ASX ANNOUNCEMENT

23 March 2016

New Ore Reserve points to 15+ year mine life at Keysbrook

- Total Ore Reserves **increased 277% to 72Mt @ 2.2% HM**
- Ore Reserve comprises high-value Leucoxene and Zircon products
- Keysbrook mine life increased to over 15 years
- Ore Reserve footprint covers less than 50% of Keysbrook Global Mineral Resources
- Further conversion of Mineral Resources to Ore Reserves
- Significant potential to grow Keysbrook Mineral Resources with mineralisation open to the north, south and west.

MZI Resources Ltd (ASX:MZI) is pleased to announce it has almost trebled Ore Reserves at its newly commissioned Keysbrook Mineral Sands Project, 70 km south of Perth in Western Australia.

The December 2015 Keysbrook Ore Reserve is estimated at 72 Million tonnes grading 2.2% Total Heavy Minerals (THM), a **277% uplift in tonnes** when compared to the previous Ore Reserve completed in 2012. The main driver for the increase is the substantial increase in Mineral Resources announced in August 2015[1]. At current production rates of approximately 4.5Mt per annum of Ore, the increase in Ore Reserves extends the expected mine life of the Keysbrook Project almost threefold from 5.5 years to 16 years.

All Ore Reserves are at surface, with no waste removal requirement.

Within the Ore Reserves envelope, **MZI has identified an inventory of higher grade Ore comprising 26Mt @ 2.7% HM** (or approximately 6 years of production at current rates) which it intends to focus on in the near term.

MZI Managing Director Trevor Matthews said *"This very significant increase in total Ore Reserves at Keysbrook clearly demonstrates the enormous underlying value of this world-class deposit and formally confirms the potential for Keysbrook to be a long-life, low-cost producer of premium quality mineral sands products.*

"Furthermore, we have still only scratched the surface, with almost half of all Mineral Resources at Keysbrook still sitting outside the current Ore Reserve footprint, and the Keysbrook mineralisation itself still open along strike to the north, south and west.

"We fully expect to progressively convert more Mineral Resources to Ore Reserves over time, as well as further optimise production to better capitalise on the scale of the Keysbrook deposit and the opportunity it presents to MZI."

All Ore Reserves are contained within Keysbrook's previously reported total Global Mineral Resources of 155Mt @ 2.0 HM, using a 1.0% HM cut-off[1]. Mineral Resources are reported inclusive of Ore Reserves.

[1] Refer to ASX release dated 7 August 2015

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The current Ore Reserve footprint covers less than 50% of total Global Mineral Resources, while the resource-to-reserve conversion ratio (of Measured and Indicated) within the Ore Reserve footprint is extremely high at approximately 80%.

Ore Reserves have been prepared in accordance with the 2012 JORC code and reflect the previously released Keysbrook Feasibility Study, as well as data and experience garnered since the commencement of operations in October 2015. Material underlying assumptions used in the feasibility study have not materially changed and continue to apply, except where indicated. The Ore Reserves are based on extensive infill drilling, sampling, geological interpretation, market factors, and existing and expected future approvals and prepared by independent consultancy Optiro Pty Ltd.

Importantly, MZI expects to further extend the mine life over time through converting additional Mineral Resources as well as through further exploration drilling given Keysbrook mineralisation remains open to the north, south and west.

Proved and Probable Ore Reserves are depicted in Table 1.

Table 1 - Keysbrook Proved and Probable Ore Reserves at 31 December 2015

Classification	Ore tonnes (million)	In situ THM tonnes (million)	THM Assemblage				
			THM grade %	L70 %	L88 %	Zircon %	Other %
Proved	54.1	1.2	2.2	25.5	50.2	13.4	10.6
Probable	18.0	0.4	2.2	28.5	46.4	14.1	10.9
Total	72.1	1.6	2.2	26.3	49.3	13.6	10.7

Notes accompanying the Ore Reserve Statement:

1. *Ore Reserves are based upon a cut-off grade of 1.0% THM and Mineral Resource material containing more than 20% slimes have been excluded from the Ore Reserves estimation.*
2. *The Ore Reserves are based upon TZMI forecast pricing and offtake pricing.*
3. *Mineral Resources have been reported as inclusive of Ore Reserves.*
4. *The Total Heavy Mineral (THM) assemblage is reported as a percentage of in situ THM content.*
5. *Tonnes and grade data have been rounded to one significant figure. Discrepancies in summations may occur due to rounding.*
6. *This Ore Reserve statement has been compiled in accordance with the guidelines of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code – 2012 Edition).*
7. *The Ore Reserves have been compiled by Jean-Pierre Adams (MAusIMM) of MZI, under the direction of Andrew Law of Optiro, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Law has sufficient experience in Ore Reserve estimation relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves".*

Mr Law consents to the inclusion in the report of the matters compiled by him in the form and context in which it appears.

Summary of Material Information

Most material underlying assumptions used in the estimation of Ore Reserves have not fundamentally changed from those used in the Feasibility Study in October 2014, and continue to apply, except where modified to reflect changes to economic factors as indicated. In particular, commodity price and foreign exchange rate assumptions have been amended to reflect changes in economic conditions and forecasts since the Feasibility Study was completed. The revised Ore Reserves estimate incorporates pricing sourced from TZMI and is reflective of current markets.

The Ore Reserves Estimate is based solely on Measured and Indicated Resources previously reported for the Keysbrook Deposit in August 2015. Measured and Indicated Mineral Resources were converted to Proved and Probable Ore Reserves respectively, subject to mine designs, modifying factors and economic evaluation. The Ore Reserves do not include any Inferred Mineral Resources at the Keysbrook Deposit, or any Mineral Resources reported for the Yangedi or Railway Deposits, which are located nearby and are included in Keysbrook's total reported Global Mineral Resources. Figure 1 and Figure 2 in the appendix show the Keysbrook and Yangedi Deposits in more detail, with Figure 3 and Figure 4 showing cross sections through the western and eastern areas of the deposit illustrating the continuity of grade across the resource, as well as the geological continuity and potential for further extensions to the resource.

Mining and processing methods and assumptions, including recovery and dilution factors, remain fundamentally unchanged from the Feasibility Study and continue to apply. Mining and processing operations, based on these assumptions, commenced in October 2015. As indicated, a mining cut-off grade of 1.0% Heavy Minerals continues to apply to both Ore Reserves and Mineral Resources, consistent with previous estimates and actual mining practice.

Material modifying factors remain fundamentally unchanged from the Feasibility Study and continue to apply, based on environmental and land access approvals or agreements, infrastructure requirements and transportation arrangements. MZI has a reasonable expectation that any future necessary approvals will be attained as required based on the Company's successful record of securing all approvals and agreements needed for the Project to be developed and commence production.

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Competent Person's Statements – Ore Reserves

The information in this report has been compiled by Jean-Pierre Adams (MAusIMM) of MZI, under the direction of Andrew Law of Optiro, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Law has sufficient experience in Ore Reserve estimation relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Mr Law consents to the inclusion in the report of the matters compiled by him in the form and context in which it appears.

APPENDIX 1

The following figures show the location of the Keysbrook Global Mineral Resources from which the Ore Reserves have been derived, along with the Company's exploration licences.

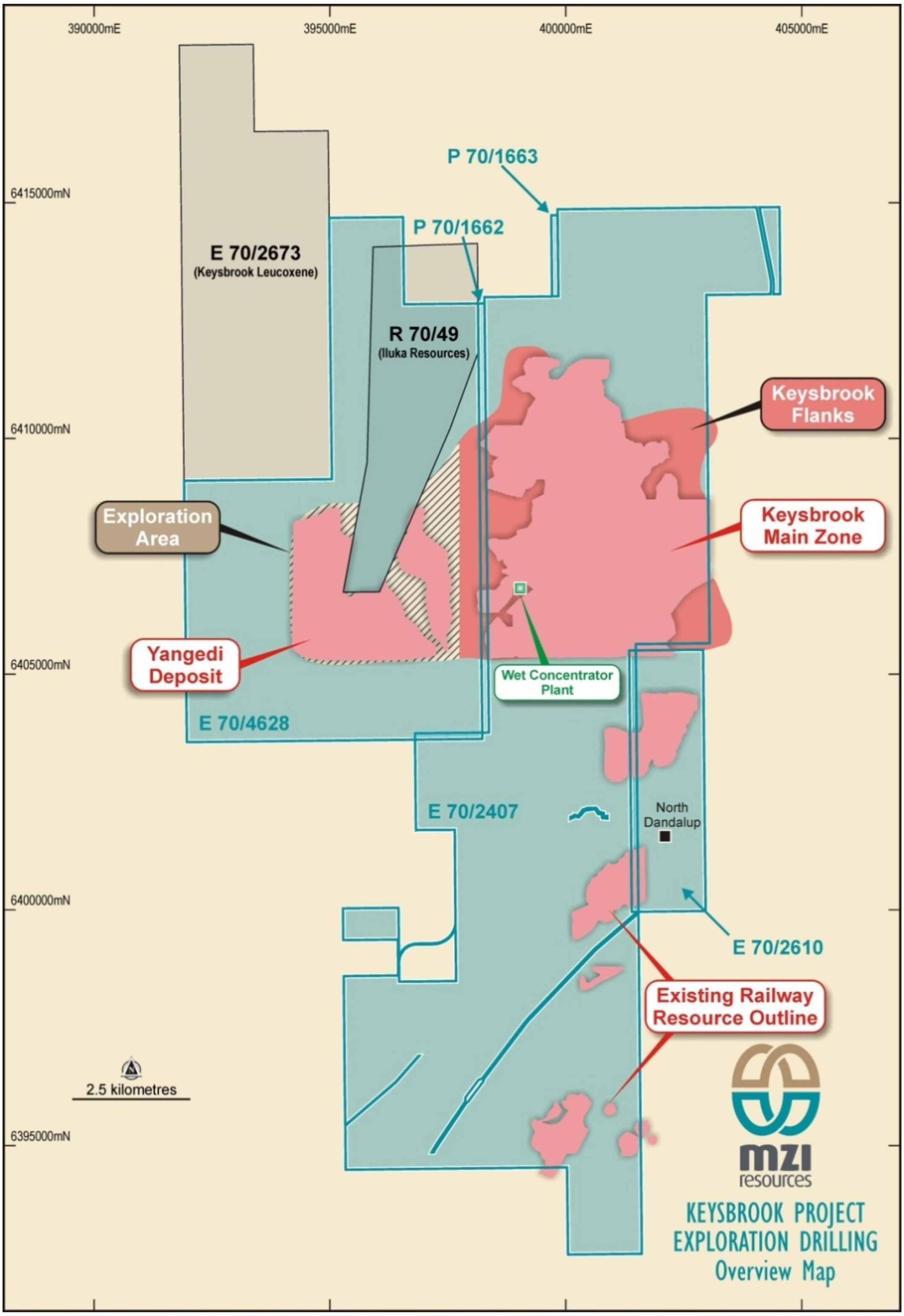

Figure 1 - Location of the Keysbrook, Yangedi and Railway Deposits and the associated lease boundaries

APPENDIX 1

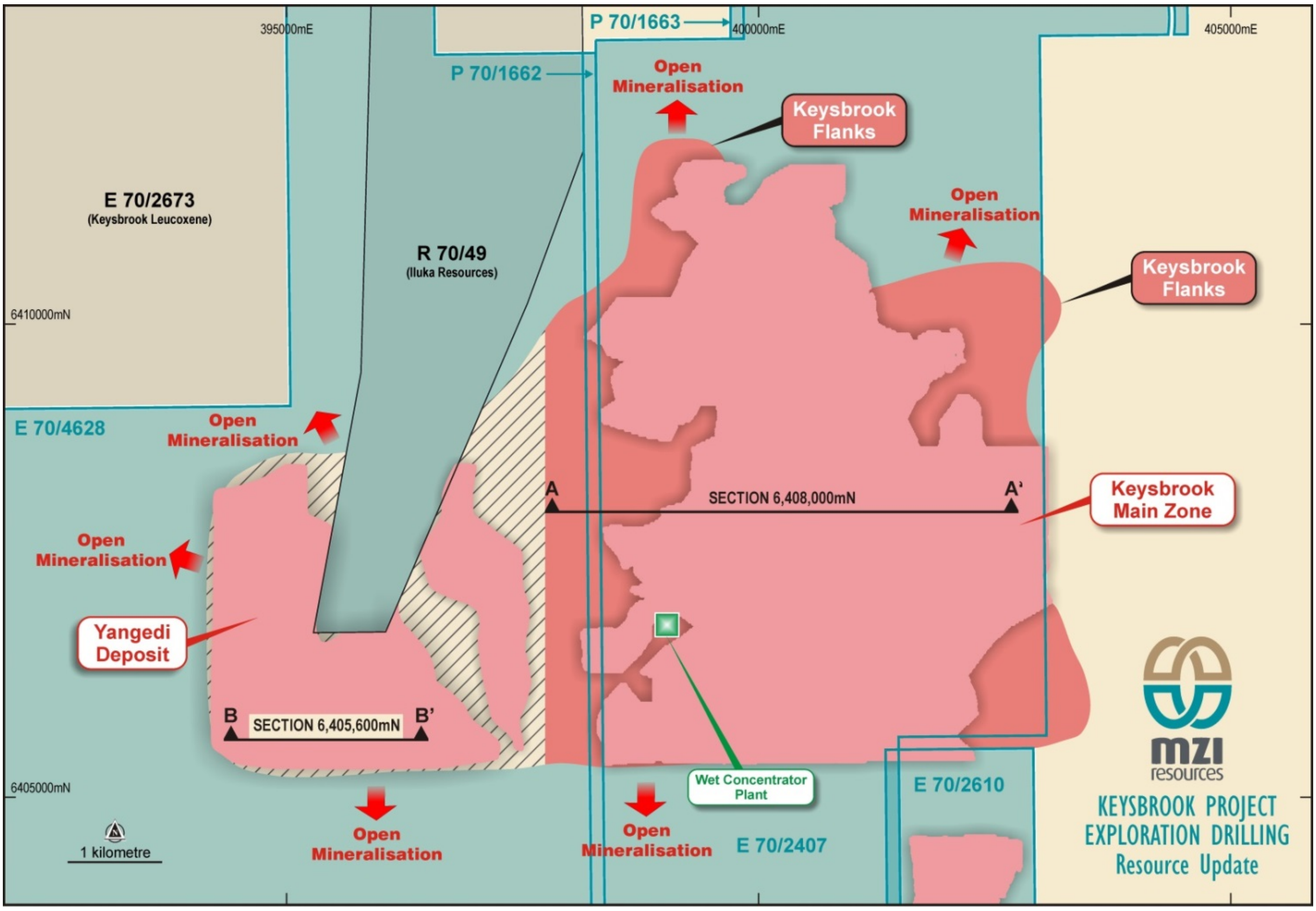

Figure 2 – Location of the Keysbrook and Yangedi Deposits

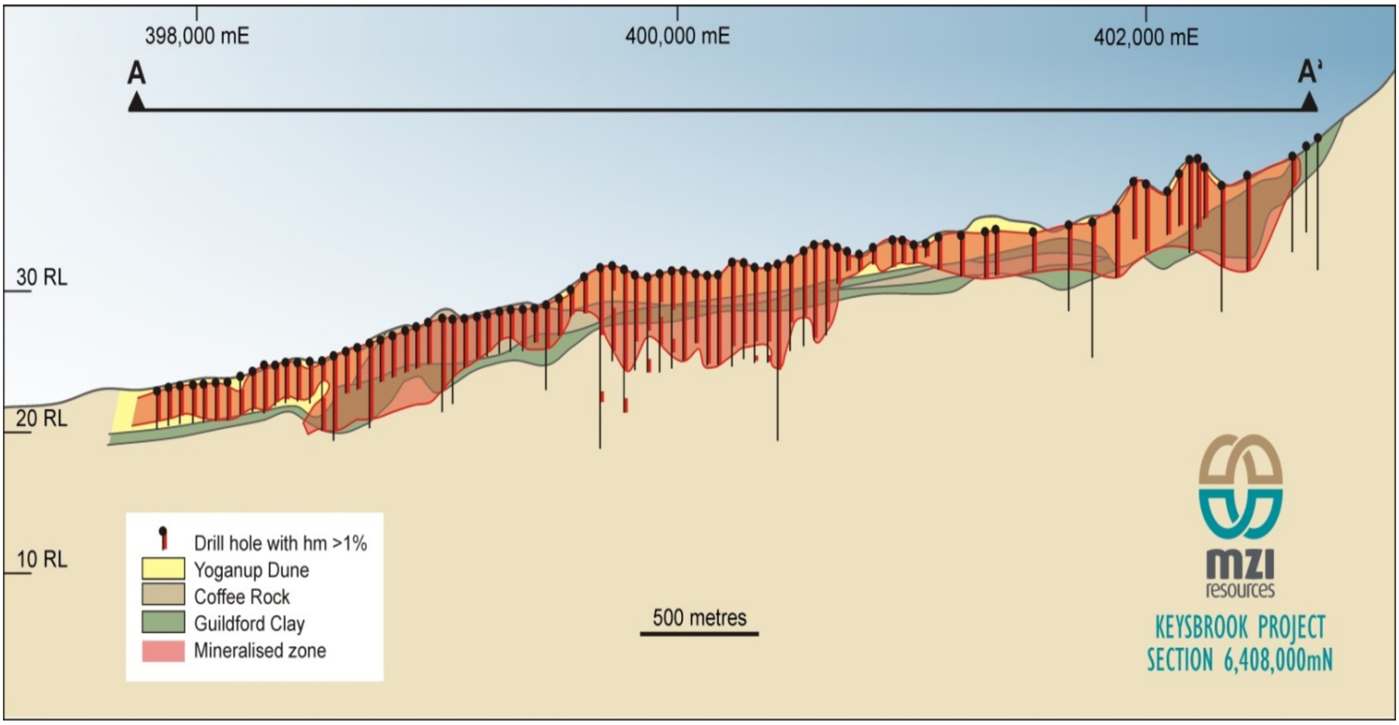

Figure 3 – Section A-A' across Keysbrook Main Zone and Keysbrook Flanks

APPENDIX 1

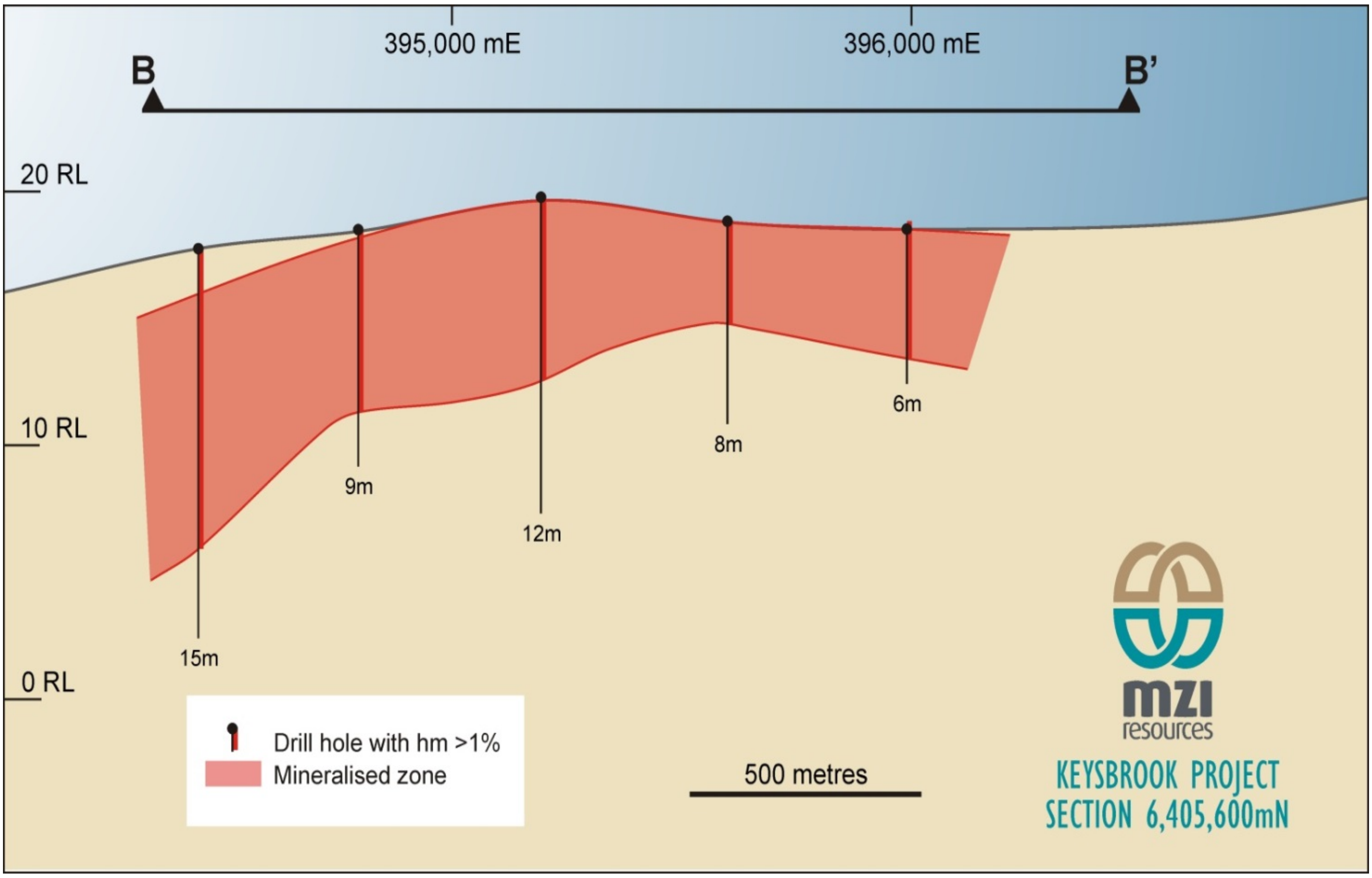

Figure 4 – Section B-B' across the Yangedi Deposit

APPENDIX 2 - JORC Code, 2012 Edition – Table 1 report

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	▪ *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* ▪ *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* ▪ *Aspects of the determination of mineralisation that are Material to the Public Report.* ▪ *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	▪ All samples analysed individually for THM, clay (-45um) and oversize (+2mm). ▪ Sample collection (2003-2008): samples collected into buckets from cyclone then placed into calico bags. ▪ Sample collection (2010): samples from auger tipped onto mat on ground then collected into calico bags. ▪ Sample collection (2012) – samples collected in a calico bags via a rotary splitter attached to the bottom of the cyclone. ▪ Sample collection (2015) - samples collected in sample bucket, thoroughly homogenised by hand and placed into 2kg calico bags. Initial intent to pass through rotary splitter, however damp nature of some samples and splitter design resulted in extensive contamination issues, so splitter was removed. ▪ Sample Analysis (March 2004): Western Geochem Labs. OS>2mm, SL -45um. TBE analysis on -2mm +45um. ▪ Sample Analysis (August 2004): Western Geochem Labs or Dunelabs. Western Geochem Labs screen +3.3mm, -45um wet screen; OS screen +2mm. TBE analysis on -2mm +45um. ▪ Dunelabs screen -3.3mm fraction at 0.7mm, weigh. Screen -0.7mm fraction at -45um. TBE analysis on -0.7mm + 45um fraction. ▪ Sample analysis (2006): Western Geochem Labs -45um wet screen; OS screen +2mm. TBE analysis on -2mm +45um. ▪ Sample Analysis (2007-2015): Diamantina Laboratories. Samples dried, rotary split to 100g then deslimed (no TSPP). Material was screened at -45um and +2mm and placed into TBE with an SG of 2.95g/cc for heavy media separation. Cleaned with acetone, then dried, weighed and calculations compiled.
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).*	▪ 2003, March 2004: Wallis Edson 3000 Versadrill truck mounted aircore rig. ▪ August 2004, 2006: Orbit drilling Mantis 100 4WD mounted aircore rig. ▪ 2007, 2008: OnDrill Mantis 100 Canter mounted aircore rig. ▪ 2010: Hand auger. ▪ 2012-2015: Drilling completed using Arrinooka Drilling utilising a Hydco RAB50 truck-mounted drilling rig. ▪ All aircore drilling completed with NQ sized (3½") Aircore rods.
Drill sample recovery	▪ *Method of recording and assessing core and chip sample recoveries and results assessed.* ▪ *Measures taken to maximise sample recovery and ensure representative nature of the samples.* ▪ *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	▪ Sample quality recorded during drilling. ▪ All observations logged into spreadsheet based system at the drill site.
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.*	▪ Logging of rock types, quality, hardness, washability and grain size undertaken in field. Panned estimate of clay fines, oversize and heavy mineral also completed. Photography not taken. All intervals logged.

APPENDIX 2 - JORC Code, 2012 Edition – Table 1 report

Criteria	JORC Code explanation	Commentary
	▪ *The total length and percentage of the relevant intersections 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.*	▪ 2003-2008: samples collected via a rotary splitter into calico bags. ▪ 2010: auger samples not subsampled – complete 1m sample placed in calico bag for analysis. ▪ 2012: samples collected via a rotary splitter into calico bags. ▪ 2015: ▪ Samples collected in sample bucket, thoroughly homogenised by hand and placed into 2kg calico bags. Initial intent to pass through rotary splitter, however damp nature of drilling and design resulted in extensive contamination issues, so splitter was removed. ▪ Duplicate samples taken at a rate of 1 in 25. Samples taken as a second 2kg grab from homogenised bucket of sample. ▪ Refer to sample preparation and analysis technique above. ▪ Results from duplicate sampling show good correlation.
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.*	▪ Heavy media separation using Tetrabromylethane - appropriate method. ▪ 2015: ▪ Twin holes drilled at 1 in 20 ratio. ▪ Standards inserted at a rate of 1 in 25 samples. ▪ Blanks inserted at rate of 1 in 50 samples. ▪ Duplicate samples taken at a rate of 1 in 25 samples.
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.*	▪ A program of twin holes was completed in 2013 to test 5% of each historical program drilled up to 2012, using the push probe drilling method. This program was used to identify potential bias in the aircore method used during any of the programs. No bias was identified. ▪ 2015: ▪ Twin holes drilled at 1 in 20 ratio. ▪ Data stored in Micromine logging files and backed up via Email nightly. ▪ Compilation of analysis with geological interpretation into a single working sheet was undertaken by an MZI Geologist, with problems identified and rectified prior to inclusion in resource.
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.*	▪ Approximately 90% of the drillholes in the resource estimate have been located via RTK DGPS, with an accuracy of 0.1m lateral and 0.25m vertical. ▪ Approximately 10% of the drillholes have been located via handheld GPS in MGA94. ▪ Topographic coverage: accurate LIDAR data was captured with 0.5m vertical contour intervals with a 0.3m accuracy.
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.*	▪ Drill spacing used for the resource estimate ranges from 50m by 25m to 400m by 200m. ▪ Individual 0.5m samples collected over areas where grade control drilling has been undertaken. Individual 1m samples taken for all other drilling.
Orientation of data in relation to geological	▪ *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	▪ Mineralisation is flat lying. All holes are vertical and perpendicular to geology and mineralisation and no bias will have been incurred.

APPENDIX 2 - JORC Code, 2012 Edition – Table 1 report

Criteria	JORC Code explanation	Commentary
structure	▪ *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.*	
Sample security	▪ *The measures taken to ensure sample security.*	▪ Samples stored on locked property whilst awaiting dispatch for analysis. Samples stored in analytical laboratory sample preparation shed.
Audits or reviews	▪ *The results of any audits or reviews of sampling techniques and data.*	▪ Due diligence was undertaken on all work undertaken prior to 2015 as part of the funding requirements for the project. This included twinning of existing aircore drilling with push probe to determine any biases present, of which there were none. ▪ Program-specific reviews have been undertaken internally and in conjunction with the Competent Person during the update of the resource estimate.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

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.*	▪ Exploration Licence numbers E70/2407 and E70/4628 are relevant to this report, as are Prospecting Licences P70/1662 and P70/1663. These tenements are held 100% by Keysbrook Leucoxene Pty. Ltd, a wholly owned subsidiary of MZI Resources Ltd. ▪ It is understood by MZI that all licences are located on pre-1899 fee simple, freehold land.
Exploration done by other parties	▪ *Acknowledgment and appraisal of exploration by other parties.*	▪ Exploration was undertaken during the period 2006-2008 by Iluka Resources as part of tenement E70/2495. This data was not used for the resource estimate.
Geology	▪ *Deposit type, geological setting and style of mineralisation.*	▪ Geologically the deposit comprises Bassendean and Yoganup Sand Formation sediments. This is composed of localised sand dunes, overlying a basal zone of sand. These mineralised units overly the clay-rich Guildford Formation. ▪ Mineralisation is dispersed throughout the sand units.

Drill hole Information	▪ *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ▪ *easting and northing of the drill hole collar*
	  ▪ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ▪ *dip and azimuth of the hole*
	  ▪ *down hole length and interception depth*
	  ▪ *hole length.*
	  ▪ *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		▪ Not relevant – mineral resource defined. Exploration results are not being reported for the Mineral Resource area.

APPENDIX 2 - JORC Code, 2012 Edition – Table 1 report

Criteria	JORC Code explanation	Commentary
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.*	▪ Exploration results are not being reported for the Mineral Resource area.
Relationship between mineralisation widths and intercept lengths	▪ *These relationships are particularly important in the reporting of Exploration Results.* ▪ *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* ▪ *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	▪ Flat-lying mineralisation intersected by vertical drillholes.
Diagrams	▪ *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	▪ Refer to ASX release dated 06 August 2015.
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.*	▪ 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.*	▪ Assemblage data disclosed in the report has been generated from samples outlined in the ASX release dated 20 January 2015. The process of generating these results is as follows:
		  ▪ *Compositing of TBE sink material to form single sample.*
		  ▪ *Processing of composite via CARPCO magnet to split sample into magnetic components (Mag 1-4 & Non-Mag).*
		  ▪ *XRF analysis of each component to ascertain concentration of relevant elements*
		  ▪ *Post processing of XRF results via proprietary algorithm to determine proportion of products.*
		  ▪ *A second process, QEMSCAN, was used for 11 samples within the resource estimate.*

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.*	▪ Land access agreement discussions. ▪ Aircore drilling in order to define the mineralisation laterally and at depth across the lease area.

Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	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.*	▪ Direct computer field entry of data, assays imported from Excel spreadsheets, validation and storage within MZI Micromine database. Historical data imported from Optiro Access database.

APPENDIX 2 - JORC Code, 2012 Edition – Table 1 report

Criteria	JORC Code explanation	Commentary
Site visits	▪ *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* ▪ *If no site visits have been undertaken indicate why this is the case.*	▪ The competent person has visited site and has been associated with the Keysbrook Project for four years.
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 geological confidence in the resource is high for the main ore zone (Yoganup Dune) east of Hopeland Road due to the history of the project and density of exploration data. The cut-off between the Yoganup Dune and the underlying laterite or Guildford Clay was defined from the geology logging and assay results. The geological confidence in the Bassendean Dune ore zone to the west of Hopeland Road is lower, primarily due to it being a new zone with a lower density of data. ▪ Hard boundaries were used to define the different geological domains. ▪ Continuity of grade and geology of the dune sand material is controlled primarily by proximity to the main dune system and the presence of dune sand material. Continuity of the underlying laterite layer is controlled primarily by the water table (both current and historic) and the thickness of the overlying dune sequence which can result in varying degrees of formation of the laterite unit.
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 mineralisation has been shown from drilling and assemblage studies to extend for approximately 13 km north/south and 6km east/west within the Keysbrook area (refer Figure 1). Mineralisation is from surface to a maximum of 20m below surface.
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 (eg 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.*	▪ Micromine resource estimation software was used to create a geological model and define the mineralisation envelopes. A series of geological domains was used to constrain the mineralisation estimates. ▪ Wireframes were checked in cross section, long section and plan against the geological interpretation and assay results. ▪ Induration (coffee rock or laterisation) was identified from oversize assays and geological logging and wireframed as a domain for exclusion from the resource estimate. ▪ Samples were composited to 1m maximum and in the grade control area to 0.5m to ensure compositing was consistent with the most common drilling intervals. ▪ The influence of extreme THM and slimes sample distribution outliers was reduced by top-cutting. The top cut level was determined using a combination of top cut analysis tools including grade histograms, log probability plots and the coefficient of variation. ▪ Kriging neighbourhood analysis was performed in order to determine the block size, sample numbers and discretisation. ▪ THM mineralisation continuity at Keysbrook was interpreted from variogram analyses to have an along strike range of 3,200m and an across strike range of 850m within the upper sand layer and along strike range of 3,500m and an across strike range of 800m within the lower sand unit. ▪ THM continuity at Yangedi was interpreted from variogram analyses to have an along strike range of 500m and an across strike range of 400m. ▪ Grade estimation was into parent blocks of 25mE by 50mN on 1m benches. ▪ Estimation was carried out using ordinary kriging at the parent block scale. Three estimation passes were used for all domains; the first search was based upon the variogram ranges for each domain in the three principal directions; the second search was the same as the initial search with reduced sample numbers required for estimation. The third search was three times the initial search. The majority of blocks (93%) were estimated in the first pass. ▪ The THM and slimes (clay fines) estimated block model grades were visually validated

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Criteria	JORC Code explanation	Commentary
		against the input drillhole data and comparisons were carried out against the declustered drillhole data and by northing, easting and elevation slices.
Moisture	▪ *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	▪ All grade reports and calculated tonnages are on a dry basis.
Cut-off parameters	▪ *The basis of the adopted cut-off grade(s) or quality parameters applied.*	▪ Minimum mining grade has been defined as 1.0% THM
Mining factors or assumptions	▪ *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	▪ Minimum mining width is 0.5m. ▪ Minimum THM grade is 1.0%. ▪ Maximum laterite is 15%. ▪ Maximum clay fines is 20%. ▪ Open pit mining method.
Metallurgical factors or assumptions	▪ *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	▪ Mineral assemblage data within the mineral resource estimate has been sourced from four different assemblage programs undertaken since 2011. ▪ The 2011 and 2012 programs were taken as individual test pits at varying locations throughout the resource area. ▪ The 2013b program was a composite program based on the approved mine plan at the time. This resulted in 23 quarterly samples. ▪ The 2015 program was a combination of composite samples based on the currently approved mine plan, spatial composites in areas outside the current mine plan, individual hole composites and individual downhole samples. This varying approach was undertaken to acquire data over different scales throughout the resource. ▪ Analysis of all programs was undertaken by passing the heavy mineral through a Carpco magnetic separator to split the material into components based on magnetic susceptibility. ▪ All relevant components form the magnetic separation were analysed by XRF to determine the content of elements of relevance for calculation of the mineralogy based on assumptions made from previous test programs and results from previous grain counting studies. Mineralogy was then calculated within a spreadsheet by the Technical Director. ▪ Parts of the 2015 sample program were also analysed using QEMSCAN.
▪ ***Environmental factors or assumptions***	▪ *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	▪ All waste materials are returned to the mining void. ▪ Environmental exclusion zones are excluded from the reported 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 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.*	▪ Three phases of test work have been completed over the Keysbrook Project since 2006, using volume displacement and troxlar nuclear density gauge methods. This has determined that a global bulk density of 1.6g/cc is valid for the resource estimate.

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Criteria	JORC Code explanation	Commentary
▪ ***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 THM Mineral Resources have been classified as Measured, Indicated and Inferred on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (kriging efficiency). ▪ The classification considers all available data and quality of the estimate and reflects the Competent Person's view of the deposits.
▪ ***Audits or reviews***	▪ *The results of any audits or reviews of Mineral Resource estimates.*	▪ The geological interpretation, estimation parameters and validation of the resource models were peer reviewed by the Competent Person.
▪ ***Discussion of relative accuracy/ confidence***	▪ *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* ▪ *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 Person's assessment of the accuracy and confidence levels in the Mineral Resource estimate. ▪ The confidence levels reflect production volumes on a monthly basis.

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.* ▪ *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	▪ The Mineral Resource Estimate used is classified a JORC 2012 Mineral Resource statement as per MZI Resources Ltd, the Keysbrook Project Mineral Resource estimate was completed by Christine Standing (the Competent Person for Estimation and Reporting of Mineral Resources) of Optiro Pty Ltd. ▪ 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 February 2016 by Andrew Law of Optiro 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.*	▪ The project has achieved operational status with construction having been completed & production commencing October 2015. On this basis, the analysis is considered to be at a higher level than a Feasibility Study. ▪ Where insufficient operating history has been available, MZI has used the Feasibility Study which was completed in October 2012 and is considered current.
Cut-off parameters	▪ *The basis of the cut-off grade(s) or quality parameters applied.*	▪ The cut-off grade in the case of Keysbrook has been calculated using spreadsheets and an individual cut-off grade 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 recoveries.

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Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	▪ *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* ▪ *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* ▪ *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* ▪ *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* ▪ *The mining dilution factors used.* ▪ *The mining recovery factors used.* ▪ *Any minimum mining widths used.* ▪ *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* ▪ *The infrastructure requirements of the selected mining methods.*	▪ The truck and shovel method has been chosen as this is the method of mining utilised on site. The truck and shovel method is used in similar operations in the Australia. Appropriate factors have been applied to the Mineral Resource to derive the Ore Reserves. ▪ The choice of the truck and shovel method was deemed appropriate due to the ore thickness, access, and nature of the geology. Similar mining methods are also used in the geographical area adjacent to the mining areas proposed. ▪ Geotechnical parameters were not required as the orebody has an average depth of 2.2m and the method chosen is not reliant of geotechnical input. ▪ Mining dilution and recovery factors (0%) are assumptions made for similar mining operations and mining techniques. Reconciliations to date have supported these assumptions. ▪ Grade control is used for short term planning and drilling is at a closer spacing that that used for Mineral Resources. MZI completed a comprehensive grade control drilling program in 2015, the results of which were included in the Mineral Resources. ▪ Inferred resources were not used in the Ore Reserve output. However were used in an operations schedule for internal purposes.
Metallurgical factors or assumptions	▪ *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* ▪ *Whether the metallurgical process is well-tested technology or novel in nature.* ▪ *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* ▪ *Any assumptions or allowances made for deleterious elements.* ▪ *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* ▪ *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	▪ The ore is processed through a wet concentration plant (WCP) to produce a Heavy Mineral Concentrate (HMC) which is further processed at an offsite Mineral Separation Plant (MSP) to generate final products. The WCP and MSP use traditional mineral sands separation techniques. The metallurgical process and appropriateness of the process is outlined in a process map by MZI and is detailed in the Ore Reserve document. The process has been widely utilised in similar operations. ▪ The Metallurgical process is well tested and commonly used in similar operations worldwide. ▪ Deleterious materials include oversize material and clay fines which will be managed as part of MZI's rehabilitation management plan and mildly radioactive material, which will be returned into the pit as backfill and capped. ▪ The Ore Reserve estimation has been based on the recoveries and processes outlined above which are well tested, and established as being appropriate for similar metallurgical specifications. ▪ Yes, mine planning filters metallurgical recovery through to final product.
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 mine is current with all environmental approvals and compliant to the conditions set out in such approvals. It is reasonable to expect that future approvals will be granted given the status of the operation.
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.*	▪ The mine is currently in operation; current infrastructure appears suitable for ongoing operations.
Costs	▪ *The derivation of, or assumptions made, regarding projected capital costs in the study.* ▪ *The methodology used to estimate operating costs.* ▪ *Allowances made for the content of deleterious elements.* ▪ *The source of exchange rates used in the study.* ▪ *Derivation of transportation charges.* ▪ *The basis for forecasting or source of treatment and refining charges, penalties for failure*	▪ Projected capital costs relate to sustaining capital only and are considered appropriate. ▪ Operating history and Feasibility Study in combination with offtake agreements in place for sale of various commodities produced at Keysbrook, at varied proportions of product volume provide adequate coverage for the estimation of operating costs. For the purpose of the Reserve financial calculations the contract prices are commercially sensitive. ▪ Product specifications deal with deleterious elements.

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Criteria	JORC Code explanation	Commentary
	to meet specification, etc. ▪ *The allowances made for royalties payable, both Government and private.*	▪ Long term exchange rates of A$0.70 were sourced from Bloomberg. ▪ Transportation charges reflect contract rates with service provider. The transportation charges are included in the selling costs. The selling costs include provision for bagging, handling, transport to port, and port costs. All product prices have been derived on an FOB basis and as such shipping prices have not been included. ▪ Third party processing costs reflect contracted rates ▪ Allowances made for royalties include a 2.0% revenue royalty and various landowner compensation agreements which are confidential.
Revenue factors	▪ *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* ▪ *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	▪ TZMI have provided a pricing range for each of the products which MZI have used. ▪ Product revenue for the leucoxene products is calculated using TZMI long term prices adjusted for TiO_2 content, product quality and other factors contained in offtake agreements as well as the company's expectations. ▪ Product revenue for the zircon concentrate product is calculated using TZMI long term prices adjusted for zircon quality and other factors contained in the offtake agreement for this product.
Market assessment	▪ *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* ▪ *A customer and competitor analysis along with the identification of likely market windows for the product.* ▪ *Price and volume forecasts and the basis for these forecasts.* ▪ *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	▪ Market analysis is based on independent reports and MZI marketing activities, with demand for mineral sands typically following global GDP. ▪ MZI produces high grade TiO_2 products which are forecast to be in relative short supply in the medium term. ▪ At current production rates, final products are expected to average: L70 – 29 ktpa (dry); L88 – 38 ktpa (dry); Zircon con – 29 ktpa (dry). ▪ Offtake customers have either already accepted the product or have undertaken considerable test work ahead of entering into offtake agreements.
Economic	▪ *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* ▪ *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	▪ To demonstrate the Ore Reserve is economic it has been evaluated through a high level financial model. This process has demonstrated the Ore Reserve generates positive cash flows above the cut-off grade. ▪ Economic assumptions with respect to product pricing and operating costs are described above.
Social	▪ *The status of agreements with key stakeholders and matters leading to social licence to operate.*	▪ Agreements are in place with all current relevant stakeholders and negotiations are well advanced with those identified as high probability of needing agreements to be in place. MZI has a comprehensive community engagement program.
Other	▪ *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* ▪ *Any identified material naturally occurring risks.* ▪ *The status of material legal agreements and marketing arrangements.* ▪ *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	▪ No identifiable naturally occurring risks have been identified to impact the Ore Reserves. ▪ All material agreements are in place. ▪ MZI considers there are reasonable grounds for it to believe that any remaining approvals will be granted.

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Criteria	JORC Code explanation	Commentary
Classification	▪ *The basis for the classification of the Ore Reserves into varying confidence categories.* ▪ *Whether the result appropriately reflects the Competent Person's view of the deposit.* ▪ *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	▪ Mineral Resources converted to Ore Reserves as per JORC 2012 guidelines, i.e. Measured to Proven, Indicated to Probable. No downgrading in category has occurred for this project. ▪ The result reflects the Competent Person's view of the deposit. ▪ There is no portion of "probable" Ore reserves derived from Measured Mineral Resources.
Audits or reviews	▪ *The results of any audits or reviews of Ore Reserve estimates.*	▪ The Ore Reserve has been calculated by MZI with Independent consultants Optiro Pty Ltd providing the relevant direction and providing CP sign-off on the Ore Reserve.
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.* ▪ *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* ▪ *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* ▪ *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	▪ The level of accuracy for the Ore Reserve is determined largely by the Mineral Resources model, the metallurgical assumptions as well as long term revenue and cost assumptions. ▪ Keysbrook is a relatively new operation and as such, insufficient production data exists to enable a full statistical reconciliation at this stage.