

Maiden Hendrix Resource highlights solid foundation for significant growth potential of Mt Hardy zinc-copper-lead project in NT

Mineral Resource of 2.6Mt @ 10.5% Zn Equivalent; Mineralisation is open at depth and to the south with geophysics showing it continues in both directions

Key Points

- Maiden Mineral Resource estimate at Hendrix deposit within the 100% owned Mt Hardy Copper-Zinc Project of 2.6Mt @ 10.5%Zn Equivalent* at a 1.5% Zn cut-off grade
- Mineral Resource contains approximately 175,000 tonnes of zinc, 22,500 tonnes of copper and 40,000 tonnes of lead
- Solid foundation for growth of inventory at Hendrix, which is open at depth and to the south, and at nearby targets
- Search for additional mineralisation at Hendrix and across Mt Hardy is continuing with a new phase of drilling set to commence in August and run for several months

Todd River Resources Limited (ASX: TRT; “Todd River” or “the Company”) is pleased to announce a Maiden Mineral Resource estimate for the **Hendrix** zinc-copper-lead deposit at its 100%-owned **Mt Hardy Copper-Zinc Project** in the Northern Territory (Figure 1) of **2.6 million tonnes at 10.5% zinc-equivalent***.

The Resource, which comprises 6.7% zinc, 0.9% copper, 1.5% lead and 35 g/t silver, has approximately 175,000 tonnes of contained zinc, 22,500 tonnes of contained copper, 40,000 tonnes of contained lead and 2.9 million ounces of contained silver (at a 1.5% Zn cut-off) (see Table 1)

Todd River Managing Director Will Dix said:

“This Maiden Mineral Resource shows that Hendrix is a robust discovery with strong grades and significant growth potential. Given the style of mineralisation, it would be unusual for the deposit to exist in isolation. We are confident that our ongoing exploration program will lead to increases in the inventory at the Hendrix deposit and across our 100% owned Mt Hardy Cu-Zn Project.

“The Mt Hardy Cu-Zn Project has numerous high-priority targets nearby the Hendrix deposit and we look forward to commencing the next phase of drilling and other exploration work at Mt Hardy in August as part of our strategy to establish an Australian base metals project with both scale and high grades.”



Table 1. Hendrix Inferred Resource statement

Cutoff Zn %	Tonnage	Metal Grade					Metal Tonnes			
		ZnEq %	Zn %	Cu %	Pb %	Ag g/t	Zn (t)	Cu (t)	Pb (t)	Ag (oz)
0.5	2,700,000	10.3	6.5	0.9	1.5	34	176,000	23,200	40,000	3,000,000
1.0	2,600,000	10.4	6.6	0.9	1.5	34	175,000	22,700	40,000	2,900,000
1.5	2,600,000	10.5	6.7	0.9	1.5	35	175,000	22,500	40,000	2,900,000
2.0	2,500,000	10.7	6.8	0.9	1.6	35	173,000	22,000	40,000	2,900,000
2.5	2,500,000	10.8	7.0	0.9	1.6	35	172,000	21,500	39,000	2,800,000
3.0	2,400,000	11.0	7.1	0.9	1.6	36	170,000	21,100	38,000	2,800,000
3.5	2,300,000	11.2	7.2	0.9	1.6	36	167,000	20,600	37,000	2,700,000
4.0	2,200,000	11.5	7.5	0.9	1.6	37	162,000	19,900	35,000	2,600,000
4.5	2,000,000	12.0	7.8	1.0	1.7	39	153,000	18,800	34,000	2,400,000
5.0	1,700,000	12.7	8.2	1.0	1.8	41	142,000	17,300	32,000	2,300,000

*Note: Zinc Equivalent (ZnEq%) is based on the following formula:

$$\text{ZnEq \%} = \text{Zn\%} + (\text{Cu\%} \times (5900/2550)) + (\text{Pb\%} \times (1900/2550)) + (\text{Ag ppm} \times ((15/31.103475)/(2550/100)))$$

Where: Zn = \$2,550 AUD/ tonne

Cu = \$5,900 AUD / tonne

Pb = \$1,900 AUD / tonne

Ag = \$15 AUD / gram

Appropriate rounding has been applied.

The Mineral Resource estimate is categorised as Inferred under the JORC code and is reported in accordance with the guidelines of the JORC code (2012 edition). The Mineral Resource estimate will underpin the continued exploration program at Mt Hardy, which will focus on both resource expansion at Hendrix and targeting new areas of mineralisation.

Resource Estimation Details

Results of the independent Mineral Resource estimate by IRS Pty Ltd for the Project are tabulated in the Statement of Mineral Resources in Table 1. The Statement of Mineral Resources is reported in line with the requirements of the 2012 JORC Code and is therefore suitable for public reporting.

The Mineral Resource is reported above a cut-off grade of 1.5% and classified as Inferred taking in most of the geological wireframe used to model the deposit.

In summary:

- Ordinary Kriging (OK) was used to estimate average block grades with estimation parameters derived from modelled variograms. Parent block sizes were 10m x 20m x 10m with sub blocking of 1m x 1m x 1m
- The bulk density was derived from a regression derived from 677 fresh core samples analysed for bulk density.
- The Mineral Resource estimate has been constrained by two wire-framed mineralised envelopes (Figure 2) generated using Leapfrog software, is undiluted by external waste and reported above a Zn cut-off grade of 1.5%.
- Only fresh, unoxidised material has been included in the resource envelope
- The Mineral Resource was classified as an Inferred Mineral Resource based on data quality, sample spacing and sulphide breccia lens continuity.
- The Company is of the opinion that all metals included in the Metal Equivalent Calculation have a reasonable potential to be recovered and sold.



ASX Listing Rule 5.8.1

Geology and Geological Interpretation

The Mt Hardy Copper-Zinc Project is located in the Arunta Province, a Proterozoic terrance of meta-sediments, granites and intrusive bodies with complex structural overprint. The Mt Hardy Mineral Resource is contained wholly within the Lander Formation which comprises interlayered pelitic schist and psammite, meta-greywacke; gneiss, metavolcanic rocks, and pegmatite and amphibolite sills. It has been subjected to several phases of deformation and metamorphosed to greenschist to granulite facies. The main sulphide mineralisation is contained within a zone of brecciation and contains varying quantities of Lander Formation as clasts within the sulphide breccia.

Drilling Techniques

A combination of Reverse Circulation and Diamond Drilling was used to discover and identify mineralisation at Hendrix. A combination of HQ and NQ core was produced. Pre-collars were sampled where sulphides were encountered.

Sampling Techniques, Sub-Sampling Techniques and Sample Preparation

Reverse Circulation (RC) drill samples were taken from the rotary splitter mounted on the rig cyclone. Diamond drill samples were half core cut and sampled to geological boundaries with the minimum sample being 40cm and the maximum being 1.2m intervals.

Average of >95% recovery in all intervals. No issues of fines loss were observed. No issues relating to preferential loss/gain of grade material have been noted.

RC chips and core was geologically logged for lithology, mineralogy, colour, weathering, alteration, structure and mineralisation. All holes were logged in full.

All RC holes were sampled from the rotating splitter under the drill cyclone, taking a 2-4kg split from the bulk 15-25kg 1m interval. All sampled core was sawn and half core submitted. The sample preparation for all samples follows industry best practice, with oven drying of samples prior to coarse crushing and pulverization (to >85% passing 75 microns) of the entire sample. Field duplicates have been taken every 50th sample. Further sampling (second half, lab umpire assay) will be conducted if it is considered necessary. The sample size (2-5 kg) is considered to be adequate for the material and grain size being sampled and the style of mineralisation being drilled.

Sample Analysis Method

All samples from 2018 and 2019 drilling have been submitted to Genalysis/Intertek Laboratories for industry standard preparation (whole sample crushed to >85% <75um) and analysis by both ICP for base metals and Fire Assay for precious metals.

Estimation Methodology

Ordinary Kriging (OK) was used to estimate average block grades with estimation parameters derived from modelled variograms. Parent block sizes were 10m x 20m x 10m with sub blocking of 1m x 1m x 1m.



The Mineral Resource estimate has been constrained by two wire-framed mineralised envelopes (Figure 2) generated using Leapfrog software, is undiluted by external waste and reported above a Zn cut-off grade of 1.5%. Only fresh, unoxidised material has been included in the resource envelope.

Classification

The Mineral Resource was classified as an Inferred Mineral Resource based on data quality, sample spacing and sulphide breccia lens continuity.

Metallurgical Factors or Assumptions

Metallurgical testwork on the sulphide mineralisation at Mt Hardy was completed by Todd River Resources in December 2018 and January 2019 and announced to ASX on 27 February 2019. In the announcement the Company states that separate high quality copper, lead and zinc concentrates were generated via conventional sequential flotation processes, which are used to treat poly-metallic base metal ores with mineralisation such as that seen at Mt Hardy. The testwork was undertaken by Strategic Metallurgy at their laboratory in Belmont, Western Australia with analytical work completed by NAGROM and ALS Laboratories.

Recoveries exceeding 85% were achieved with improvement through flowsheet optimisation expected. Zinc values indicate a premium product with low impurities and no significant deleterious elements were detected in the 3 separate concentrates produced.

The metals equivalent calculation assumes 85% recovery for all metals included based on the testwork carried out to date (refer ASX announcement 27 February 2019).

The Company is of the opinion that all metals included in the Metal Equivalent Calculation have a reasonable potential to be recovered and sold.

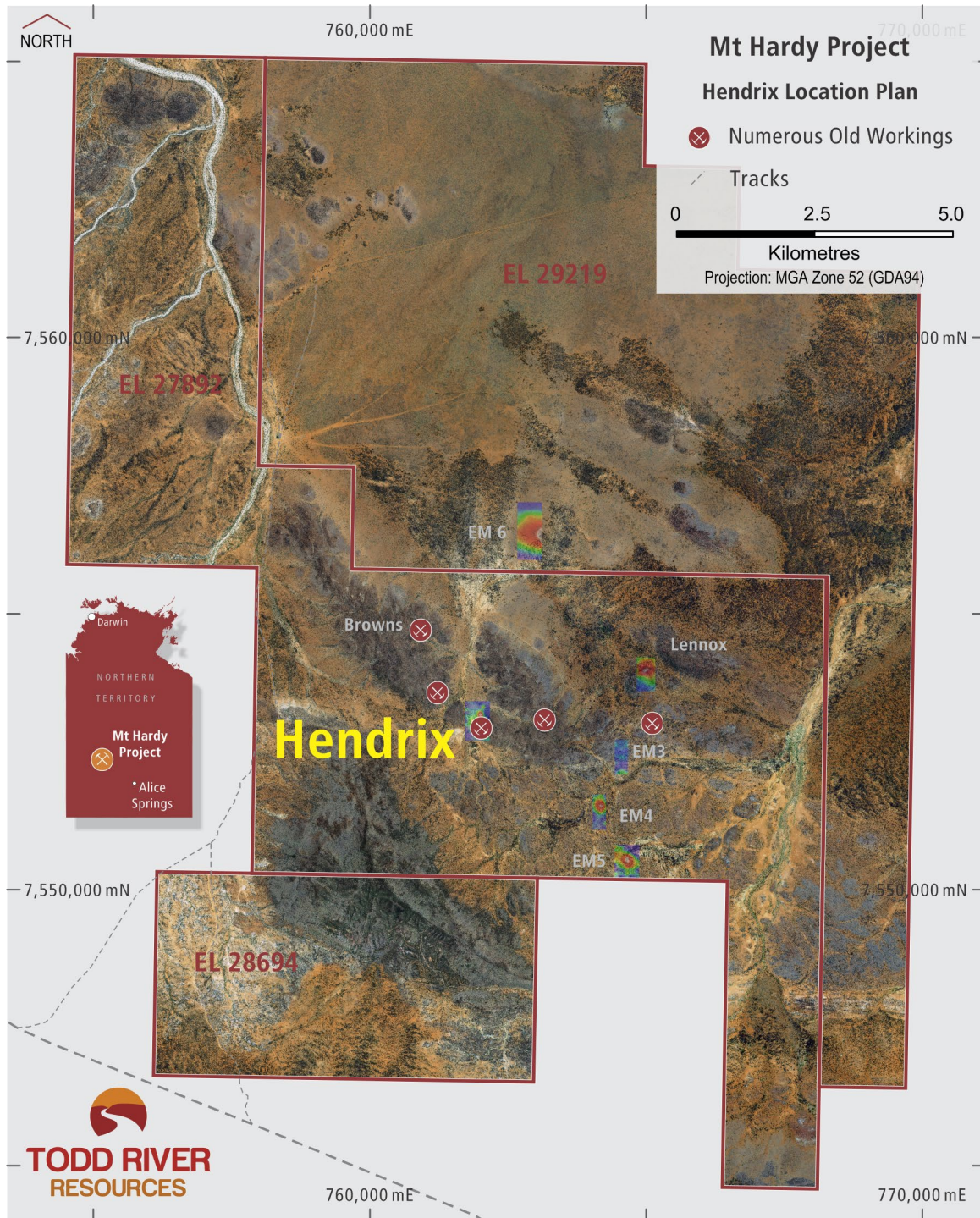


Figure 1 – Mt Hardy Project showing the location of the main drill target area, Hendrix and additional prospects in the project area.

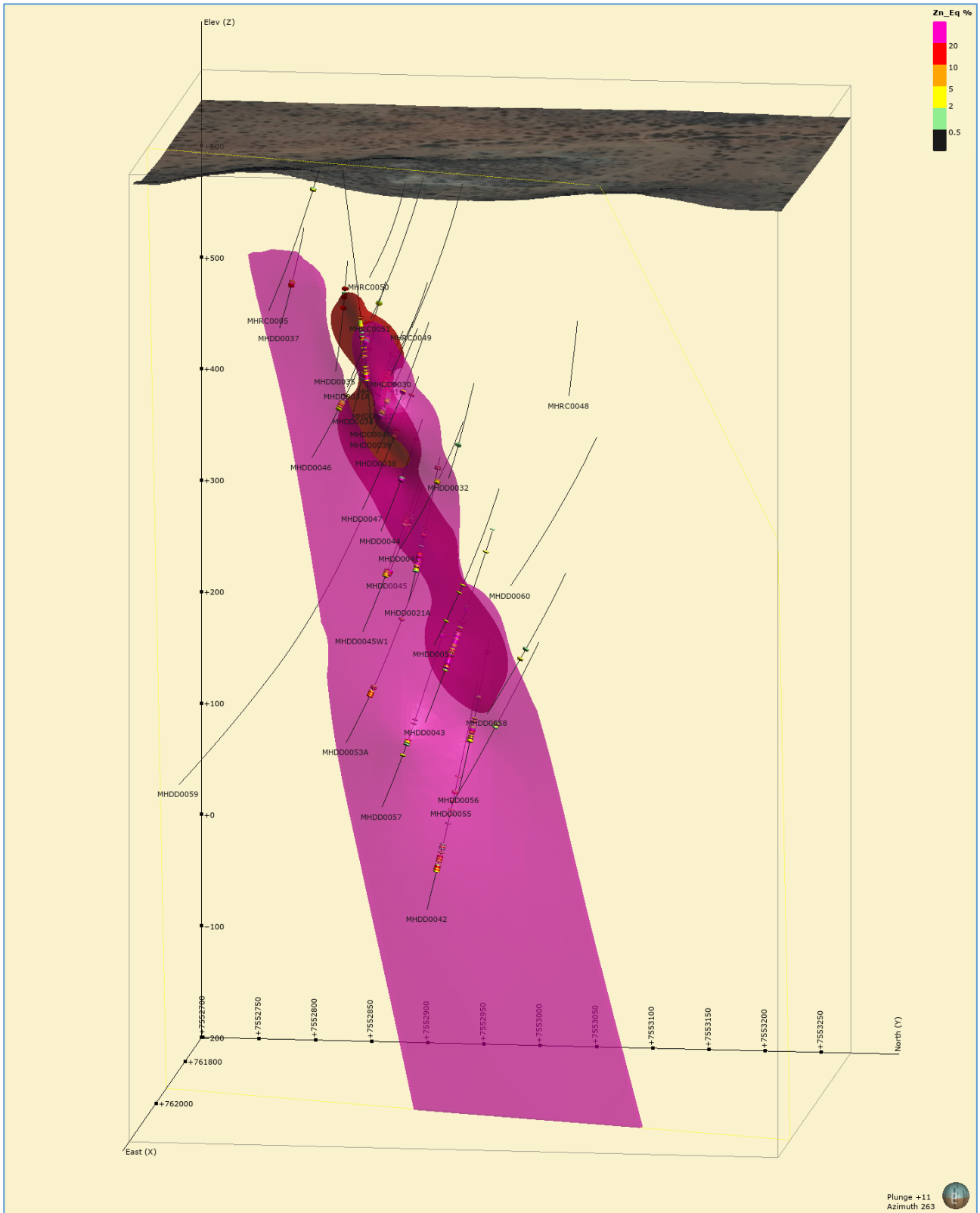


Figure 2 – Mt Hardy Project, Hendrix Resource wireframes and drilling looking west.

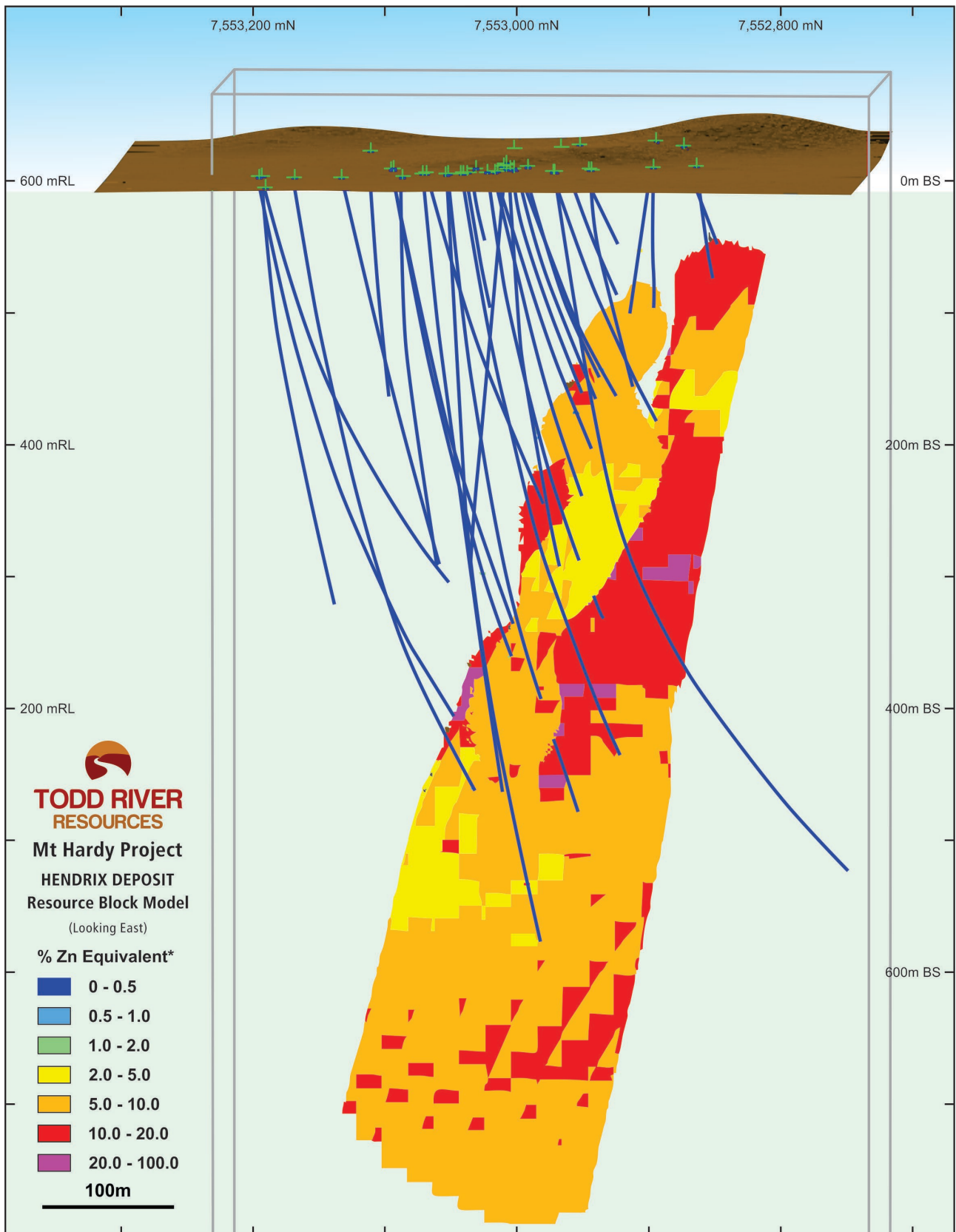


Figure 3 – Hendrix Block Model looking East showing Zn Equivalent grades in blocks



Next Steps at Mt Hardy

Following the assimilation of down-hole geophysics data with the developing structural geological model and identification of new areas of mineralisation, Todd River is planning to commence a new phase of drilling across the broader Mt Hardy Cu-Zn Project during August which is expected to run over a number of months.

Given the presence of sulphides and base metal mineralisation and prospects across Mt Hardy including Browns, Lennox and the Mt Hardy mineralisation itself, the program will be designed to test a combination of known and recently identified prospects as well as new positions adjacent to the Hendrix Minerals Resource.

**Will Dix,
Managing Director – Todd River Resources**

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Competent Person Statement

The information in this report that relates to Exploration Results is based on information compiled by John Bartlett, who is an employee of S2 Resources and carrying out work for Todd River Resources under a Shared Services Agreement between the companies. Mr Bartlett is a member of the Australian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience of relevance to the style of mineralization and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Bartlett consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

The information in this report that relates to Mineral Resource Estimation is based on information compiled by Mr Brian Wolfe, Principal Consultant Geologist – IRS Pty Ltd and Mr Andrew Thompson, an employee and shareholder of S2 Resources NL and service provider to Todd River Resources under a Shared Services Agreement between the Companies. Mr Wolfe and Mr Thompson are members of the Australasian Institute of Mining and Metallurgy and have sufficient experience which is 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 Exploration Results, Mineral Resources and Ore Reserves” (JORC Code). Mr Wolfe and Mr Thompson consent to the inclusion in this report of the matters based on their information in the form and context in which they appear.

The information in this announcement relating to metallurgical testwork results is extracted from the ASX announcement titled “Excellent Results from Metallurgical Testwork at Mt Hardy” dated 27 February 2019 which are available to view at www.trrltd.com.au and www.asx.com.au . The Company confirms it is not aware of any new information or data that materially affects the information included in the original market announcement. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcement.



About Todd River Resources

Todd River Resources (ASX: TRT) is an Australian-based resources company that has recently announced a zinc-copper discovery, Hendrix, at its 100% owned Mt Hardy Project, located 300km north west of Alice Springs.

With a strong management team, tight capital structure and fully funded for exploration in 2019, Todd River is well placed to pursue additional base metal mineralisation at Mt Hardy and progress exploration activities across its exploration portfolio.

While Todd River's main focus is at Mt Hardy, the Company holds an extensive precious and base metal project portfolio which includes the Rover gold project, the McArthur Copper-Zinc project and the large Manbarrum Zinc resource.



The following Tables are provided to ensure compliance with the JORC code (2012) edition requirements for the reporting of exploration results and resource estimation:

Hendrix Deposit Section 1 – Sampling Techniques and Data

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.	Reverse Circulation (RC) drill samples were taken from the rotary splitter mounted on the rig cyclone. Diamond drill samples were half core cut and to geological boundaries with the minimum sample being 40cm and the maximum being 1.2m intervals All samples from 2018 and 2019 drilling have been submitted to Genalysis/Intertek Laboratories for industry standard preparation (whole sample crushed to >85% <75um) and analysis by both ICP for base metals and Fire Assay for precious metals.
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).	Reverse Circulation (RC) drilling of pre-collars with HQ and NQ sized diamond drill tails. Most intervals has been oriented, except where broken ground in encountered.
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.	Average of >95% recovery in all intervals. No issues of fines loss were observed. No issues relating to preferential loss/gain of grade material have been noted.
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.	RC chips and core was geologically logged for lithology, mineralogy, colour, weathering, alteration, structure and mineralisation. All holes were logged in full.
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.	All RC holes were sampled from the rotating splitter under the drill cyclone, taking a 2-4kg split from the bulk 15-25kg 1m interval. All sampled core was sawn and half core submitted. The sample preparation for all samples follows industry best practice, with oven drying of samples prior to coarse crushing and pulverization (to >85% passing 75 microns) of the entire sample Field duplicates have been taken every 50 th sample. Further sampling (second half, lab umpire assay) will be conducted if it is considered necessary. The sample size (2-5 kg) is considered to be adequate for the material and grain size being sampled and the style of mineralisation being drilled.
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	Three certified base metal standards and a certified blank sample were analysed during sampling, at a rate of 1 in 25 samples. Standards were GBM399-7, GBM399-2, and GBM908-10 – low, medium and high grade for



	<p>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.</p>	<p>base metal respectively. Blank GLG312-2 was used. Results for the standards and the blank were acceptable, and no calibration factors have been applied.</p> <p>All samples reported here have been analysed at Genalysis Intertek by ICP technique, lab codes 4A/MS60 and FA25/MS. The four acid digest for the ICP data is considered a "total" result. Base metal standards and Blanks were inserted into the laboratory batch.</p> <p>Analytical results for the standards and the blank were acceptable, and no calibration factors have been applied.</p>
Verification of sampling and assaying	<p>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.</p>	<p>Sampling was conducted by the field geologist and verified by the Exploration Manager on site prior to cutting/dispatch. All data was entered into standardized spreadsheets on field laptops and uploaded into the company database. No adjustments have been made to the primary assay data</p>
Locations of data points	<p>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.</p>	<p>All drilling collars were located up using a differential GPS unit with accuracy of ca. 0.1m for Easting, Northing and RL All coordinate data for the Mount Hardy project are in MGA_GDA94 Zone 52.</p>
Data spacing and distribution	<p>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.</p>	<p>At this early stage of exploration hole spacings vary as dictated by target size and position. No compositing has been applied to the exploration results. Sampling was of an exploratory and reconnaissance nature and spacings are insufficient to establish continuity or define Resources.</p>
Orientation of data in relation to geological structure	<p>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.</p>	<p>Drilling intersections at Mount Hardy vary in the relationship to the mineralisation orientation. All holes were designed to give the best possible (as close to perpendicular) intersection, however as so few holes have been drilled the orientation is not well defined. In practise the intersections are at worst oriented at 45 degrees to the plane of the mineralisation (when it is known).</p>
Sample security	<p>The measures taken to ensure sample security.</p>	<p>All core and samples were under company supervision at all times prior to delivering to Genalysis/Intertek laboratories in Alice Springs</p>
Audits or reviews	<p>The results of any audits or reviews of sampling techniques and data.</p>	<p>No sampling audits have been conducted at Mount Hardy</p>



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 Hendrix prospect at Mount Hardy is located on tenement EL 27892 held by Todd River Metals Pty Ltd, which is wholly owned by Todd River Resources Limited. All tenements are in good standing with no known impediments
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Between 2012 and 2016 minor work was conducted by TNG Limited and has been reported to the ASX in several ASX Releases. From 2017-2019 Todd River completed four drilling programs and has reported results in several ASX releases.
Geology	Deposit type, geological setting and style of mineralisation.	Exploration at Mount Hardy conducted by Todd River Resources has aimed to identify structurally controlled base metal mineralisation, similar to that already outlined at Mount Hardy and elsewhere in the Arunta at Jervois or Barrow Creek. Both areas are underlain by the Paleoproterozoic Lander Rock Beds schists and gneisses and have been intruded by Mesoproterozoic granites and are cut by major shear zones.
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: <ul style="list-style-type: none"> o Easting and northing of the drill collar o Elevation of RL (Reduced Level – elevation above sea level in metres) of the drill collar o Dip and azimuth of the hole o Down hole length and interception depth o Hole length 	Approximately 60 holes have been completed at Mount Hardy. Hole location details are shown in Table 2. Interval and grade values reported here have been determined from length weighted averages of multiple results
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.	Length weighted averaging has been used in the reporting of intervals in this release. No maximum or minimum cuts have been applied. All assay data is provided.
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').	Orientation not well defined. Expected true thickness ca. 60-80% of drill/intercept interval.
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.	See Figures 2 and 3.
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.	All assay information is included in Appendix B.
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,	No substantial new information is available other than that reported above.



	groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
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.	Drilling will continue at Hendrix and nearby prospect over the next 12 months to test strike extensions to the south and potential repeats of similar style occurrences.



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 templates with lookup tables and fixed formatting are used for logging, spatial and sampling data. Data transfer is electronic via e-mail. Sample numbers are unique and pre-numbered bags are used. These methods all minimise the potential of these types of errors.
	Data validation procedures used.	Data validation checks are run by the database management consultant.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	No site visit has been made by Mr Andy Thompson or Mr Brian Wolfe but qualified representatives of Andy Thompson (John Bartlett and Tony Goddard) have visited the project and inspected core, drill sites and outcrop to verify the work conducted to date. The visits found no significant flaws with the work conducted to date.
	If no site visits have been undertaken indicate why this is the case.	Site visits were undertaken by suitably qualified representative of Andy Thompson under a services agreement between Todd River and S2 Resources.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The confidence in the geological interpretation is considered reasonable. The deposit is an atypical zinc, lead sulphide breccia in a structurally favourable position within strongly deformed psammities and quartzites. Surface mapping and outcrop correlates with the modelled sulphides in drilling.
	Nature of the data used and of any assumptions made.	Outcrop and structural mapping at Hendrix have assisted the modelling of the sulphide breccia lens.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	The deposit is reasonably constrained and predictable with a defined pinch out to the north. The breccia zone is reasonably well constrained and is restricted to a more brittle quartzite unit within a dominantly psammitic stratigraphy. More drilling would be required to refine the sulphide lens to better reflect the small-scale folding seen in mapping.
	The use of geology in guiding and controlling Mineral Resource estimation.	Geological controls and relationships were used to define sub-domains. Key features are sulphidic breccia with a quartzite host.
	The factors affecting continuity both of grade and geology.	Base metal grades are strongly related to quartzite clast percentage and local fold hinges which are both highly variable.
	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource	The Mineral Resource area has dimensions of 400 m (north) by 200 m (east) and 800 m (elevation).
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 Mineral Resource estimate was generated via OK. Hard boundaries were applied to the kriging. A search ellipsoid of 100m x 100m x 30m and a sample count of 6 were applied to the first estimation pass. a second estimation pass with expanded search neighbourhoods and relaxed sample limits was applied to allow additional blocks to be estimated. Extrapolation of the drillhole composite data is limited to approximately 200m down dip.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	This is a maiden Mineral Resource for the Hendrix deposit and no previous mining activity has taken place in this area.
	The assumptions made regarding recovery of by-products.	Preliminary metallurgical testwork in the primary sulphide mineralisation indicates that the sulphides are amenable and recoverable by standard flotation and extraction methods. All metals quoted should be recoverable at economically payable grades.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	Multi element assaying have found no concentrations of deleterious material that could have an impact on concentrate payability.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The parent block size is 20mN x10mE x 10mRL, with sub-celling to 1mE x 1mN x 1mRL for domain volume resolution. The parent block size was chosen based on estimation methodology and relates to the drillhole spacing. The search ellipse was oriented with axes rotated parallel to the mineralised bodies as previously described.



Criteria	JORC Code explanation	Commentary
		Search ellipse dimensions were chosen to encompass drillholes up and down dip and also drilling along strike
	Any assumptions behind modelling of selective mining units.	No selective mining unit assumptions were made.
	Any assumptions about correlation between variables.	Zinc is strongly correlated with lead and silver and moderately well correlated with copper. For the purposes of the grade interpolation, zinc variography was used for all the metals.
	Description of how the geological interpretation was used to control the resource estimates.	The input geological model was a simple two domain model comprising of a main sulphide breccia lens and a smaller hanging wall sulphide breccia lens. These were not extrapolated upwards into the weathered rock. The sulphide domains were modelled at a nominal 1% total base metal cut off.
	Discussion of basis for using or not using grade cutting or capping.	No top cutting of grades was deemed necessary.
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	No mining has taken place; therefore, no reconciliation data is available.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnages are estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied	A 1.5 % Zinc cut-off grade was used to report the Mineral Resources.
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.	No assumptions have been made as to mining methods.
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.	Preliminary metallurgical testwork in the primary mineralisation indicates that the mineralisation is amenable to standard standard flotation extraction methods. All metals quoted in the resource should be recoverable at economically payable grades.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made	No assumptions have been made.
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	Dry Bulk Densities were determined by the Archimedes principle (immersion) and also by the direct measurement method (caliper). Both methods gave satisfactory, comparable results.



Criteria	JORC Code explanation	Commentary
	measurements, the nature, size and representativeness of the samples.	In total, 677 sample measurements were collected from mineralized zones.
	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,	Bulk density has been estimated from density measurements carried out on core samples using the Archimedes method (immersion) of dry weight versus weight in water. No porosity or vugs were observed.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The bulk density values were assigned using a regression with Zinc as a high degree of correlation exists between the two. No oxide or transitional domains were included in the estimate.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories	The Mineral Resource classification is based on reasonable confidence in the geological and grade continuity but sufficient uncertainty exists that the classification must be Inferred only.
	Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	The input data is reasonable in its coverage of the mineralisation and does not favour or misrepresent in-situ mineralisation. However, greater drill density is required to increase confidence to an indicated status. The validation of the block model shows good correlation of the input data to the estimated grades considering the current drilling density.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the view of the Competent Persons.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	This is the maiden Hendrix deposit Mineral Resource estimate.
	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 relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used	The statement relates to global estimates of tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available	No production data is available.