summary at 2.5% HM cut-off grade

Classification	Million tonnes	HM %	Slimes %	Oversize %	% of total heavy mineral			
					Zircon	Rutile	Leucoxene	Ilmenite
Measured	9.7	8.3	15.3	4.5	10.9	7.1	4.1	55.5
Indicated	1.1	3.2	19.2	3.8	6.8	6.7	4.9	63.8
Total	**10.8**	**7.8**	**15.7**	**4.4**	**10.7**	**7.0**	**4.1**	**55.8**

The principal reasons for the significant increase in Mineral Resource tonnes reported in 2017 are:

- **An expanded area of mineralisation** as a result of drilling completed in 2012; and
- **Application of a lower cut-off grade** (2.0% HM versus 2.5% in 2011)

Drilling during 2012, within the southern end of the deposit, has extended the strike length of the mineralisation within the main strandline from 5.5 km to 6.5 km and the overall strike length of the mineralisation within all of the strandlines from 7.3 km to 8.3 km. This has added approximately 1.2 million tonnes of Mineral Resources. In general, the additional mineralisation in this extension area within the main strandline (of 0.6 million tonnes) has significantly lower HM grade (5.6% total HM) and a lower overall mineral assemblage value (3.4% zircon) than the previously reported main strandline mineralisation.

Although the expanded Mineral Resource estimate by Optiro is reported as substantially higher tonnes than the 2011 Mineral Resource estimate, it remains to be determined what quantity of these additional tonnes of mineralisation will translate to Ore Reserves.

The 2017 Mineral Resource estimate will be incorporated in updated mine design, modelling and scheduling for use in economic modelling of the project as part of the bankable feasibility study. A full copy of the Optiro Mineral Resource estimate summary report is attached.

Increased Mining/Processing Rate

As with the doubling of tonnes of Minerals Resources for the Boonanarring Project (announced to the ASX on 13 January 2017), this substantial increase in tonnes of Mineral Resources at Atlas will allow mining and processing to occur at a higher rate (dry tonnes per hour) than originally envisioned in the Company's 2013 feasibility study. A higher processing rate serves to increase the economy-of-scale of the project which is beneficial to overall project economics. As an added bonus, the wet concentration plant and associated equipment acquired by Image in June 2016 already has this extra processing capacity (up to 500 dry tonnes ore per hour).

Exploration Upside at Atlas

The increase in tonnes (7.3 million tonnes) of the Mineral Resources is due in large part to the addition of the Atlas south mineralisation extending the mineralised envelop to a total of length of 8.3 km. In addition, there is potential for further extensions of the deposit to the south, based on previous, wide-spaced drilling. Interpretations of ground magnetic survey data highlights an area extending up to 4 km to the south of Atlas with potential for multiple strands of mineralisation which require further drilling to assess this potential (Figure 1 below). There is a further 10 km of parallel targets in the area which have not been drill tested. Future drilling is being planned to characterise these new targets.

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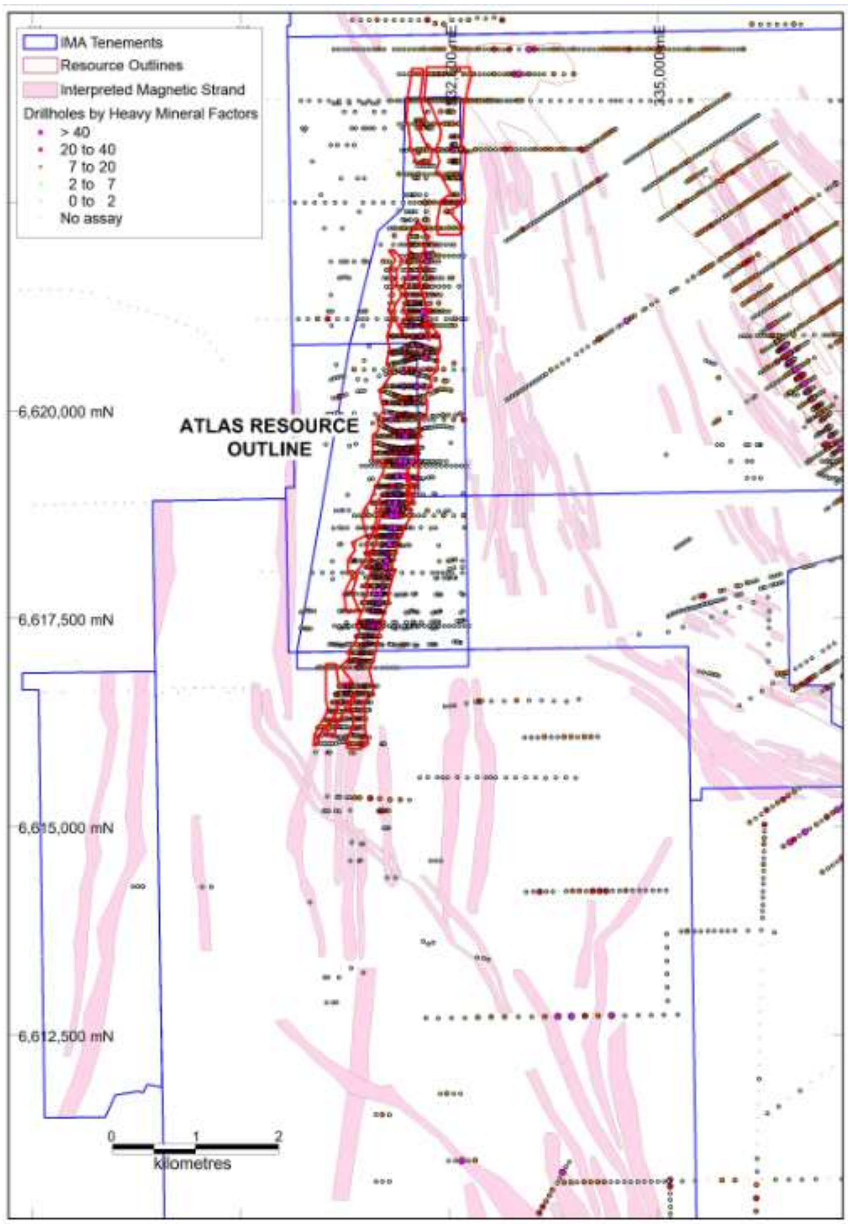

Figure 1. Atlas Mineral Resource outline and Heavy Mineral Factors plus ground magnetics signatures in pink over potential extension areas

For further information, please contact:

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COMPLIANCE STATEMENT

The information in this report that relates to the estimation of the May 2017 Mineral Resource 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.

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5 May 2017 Our Ref: J2030

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Dear Sir,

ATLAS MINERAL RESOURCE ESTIMATE – MAY 2017

Optiro has prepared an updated Mineral Resource estimate for the Atlas deposit. The Atlas Heavy Minerals Sands deposit is located in the North Perth Basin, Western Australia, approximately 170 km north of Perth.

Mineral Resource Summary

Image Resources NL (Image) prepared a Base Case Feasibility Study to assess the viability of mining and processing mineral sands from its Atlas deposit, using a Mineral Resource estimate prepared in 2011 that was classified in accordance with the guidelines of the JORC Code (2004). Optiro's updated Mineral Resource, as of April 2017, incorporates results from an additional 241 drillholes (for a total 4,681.5 m) drilled by Image during 2012 and an additional 15 composite samples that were analysed to determine the heavy mineral (HM) assemblage components. The 2017 Mineral Resource comprises data from 2,307 vertical reverse circulation (aircore) drillholes, for a total of 32,300.4 m. A total of 15,854 samples, over a total of 18,760.5 m, have been assayed. Within the interpreted strandline mineralisation the drillhole spacing is generally 20 m to 40 m across strike on section lines spaced at 100 m or 200 m along strike. Some areas have been drilled at a wider spacing of up to 50 m across strike and 300 m along strike.

The Atlas 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. The strandline mineralisation was interpreted within the Yoganup Formation using a nominal cut-off grade of 2% total heavy minerals. The heavy minerals within the Yoganup Formation have been concentrated in a main strandline which is continuous over a north-south strike length of 6.5 km and which has an across-strike width of up to 500 m. The main strandline mineralisation extends from surface to 16 m depth. It has an average thickness of 3.5 m and a maximum thickness of 12 m. Seven additional zones of strandline mineralisation have been identified to the east, west and north of the main strandline. These additional strandlines are narrower and are not as continuous along strike as the main strandline. They are oriented north-south and their strike lengths range from 0.5 km to 2.5 km. The tops of the additional strandlines range in depth from surface to 4 m and the mineralisation extends to depth of up to 22 m, with an average thickness that ranges from 1.3 m to 4 m.

The majority of samples (95%) are from intervals of 1 m and Image collected samples of ~1.25 kg for each 1 m down-hole interval. Almost 60% of samples have been analysed for total HM, slimes and oversize. Samples were analysed for total HM content by heavy media separation. Almost 97% of the assayed intervals have been analysed using a <63 µm grain size for slimes and a -1mm+63 µm grain size for total HM.

Approximately 3% of the total HM data is from a grain size fraction of -2mm+53 µm. Grain size analysis was used to generate adjustment factors that have been applied to convert the +53 µm total HM data to +63 µm total HM data.

The Mineral Resource includes the results of 65 composite samples (from 326 drillholes totalling 1,168 m) which were analysed to determine the heavy mineral assemblage. The majority of the mineral assemblage data (over 98%) is from QEMSCAN analysis. The QEMSCAN rules for the titanium mineral determination are ilmenite - 50-70% TiO2; leucoxene - 70-95% TiO2, and rutile - >95% TiO2. Mineral assemblage data from one composite sample analysed by grain counting, from within the northern area of the main strandline, has also been used.

Total heavy minerals, slimes and oversize block grades were estimated using ordinary kriging techniques with top-cuts applied to the data. Block grades were estimated for the mineral assemblage components (ilmenite, rutile, leucoxene and zircon) using inverse distance (squared) techniques.

Bulk density was determined using a formula supplied by Image and adjusted by Optiro following calibration of the formula with density data from Image's Boonanarring deposit (also in the North Perth Basin). The formula is based upon heavy mineral and slimes percentage concentrations and includes assumptions about void space and mineral densities.

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. Within the main strandline the majority of the drilling is at 10 m to 25 m on 50 m to 150 m spaced section lines and Measured Resources have been defined where the mineral assemblage data is from QEMSCAN analysis. Indicated Resources have been defined within a small area within the northern area of the strandline where the mineral assemblage the mineral assemblage data is from grain counting analysis. Within the less continuous additional strandlines Indicated Resources have been defined where the majority of the drilling is at 25 m to 40 m on 50 m to 300 m spaced section lines and mineral assemblage data is available. Inferred Resources have been defined within areas where there is limited or no mineral assemblage data.

The Mineral Resource estimate for the Atlas deposit has been reported in Table 1 at a 2.0% total heavy minerals cut-off grade. This cut-off grade was selected by Image based on technical and economic assessment carried out during the 2017 Pre-Feasibility Studies. The Mineral Resource is reported for the main strandline and the additional strandlines and for a range of total heavy minerals cut-off grades in Table 2.

Table 1 Atlas Mineral Resource as at May 2017 reported above a cut-off grade of 2.0% total heavy minerals

Classification	Million tonnes	Total heavy minerals %	Slimes %	Oversize %	% of total heavy mineral			
					Zircon	Rutile	Leucoxene	Ilmenite
Measured	9.9	7.9	16.1	5.8	10.5	7.2	4.2	49.1
Indicated	6.4	3.7	17.3	5.2	6.8	4.7	3.4	41.6
Inferred	1.8	4.0	19.9	7.2	4.8	4.4	3.3	29.0
Total	**18.1**	**6.0**	**16.9**	**5.7**	**9.3**	**6.4**	**4.0**	**46.1**

Notes:
1. Reported above a cut-off grade of 2.0% total heavy minerals (THM).
2. Atlas Mineral Resource has been classified and reported in accordance with the guidelines of JORC Code (2012).
3. THM 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 THM component of the deposit, as determined by QEMSCAN and grain counting methods. QEMSCAN rules used for mineral determination are: ilmenite: 50-70% TiO_2; leucoxene: 70-95% TiO_2; rutile: >95% TiO_2
5. All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal.

Table 2 Atlas Mineral Resource reported by strandline and for a range of cut-off grades

Cut-off % total heavy minerals	Million tonnes	Total heavy minerals %	Slimes %	Oversize %	% of total heavy mineral			
					Zircon	Rutile	Leucoxene	Ilmenite
Main Strandline mineralisation								
1.5	10.5	7.7	15.9	5.7	10.4	7.2	4.2	49.1
2.0	**10.5**	**7.7**	**15.9**	**5.7**	**10.4**	**7.2**	**4.2**	**49.1**
2.5	10.3	7.8	16.0	5.7	10.4	7.2	4.2	49.1
Additional strandlines								
1.5	7.7	3.7	18.3	5.8	6.0	4.2	3.3	37.7
2.0	**7.6**	**3.7**	**18.3**	**5.8**	**6.0**	**4.2**	**3.3**	**37.7**
2.5	6.8	3.9	18.3	5.9	6.0	4.2	3.2	37.6
Total								
1.5	18.2	6.0	16.9	5.7	9.3	6.4	4.0	46.1
2.0	**18.1**	**6.0**	**16.9**	**5.7**	**9.3**	**6.4**	**4.0**	**46.1**
2.5	17.1	6.2	16.9	5.8	9.4	6.5	4.0	46.2

Open pit mining methods will be used, similar to those commonly and currently in use in heavy mineral sand mining operations both in Australia and globally. Process test work has shown that the valuable heavy minerals (zircon, ilmenite, rutile and leucoxene) can be recovered using standard mineral sands processing techniques.

Compliance Statement

The information in this report that relates to the estimation of the May 2017 Mineral Resource 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.

Yours sincerely

BSC Hons (Geology), MSc (Min Econs), MAusIMM, MAIG
Principal Consultant

Attachment: JORC Table 1

The table below summaries the assessment and reporting criteria used for the Atlas 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 representivity and the appropriate calibration of any measurement tools or systems used.*** • ***Aspects of the determination of mineralisation that are Material to the Public Report.***	• **Sampling of the deposit has been by vertical reverse-circulation air-core method (RCAC). This is a mineral sands industry-standard drilling technique.** • **Samples are from intervals of 1 m, 1.5 m and 2 m. Single isolated intervals of 0.2 to 0.5 m have been used. Around 74% of the samples are from 1m, 6% are from 1.5 m and 20% are from 2 m intervals.**
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• All Image RCAC drillholes are drilled vertically using an NQ-sized (76 mm diameter) drill bit. • All Iluka RCAC drillholes 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.
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 or 2 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. • Image has recorded that over 90% of the samples have good recovery and that less than 5% have moderate recovery and less than 5% have poor recovery. • Image also monitors recovery through the mass of the laboratory sample, which is recorded prior to despatch and again on delivery to the laboratory. The mass variation in the laboratory samples can then be correlated back to the original total sample.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• 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 sands, 'slimes' (clays), and oversize (rock chips) in each sample, in a semi-quantitative manner. • The geologist also logs colour, grainsize, 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 pre-set logging codes. No photographs of samples are taken. • 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% total HM (by weight) are despatched for analysis along with the intervals above and below the mineralised interval. • The level and detail of logging is of sufficient quality to support

		Mineral Resource estimates (MRE). • All (100%) of the drilling is logged.
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 representivity 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.*	• Approximately 60% of samples were analysed for total heavy minerals (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 two 25 cm by 35 cm calico bags (as the laboratory despatch and reject samples. The rotary splitter directs ≈10 increments from the stream to the laboratory despatch samples, for a specified sampling interval. • For resource definition drilling, two (replicate) 1/8 mass splits (each ≈ 1.25 kg) are collected from the rotary splitter into two pre-numbered calico bags for each 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 metallurgical composites. • Iluka is understood to have used a similar procedure, 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 quality control ensures no 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 adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Image and Iluka used industry standard approaches to estimating the contents of HM, slimes and oversize involving washing slimes from samples, then extracting the heavy minerals from the residual sands using heavy media. • Image engaged two laboratories (Western GeoLabs and Diamantina Laboratory). • Image inserted CRMs for assaying undertaken in 2016. • Both Iluka and Image collected duplicate samples, including field duplicates of the primary sample and laboratory duplicates at the laboratory sub sampling stage (post de-sliming). • Analysis of QAQC data for the drilling programs indicates that it is of moderate to high quality and supports resource estimation. • Three sets of mineral assemblage data (two sets of QEMSCAN data and grain counting data) have been used to estimate the ilmenite, leucoxene, rutile and zircon concentrations within the total HM.
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 collected primary data on hard copy logs and also using a data logger. Data from laboratories was provided in digital form and compiled in Microsoft Access databases and spreadsheets. • Approximately 97% of the assayed intervals have been analysed using a 63 µm sieve and almost 3% of the data having been analysed using a 53 µm sieve. • In 2017, 28 samples of -2mm+53 µm HMC were screened at 63 µm to assess the total HM in the -63 µm fraction. This data was used to determine an adjustment factor to derive estimates of the % total HM within the -63 µm fraction from the % total HM within the -53 µm fraction for samples where the % total HM from the -63 µm fraction was not available.

Location of data points	• *Accuracy and quality of surveys used to locate drillholes (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.*	• Drillhole collars at Atlas have been surveyed using hand-held, DGPS 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 MRE have been adjusted to a LiDAR topographic model described below. • Data for Atlas has been surveyed in MGA Zone 50 GDA94. The mineral resource has been estimated in the same coordinate system due to the north-south trending nature of Atlas. The topographic model for Atlas is based on LiDAR survey. A review of this survey by Image did not produce any significant variation in the resource.
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 drillhole spacing is generally 20 m to 40 m across strike, on section lines spaced at 100 m or 200 m along strike. 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 2,307 drillholes for a total 32,300.35 m drilled by Image, TiWest, RGC and Iluka between 1989 and 2012. • Samples for HM assemblage determination were composited on intervals according to a combination of grade and geology appropriate to reflect resource estimation domains. • 65 composites from 326 drillholes totalling 1,168 m were used in the 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 drillholes 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.

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 Atlas deposit is within pending mining lease M70/1305 (application 17/01/2012; exploration licences E70/2636 (expiry 19/02/2018), E70/2898 (expiry 13/11/2017), E70/3997 (expiry 10/10/2017) and prospecting licence P70/1516 (expiry 27/05/2017). Image has a 100% interest in each of these licences.**
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Atlas deposit was discovered by RGC, which drilled out the deposit to an Inferred Resource Status. The work is well documented in reports from Iluka, and prior Mineral Resource estimator Widenbar and Associates (2011).
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Atlas is hosted in the Perth Basin, in surficial marine sediments eroded into Cretaceous basal sediments during the Pleistocene marine transgressions. • The host sediments consist of unconsolidated well sorted sands and clayey sands, sitting over basal sediments of very fine to granular or pebbly, poorly sorted sands and clayey sands. • Atlas has one major strandline of heavy minerals, with 7 minor strandlines interpreted to the north, east and west. • The basement to the strandline mineralisation is identified by the decrease in mineralisation.
Drillhole information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* ○ *easting and northing of the drillhole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.*	• Not relevant – Mineral Resource defined. Exploration results are not being reported for the Mineral Resource area.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• 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 drillhole angle is known, its nature should be reported.*	• The geometry of the Atlas mineralisation is effectively horizontal and the vertical drillholes 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 figures 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".
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Image is planning infill drilling to allow a likely upgrade of the northern Indicated part of the resource to Measured. Image is also planning an extensional exploration programme to the north of Atlas.

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 drillhole database is managed by Image. Maintenance of the database includes internal data validation protocols by Image. • For the Mineral Resource estimate the drillhole data was extracted directly from Image's Micromine database. • 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) has not visited the Atlas deposit. She has visited other mineral sands deposits and operations within the North Perth Basin.
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.*	• The Yoganup Formation was defined using a combination of slimes and oversize data and drillhole lithological logs. • For the purposes of resource estimation, this unit was used in combination with grade criteria (nominal cut-off grade of 2% total HM) to define a main strandline and seven additional strandlines to the north, west and east of the main strandline. • There is good confidence in the geological interpretation of the main strandline. Confidence in the other strandlines 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 main strandline mineralisation has been shown from drilling to extend for approximately 6.5 km north/south and has an across strike width of up to 500 m. The strandline mineralisation extends from surface to 16 m depth. • Seven additional zones of strandline mineralisation have been interpreted to the north, east and west of the main strandline. Strike lengths range from 0.5 km to 2.5 km and they extend from surface to depth of 22 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*	• Datamine resource estimation software was used to create a geological model and define the mineralisation envelopes. A series of mineralised domains was used to constrain the Mineral Resource estimate. • Wireframe interpretations of mineralisation were made by Optiro based on geological logging and HM content, using a threshold of ~ 2% HM to define the strandline mineralisation. • Optiro assessed the robustness of these 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. • Drillhole sample data was flagged from the three dimensional interpretation of the mineralised horizons. • Samples are from intervals of 0.2 m, 0.25 m, 0.3 m, 0.5 m 1 m, 1.5 m and 2 m. As the majority of samples within the interpreted mineralisation (82%) 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. • Total HM, slimes and oversize quantities were estimated using ordinary kriging (OK) into blocks of 10 mE by 50 mN by 1 mRL.

	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 drillhole data, and use of reconciliation data if available.*	• Zircon, leucoxene, rutile and ilmenite (VHM components) percentages within the HM fraction were estimated using inverse distance (ID) into the parent blocks. • 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 2.5 mE by 12.5 mN by 0.5 mRL were used to represent the volume of the strandlines and sub-cells to minimum dimension of 1.25 mE by 6.25 mN by 0.25 mRL were used for definition of the 0.5 m soil horizon. • The drillhole spacing is generally 20 m to 40 m across strike, on section lines spaced at 100 m or 200 m along strike. Some areas have been drilled at a wider spacing of up to 80 m by 400 m. • Data analysis and estimation was undertaken using Snowden Supervisor and Datamine software. • All variables were estimated separately and independently. • Hard boundaries were applied to the estimation of HM, slimes and oversize and the VHM components within the mineralisation domains. • Grade capping was applied to HM%, 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 the VHM components. • HM mineralisation continuity was interpreted from variogram analyses to have an along strike range of 390 m and an across strike range of 40 m within the main strandline. Within the other mineralised strandlines HM mineralisation has an along strike range of 485 m and an across strike ranges of 40 m. • The VHM continuity was interpreted from variogram analyses to have an along strike range of 1,280 m and an across strike range of 240 m. • 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 two times the initial search and the third search was up to five times the initial search with reduced sample numbers. The majority of blocks (76%) were estimated in the first pass, 23% in the second pass and 1.4% in the third pass. • The HM, slimes and oversize estimated block model grades were visually validated against the input drillhole data and comparisons were carried out against the declustered drillhole data and by northing, easting and elevation slices. • The VHM estimated block model grades were visually validated against the input drillhole data and comparisons were carried out against the drillhole data and by northing and easting slices.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages have been estimated on a dry basis.

Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The Mineral Resource estimate for the Atlas deposit has been reported at a 2.0% total HM cut-off. This cut-off grade was selected by Image based on technical and economic assessment carried out during Feasibility Studies.
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 will be used, similar to those commonly and currently in use in HM mining operations both in Australia and globally. • Image has assumed mining by conventional truck and shovels, with dozers used to improve vertical selectivity.
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 programmes: – Grain counting data (1 composite) – QEMSCAN data from Bureau Veritas (47 composites) – QEMSCAN data from SGS (17 composites). • 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 • Image considers there are no metallurgical factors which are likely to affect the assumption that the deposit has reasonable prospects for eventual economic extraction.
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.*	• Image is intending to complete environmental studies at Atlas. At present Image considers there are no environmental factors which are likely to affect the assumption that the deposit has reasonable prospects for eventual economic extraction.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Previous resource estimates (2008, 2009 and 2011) used bulk density values predicted from an industry-standard formula which accounts for the total HM and slimes content of heavy mineral sand deposits. • Bulk density testwork at Image's Boonanarring deposit found that this formula overstated the bulk density. The formula was calibrated with the 2016 data at Boonanarring and the updated formula was used for estimation of the bulk density for the 2017 Atlas Mineral Resource estimate.

Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• 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 main strandline where drilling is at 10 m to 20 m on 100 m to 150 m spaced section lines and mineral assemblage data is from QEMSCAN analysis. – Indicated Resources are defined within the main strandline where the mineral assemblage has been estimated from grain counting data and within the additional strandlines where drilling is generally at 20 m to 40 m by 200 m and where there is mineral assemblage data. – Inferred Resources are defined where there is limited or no mineral assemblage data.
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. • No production has occurred from the deposit.