

## **BONANZA 33.5 METRE HIGH-GRADE MASSIVE SULPHIDE INTERCEPT IN FIRST STEP-OUT HOLE AT EM1 PROSPECT**

pXRF readings indicate high grades across massive sulphide intercept north of and below hole MHDD0021A

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- Step-out diamond hole MHDD0043 (first reported on Wednesday) now completed.
  - Logging and pXRF analysis of the core indicates that a total of 33 metres of massive sulphides was intersected in the hole.
  - The new intercept is located below and to the north of hole MHDD0021A, which intersected 13.45m @15.9% Zn, 0.9% Cu, 5.75% Pb and 83g/t Ag
  - Thickest mineralisation intersected at Mt Hardy to date.
  - Extends the mineralisation to >350m down-dip.
  - pXRF readings suggest high grades similar to those in MHDD0021A with full analytical results to come.
  - Second diamond tail underway to target mineralisation at a similar depth to the south of MHDD0021A.
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Following its release of 17 October, Todd River Resources Limited (ASX: TRT; “Todd River” or “the Company”) is pleased to provide a further update on the visual and pXRF outcomes of the first diamond tail, MHDD0043 completed as part of the new drilling program at its 100%-owned **Mt Hardy Copper-Zinc Project** in the Northern Territory. The hole is shown projected onto cross-section in Figure 1.

Diamond drill-hole MHDD0043 has now been completed and detailed logging of the core indicates that it intersected **33.5 metres of massive sulphides** comprising largely sphalerite with subordinate galena and chalcopyrite from 433m down-hole in a position some 45m north and 90m below the previously announced intersection of **13.45m @15.9% Zn, 0.9% Cu, 5.75% Pb and 83g/t Ag** in hole MHDD0021A. Collar information for the hole is provided in Table 1.

Portable XRF scanning of the core indicates the presence of significant base metal mineralisation in the intersection (see below), and samples have now been submitted to Intertek for laboratory analysis with assays expected within three weeks. Drilling is continuing at the EM1 Prospect at Mount Hardy (Figure 2), with a second diamond tail underway targeting a position to the south of MHDD0021A at a similar depth.

Further significant updates will be reported as they come to hand.

Figure 3 shows holes MHDD0021A and MHDD0043 side by side for comparison and Figure 4 shows the spatial position of the intersection relative to previously announced drill-holes, showing that the mineralisation at the EM1 prospect has now been extended to >350m down-dip. Additional holes are planned to extend the mineralisation along strike.

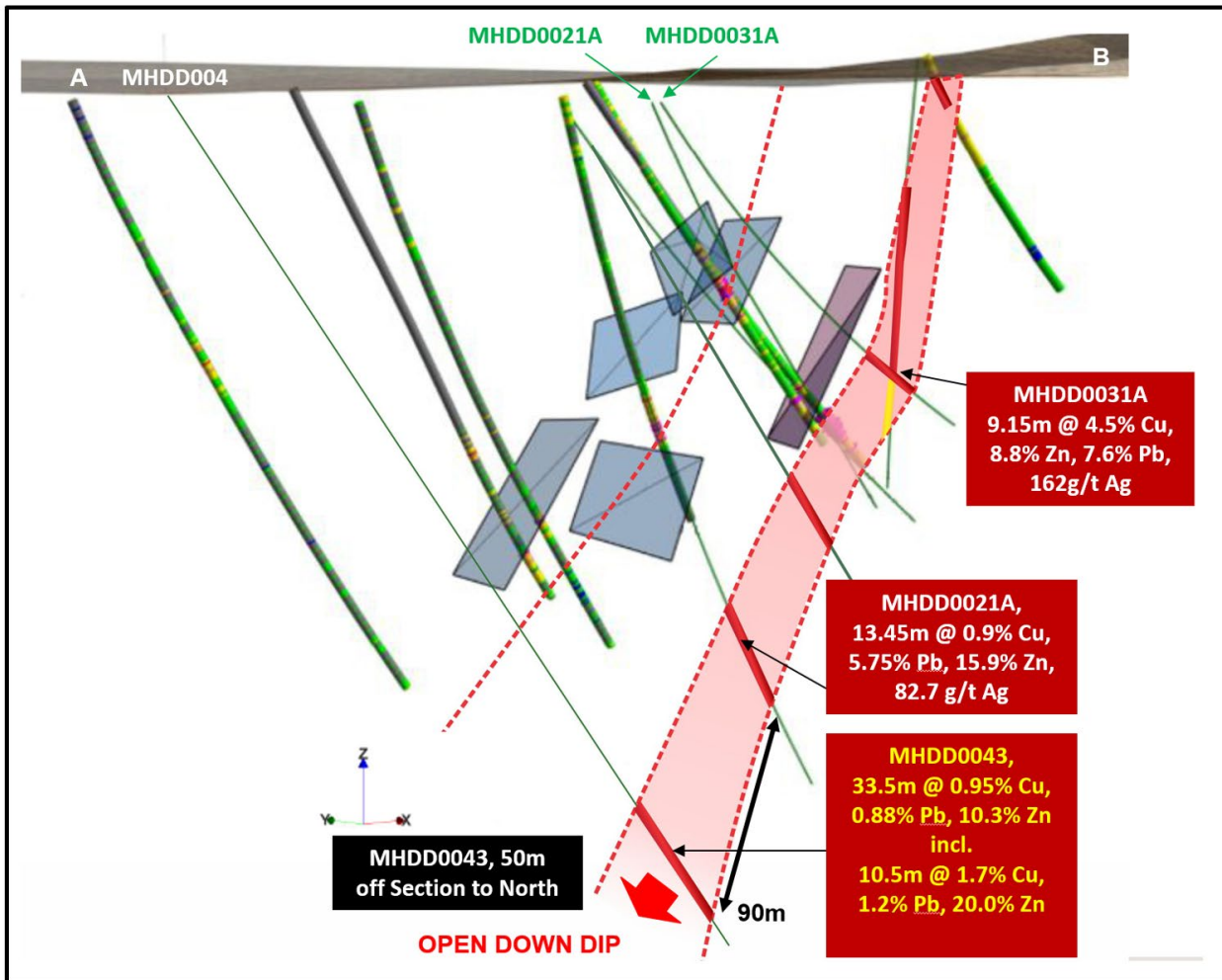


Figure 1 – Oblique Cross-Section looking to the north-east showing the extent and continuity of the mineralisation at the EM1 Prospect.

Figure 4 shows a collar plan of the EM1 drilling to date.

As previously announced, the Company has planned approximately 3,500m of drilling split between Reverse Circulation (RC) and diamond drilling, predominantly targeting extensions to the new EM1 high-grade copper-zinc discovery.

Todd River's Chief Executive Officer, Will Dix, said:

*"Following our announcement of 17 October, we are very pleased to inform the market of the final intersection details and pXRF readings from hole MHDD0043. Intersecting 33m of high grade base metal mineralisation in this hole reinforces our view that this is a significant new base metal discovery that continues to improve as we drill it and understand it better. We are very excited about what the next few months of drilling can deliver."*



### Portable XRF readings for MHDDH0043

The following intervals are reported based on averaging several pXRF readings taken systematically at either 0.25 or 0.50m intervals through the mineralised zones. Analyses were taken using an Olympus Delta Pro unit on GEOCHEM mode with a 60 second read time. Standards and Blank samples were used to calibrate the results. Details of the sampling is outlined in Appendix A, and all pXRF results used in the below composite intervals are included in Appendix B.

FROM	TO	INTERVAL	Cu%	Pb%	Zn%	Combined BM%
433.75m	467.25m	33.50m Average of 67 readings	0.95%	0.88%	10.3%	12% Combined Base Metal

Which includes two intervals of high grade, at a 5% Combined Base Metal cut off giving:

434.25m	44.75m	10.50m Average of 21 readings	1.7%	1.2%	20%	23% Combined Base Metal
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And

459.75m	462.25m	2.50m Average of five readings	1.3%	1.2%	13.5%	16% Combined Base Metal
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All intervals are straight length averages of systematic readings above either a 1% or 5% combined base metal cut-off grade. All zones are dominated by zinc (hosted in the mineral sphalerite), with values (see Appendix B) reaching up to 43% Zn.

### Will Dix, CEO – Todd River Resources

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### Competent Person Statements

The information in this report that relates to Exploration Results is based on, and fairly represents, information and supporting documentation compiled by Exploration Manager Mr Kim Grey B.Sc. and M. Econ. Geol. Mr Grey is a member of the Australian Institute of Geoscientists, and an employee of Todd River Resources Limited. Mr Grey has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Grey consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



## **About Todd River Resources**

Todd River Resources (ASX: TRT) is an Australian-based resources company that holds a large, highly prospective zinc and base metals exploration portfolio in the Northern Territory.

With a strong management team and tight capital position, Todd River is well placed to pursue exploration activities across its exploration portfolio, which are aimed at establishing the Company as a leading force in Australian zinc exploration and development.

Todd River's extensive base metal portfolio includes the recently discovered EM1 Prospect at the Mount Hardy Copper-Zinc Project, the large Manbarrum Zinc Project, the Stokes Yard Zinc Project and the McArthur Copper-Zinc project, as well as a number of other exploration projects covering base metals and other commodities.

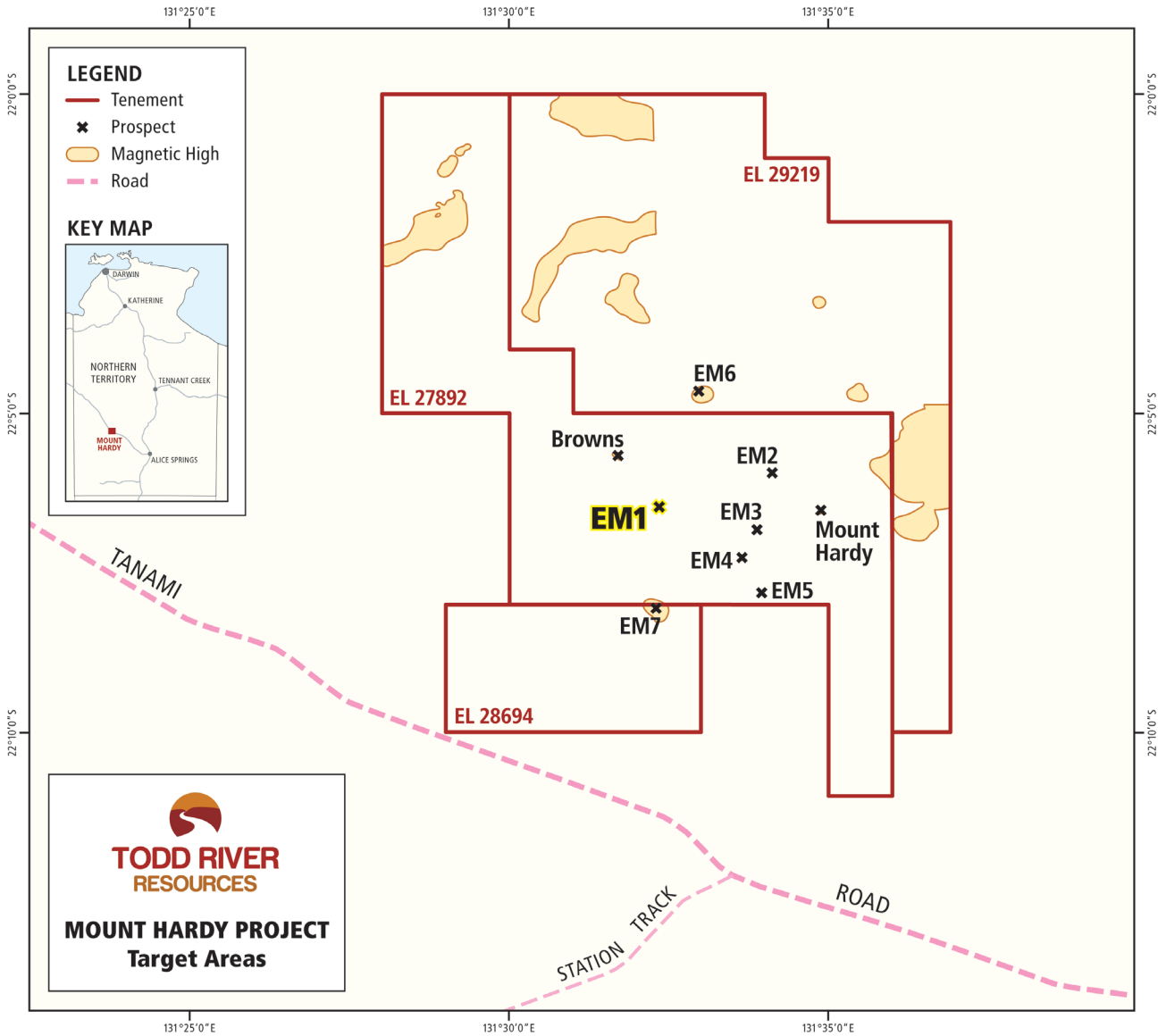


Figure 2 – Mt Hardy Project showing the location of the main drill target area, EM1 and additional prospects in the project area.

Table 1 – Drill hole collar location.

HOLE_ID	EASTING (GDA94Z52)	NORTHING (GDA94Z52)	RL AHD	DIP	AZIMUTH (Magnetic)	DEPTH	RC Precollar
MHDD0043	761922	7553064	642	-72	108.2	454.5 (Currently)	156

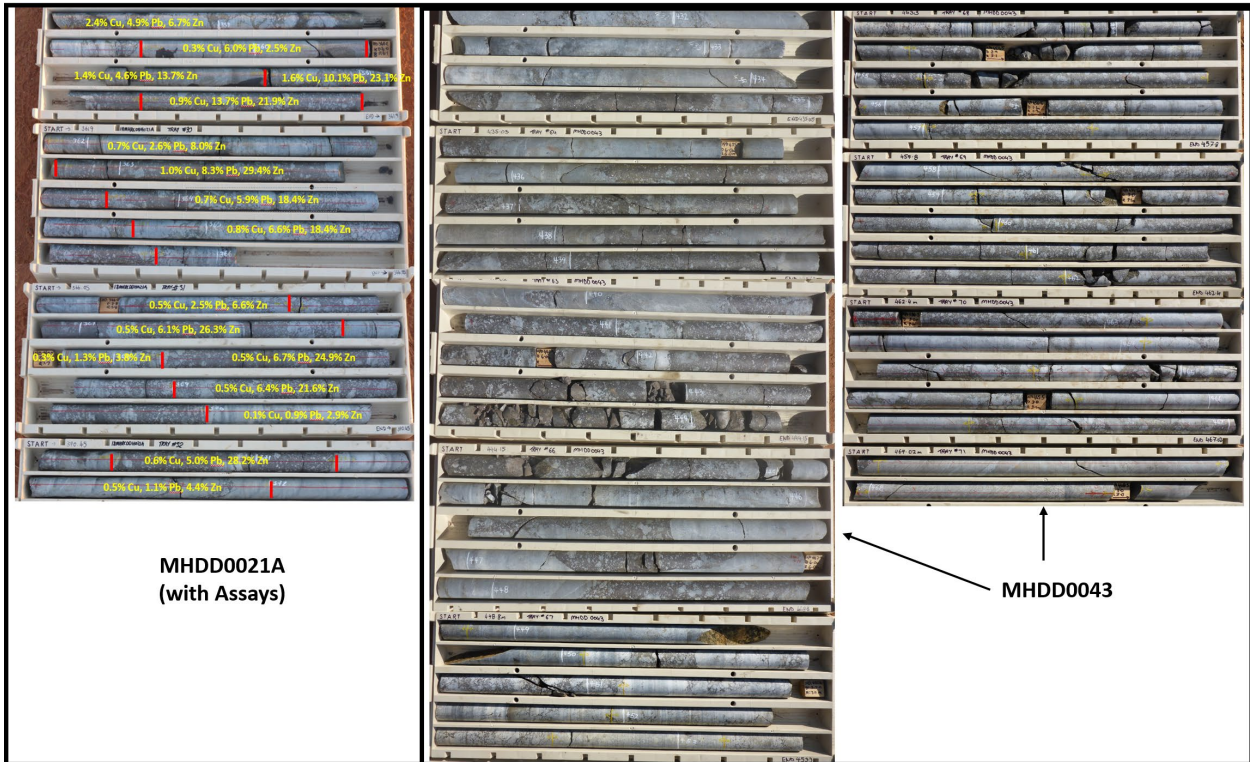


Figure 3 – Portion of the mineralisation intersected in MHDD0043 at the EM1 Prospect in comparison to the intersection in MHDD0021A.

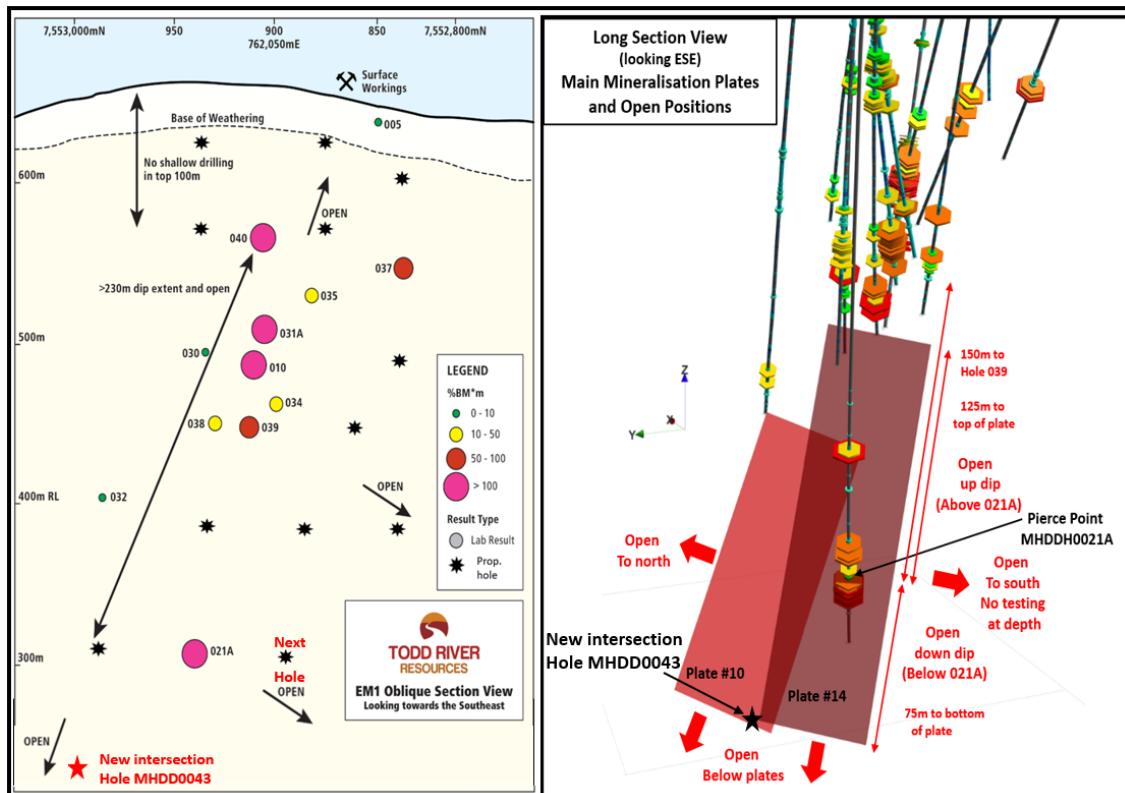


Figure 4 – Mt Hardy Project, EM1 Prospect area oblique long projection and location of the new pierce point for MHDD0043 and additional planned holes.



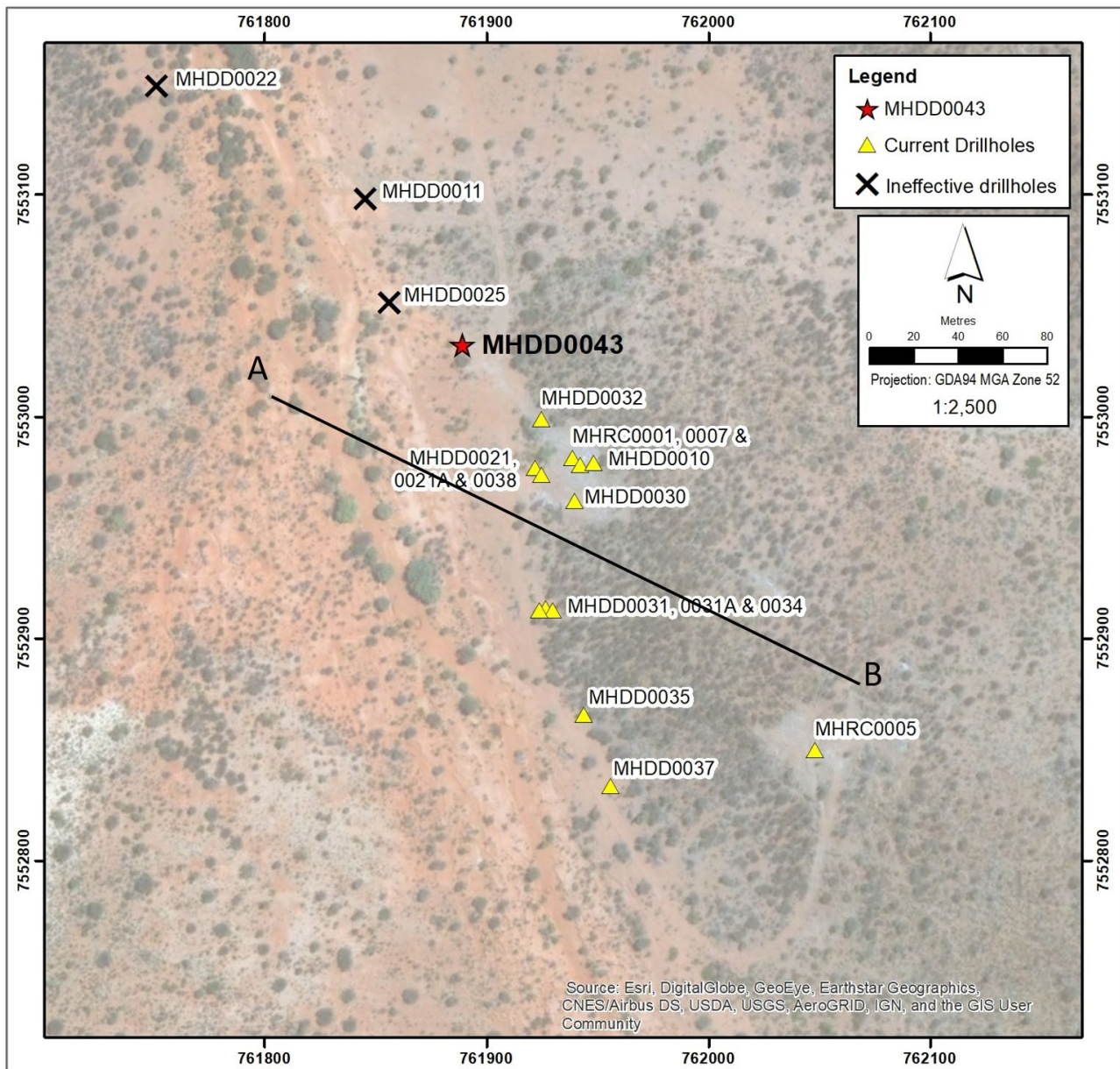


Figure 4 – Mt Hardy drill collar plan showing the location of MHDD0043 and approximate section line as shown in Figure 5.



## Appendix A JORC Table One – Section One. Sampling Techniques and Data Mount Hardy Drilling – Diamond Drilling – pXRF Results

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 sampled on 1m intervals. All samples from 2018 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. Portable XRF results reported here are taken from whole core analyses at 0.25 and 0.5m intervals.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Reverse Circulation (RC) drilling of pre-collars with 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 >90% 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.	Portable XRF analyses reported here are taken with CRM Standard samples and Blanks samples inserted into the sequence at 1 in 25 and 1 in 50 samples respectively. Results reported here are averages of multiple pXRF analyses to give a reasonable representative result.
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	Portable XRF results reported here are taken with an Olympus Delta Pro unit (2014) with a 60 second read time (30 seconds beam 1 and 30 seconds beam 2) in GEOCHEM mode. Three certified base metal standards and a certified blank sample were analysed during pXRF sampling, at a rate of 1 in 25 samples. Standards were GBM399-7, GBM399-2, and GBM908-10 – low, medium and high grade for base metal respectively. Blank GLG312-2 was





	acceptable levels of accuracy (ie lack of bias) and precision have been established.	used. pXRF results for the standards and the blank were acceptable, and no calibration factors have been applied. Given the above QA/QC work the pXRF data is considered to be a total result for the base metals reported (Cu, Pb, Zn), and to have acceptable levels of accuracy and precision. Results from drilling/sampling earlier this year indicate the pXRF analyses underestimate the high grade (>5%) base metal intervals by around 50%, and so laboratory ICP results would be expected to exceed these reported pXRF values.
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.	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
Locations 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.	All drilling collars were located up using a standard GPS unit with accuracy of ca. 5m for Easting, Northing and RL All coordinate data for the Mount Hardy project are in MGA_GDA94 Zone 52.
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.	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.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	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 most drilled prospects only have a few holes and so 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).
Sample security	The measures taken to ensure sample security.	All core and samples were under company supervision at all times prior to delivering to Genalysis/Intertek laboratories in Alice Springs
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No sampling audits have been conducted at Mount Hardy

## 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 Mount Hardy prospects are located on tenements EL 27892, EL 28694 and EL 29219 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 significant work was conducted by TNG Limited, and has been reported to the ASX in several ASX Releases (Mentioned in the text). In 2017 through



		September 2018 Todd River completed two drilling programs and has reported results in several ASX releases (such as 26 April and 3 September 2018).
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"> <li>o Easting and northing of the drill collar</li> <li>o Elevation of RL (Reduced Level – elevation above sea level in metres) of the drill collar</li> <li>o Dip and azimuth of the hole</li> <li>o Down hole length and interception depth</li> <li>o Hole length</li> </ul>	Hole location details are shown in Table 1. Interval and grade values reported here have been determined from averages of multiple portable XRF results and so approach a representative result. Laboratory analyses will be reported as available.
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.	All results are length weighted averages. No maximum or minimum cuts applied.
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.	Portable XRF results are reported here. All data used 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, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	No substantial new information is available other than that reported above.
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.	Samples from this drilling will be submitted for analysis and will be reported when available. Drilling will continue at EM1 at Mount Hardy over the coming few weeks, with sample submission and analytical results reported as available.



**Appendix B**  
**Portable XRF Sample Results**

Hole ID	DEPTH	Cu_%	Pb_%	Zn_%	Sum_BM%
MHDD0043	410.00	0.037%	0.049%	0.327%	0.413%
MHDD0043	410.25	0.023%	0.054%	0.013%	0.091%
MHDD0043	410.50	0.090%	0.252%	0.053%	0.394%
MHDD0043	410.75	0.014%	0.101%	0.013%	0.128%
MHDD0043	411.00	0.034%	0.144%	0.040%	0.218%
MHDD0043	411.25	0.000%	0.017%	0.916%	0.933%
MHDD0043	411.50	0.017%	0.059%	0.019%	0.095%
MHDD0043	411.75	0.000%	0.013%	0.016%	0.029%
MHDD0043	412.00	0.407%	2.063%	2.876%	5.35%
MHDD0043	412.25	0.150%	0.993%	41.636%	42.8%
MHDD0043	412.50	1.494%	2.460%	36.869%	40.8%
MHDD0043	412.75	0.000%	0.080%	2.400%	2.48%
MHDD0043	413.00	0.064%	0.228%	0.095%	0.387%
MHDD0043	413.25	0.000%	0.022%	0.026%	0.048%
MHDD0043	413.50	0.000%	0.009%	0.012%	0.022%
MHDD0043	414.50	0.000%	0.004%	0.005%	0.009%
MHDD0043	431.00	0.017%	0.048%	0.041%	0.106%
MHDD0043	431.50	1.040%	0.178%	0.553%	1.77%
MHDD0043	432.00	0.026%	0.445%	1.726%	2.20%
MHDD0043	432.50	0.013%	0.150%	0.059%	0.222%
MHDD0043	433.00	0.004%	0.000%	0.001%	0.005%
MHDD0043	433.50	0.090%	0.027%	0.291%	0.408%
MHDD0043	434.00	0.000%	0.114%	3.528%	3.64%
MHDD0043	434.50	0.463%	0.177%	43.213%	43.9%
MHDD0043	435.00	0.439%	0.956%	26.667%	28.1%
MHDD0043	435.50	0.000%	0.007%	0.873%	0.881%
MHDD0043	436.00	0.039%	0.021%	0.148%	0.208%
MHDD0043	436.50	1.672%	0.339%	35.547%	37.6%
MHDD0043	437.00	0.263%	0.030%	17.658%	18.0%
MHDD0043	437.50	3.303%	2.349%	18.407%	24.1%
MHDD0043	438.00	0.900%	0.570%	1.618%	3.1%
MHDD0043	438.50	0.062%	0.091%	0.357%	0.510%
MHDD0043	439.00	3.910%	3.405%	17.091%	24.4%
MHDD0043	439.50	6.156%	0.544%	33.329%	40.0%
MHDD0043	440.00	0.162%	0.268%	0.559%	0.989%
MHDD0043	440.50	0.772%	0.499%	14.839%	16.1%
MHDD0043	441.00	0.567%	0.692%	13.191%	14.5%
MHDD0043	441.50	9.621%	1.959%	28.972%	40.6%
MHDD0043	442.00	0.148%	1.678%	38.255%	40.1%



Hole ID	DEPTH	Cu_%	Pb_%	Zn_%	Sum_BM%
MHDD0043	442.50	0.259%	0.567%	8.121%	8.95%
MHDD0043	443.00	3.012%	2.035%	33.063%	38.1%
MHDD0043	443.50	0.288%	0.938%	33.881%	35.1%
MHDD0043	444.00	1.646%	1.679%	24.982%	28.3%
MHDD0043	444.50	2.477%	7.008%	31.392%	40.9%
MHDD0043	445.00	0.020%	0.200%	0.110%	0.330%
MHDD0043	445.50	0.022%	0.492%	0.087%	0.601%
MHDD0043	446.00	0.000%	0.201%	9.739%	9.94%
MHDD0043	446.50	0.153%	0.327%	28.406%	28.9%
MHDD0043	447.00	0.000%	0.015%	0.020%	0.035%
MHDD0043	447.50	0.287%	5.582%	37.177%	43.0%
MHDD0043	448.00	0.000%	0.006%	0.021%	0.027%
MHDD0043	448.50	0.317%	2.145%	19.199%	21.7%
MHDD0043	449.00	0.000%	0.476%	6.499%	6.97%
MHDD0043	449.50	0.005%	0.036%	0.017%	0.058%
MHDD0043	450.00	0.000%	0.002%	0.023%	0.025%
MHDD0043	450.50	0.107%	0.278%	1.272%	1.66%
MHDD0043	451.00	0.056%	0.036%	0.260%	0.353%
MHDD0043	451.50	0.556%	0.689%	0.900%	2.14%
MHDD0043	452.00	0.030%	0.033%	0.203%	0.267%
MHDD0043	452.50	0.460%	0.254%	12.584%	13.3%
MHDD0043	453.00	0.249%	0.216%	0.042%	0.508%
MHDD0043	453.50	0.050%	0.171%	2.698%	2.92%
MHDD0043	454.00	0.415%	0.173%	3.502%	4.09%
MHDD0043	454.50	1.040%	0.522%	2.730%	4.29%
MHDD0043	455.00	0.193%	1.410%	17.902%	19.5%
MHDD0043	455.50	0.608%	0.974%	2.352%	3.93%
MHDD0043	456.00	2.496%	0.138%	0.177%	2.81%
MHDD0043	456.50	0.060%	0.709%	4.551%	5.32%
MHDD0043	457.00	0.620%	0.823%	8.538%	9.98%
MHDD0043	457.50	0.030%	1.304%	0.464%	1.80%
MHDD0043	458.00	0.025%	0.010%	0.089%	0.12%
MHDD0043	458.50	4.360%	2.137%	21.775%	28.3%
MHDD0043	459.00	1.106%	0.678%	3.319%	5.10%
MHDD0043	459.50	0.029%	0.395%	0.310%	0.735%
MHDD0043	460.00	1.400%	0.976%	8.891%	11.3%
MHDD0043	460.50	2.793%	1.204%	13.442%	17.4%
MHDD0043	461.00	1.061%	0.862%	10.118%	12.0%
MHDD0043	461.50	0.913%	1.213%	17.350%	19.5%
MHDD0043	462.00	0.118%	1.557%	17.492%	19.2%
MHDD0043	462.50	0.000%	0.000%	0.003%	0.003%





Hole ID	DEPTH	Cu_ %	Pb_ %	Zn_ %	Sum_BM%
MHDD0043	463.00	0.281%	0.608%	0.888%	1.78%
MHDD0043	463.50	0.000%	0.000%	0.005%	0.005%
MHDD0043	464.00	0.004%	0.001%	0.004%	0.009%
MHDD0043	464.50	0.088%	0.133%	1.343%	1.56%
MHDD0043	465.00	1.989%	1.221%	9.837%	13.0%
MHDD0043	465.50	0.180%	0.071%	0.161%	0.412%
MHDD0043	466.00	3.886%	0.056%	0.486%	4.43%
MHDD0043	466.50	0.227%	3.606%	0.722%	4.56%
MHDD0043	467.00	1.141%	1.048%	0.407%	2.60%
MHDD0043	467.50	0.000%	0.008%	0.014%	0.022%
MHDD0043	468.00	0.000%	0.010%	0.018%	0.028%
MHDD0043	468.50	0.015%	0.147%	0.040%	0.202%
MHDD0043	469.00	0.000%	0.006%	0.028%	0.034%
MHDD0043	469.50	0.000%	0.040%	0.014%	0.054%
MHDD0043	470.00	0.000%	0.022%	0.037%	0.058%