

## LATEST STEP-OUT DRILLING EXTENDS BASE METAL MINERALISATION AT MT HARDY TO ~600m DOWN-DIP

**180m step-out hole at EM1 discovery intersects 21 metres of brecciated base metals sulphides, with down-hole geophysics pointing to further sulphide mineralisation**

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### Highlights:

- Ongoing drilling continues to expand the mineralisation at the EM1 target, with significant step-out hole MHDD0042 intersecting 21 metres of brecciated sulphides 180m down-dip of recent drilling.
- The new intercept (assays pending) lies 180m below and 40m south of the previously-reported high-grade results in hole MHDD0043 (35.54m @ 14.7% Zn, 2.92% Pb, 0.91% Cu and 59g/t Au from 431.54m down-hole).
- Main EM1 mineralised zone now extended to a vertical depth (down-dip) of ~600m and remains open in all directions.
- Down-hole geophysics indicates strong mineralisation between holes MHDD0043 and MHDD0042.
- Moving Loop EM surveying to date has identified several additional targets along strike from EM1.
- Drilling and geophysics to continue until mid-December and re-commence in early February 2019.

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Todd River Resources Limited (ASX: TRT; “Todd River” or “the Company”) is pleased to advise that recent drilling has further expanded EM1 base metal discovery at its 100%-owned **Mt Hardy Copper-Zinc Project** in the Northern Territory (Figure 1) as ongoing drilling and geophysics programs continue to gather momentum.

The Company has been targeting extensions of the EM1 mineralisation both along strike and at depth since drilling re-commenced in September. A second rig has commenced drilling at EM1 where the program will continue until the middle of December and re-commence in early February 2019.

Down-hole TEM (DHTEM) and Moving Loop TEM (MLTEM) geophysical programs are also in progress, and will continue until the middle of December, before re-commencing in February 2019.

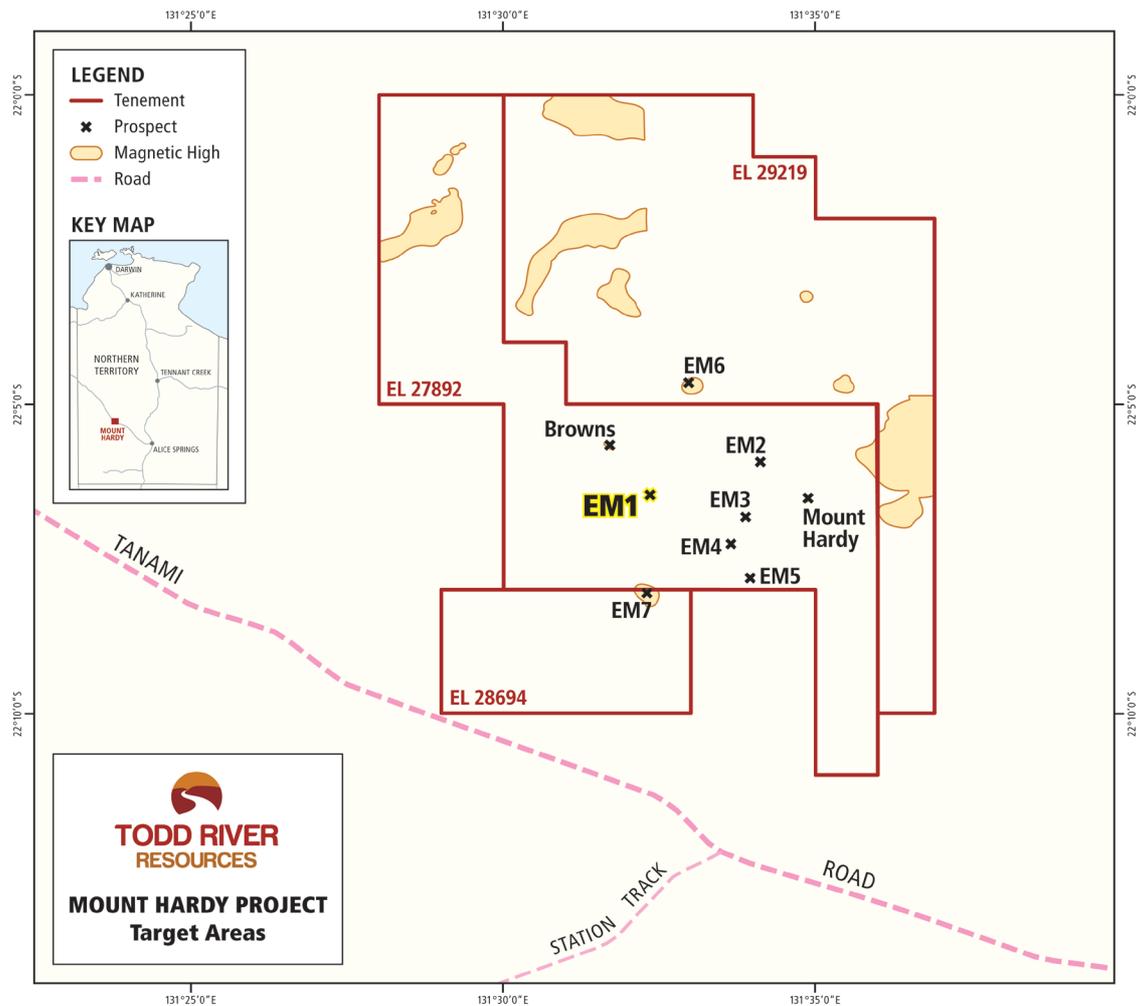
Commenting on the exploration update, Todd River’s Chief Executive Officer, Will Dix, said:

*“Being able to continue to expand the mineralisation at EM1 at the rate we have is a fantastic result for shareholders and bringing the second rig to site means that we can achieve our drilling objectives for 2018, as set out in September.”*



*“To date the results we have generated have been outstanding and the encouragement we are getting from the continuity of DHEM plates and the generation of new targets provides a really strong platform for ongoing exploration around EM1 and across Mt Hardy.*

*“I would like to take this opportunity to thank all our long term and recently added shareholders for their support and I look forward to providing regular updates on our progress for the remainder of this year and into 2019.”*



**Figure 3 – Mt Hardy Project showing the location of the main drill target area, EM1 and additional prospects in the project area.**

### **EM1 Diamond Drilling**

Since early October, five holes have been completed at EM1 for a total of 2,601m (Table 1), which is split between Reverse Circulation (924m) and diamond drilling (1,677m).

All holes have intersected sulphide mineralisation, with the best intersections achieved in holes MHDD0043 (see ASX Announcement – 7 November 2018) and the recently completed hole MHDD0042, where 21 metres



of brecciated sulphide was intersected in a 180m step-out down-dip which has extended the mineralisation over a total down-dip extent of ~600 metres.

The drilling program for the remainder of 2018 will focus on expanding the mineralisation to the south, and on drilling some shallower holes between MHDD0021A and the surface. With a second rig now operating on site (Figure 2), and more Reverse Circulation pre-collars to be completed, it is expected that a further 1,700m and six additional pierce points on the main mineralised horizon will be achieved by mid-December.

In total around 4,300m will be drilled during the December Quarter.



**Figure 2 – Two rigs drilling at the EM1 Project, Mt Hardy Project.**

### **Drilling – Analytical Results**

Of the drilling completed so far since the restart in October, laboratory results have so far been received for hole MHDD0043 (see ASX Announcement – 7 November 2018), with laboratory results for holes MHDD0041, 0044, 0042, and 0045 expected in December.

Portable-XRF values for these holes are presented below.

<b>HOLE ID</b>	<b>FROM</b>	<b>TO</b>	<b>INTERVAL</b>	<b>Cu%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>SumBM%</b>
<b>MHDD0042</b>	<b>621.75</b>	<b>644.25</b>	<b>22.50m</b>	<b>0.98</b>	<b>0.13</b>	<b>3.90%</b>	<b>5%</b>

*(Average of 45 pXRF readings taken at 0.5m intervals)*

Within this broad zone values of up to 10.2% copper and 32% zinc were reported, with a two metre zone averaging 24% combined base metal content (at a 5% base metal cut-off grade).



HOLE ID	FROM	TO	INTERVAL	Cu%	Pb%	Zn%	SumBM%
MHDD0042	639.25	641.25	2.0m	2.77	0.23	20.8%	24%

*(Average of four pXRF readings taken at 0.5m intervals)*

Hole MHDD0042 has a similar thickness of sulphide breccia mineralisation to the above hole (MHDD0043), but with less intense sulphide development. **The intersection is 180m below/down-dip from the nearest hole MHDD0043 – extending the total dip extent of the mineralisation at EM1 to over 600 metres (625m to 025m RL AHD).**

The **mineralisation remains strong and is open in all directions at depth**. The hole was deeper than originally designed because the mineralisation appears to steepen up (from 65-75 degrees to 70-85 degrees) below 200m RL.

Drilling to expand the mineralisation to the south has successfully intersected a **3.5m zone of brecciated massive sulphides** in hole MHDD0045, some 40 metres to the south of hole MHDD0021A. The mineralisation is thinner than in MHDD0021A but the sulphides appear similar and the pXRF readings below suggest that the grades will be comparable.

HOLE ID	FROM	TO	INTERVAL	Cu%	Pb%	Zn%	SumBM%
MHDD0045	389.25	392.25	3.5m	2.2	3.0	8.5%	14%

*(Average of seven pXRF readings taken at 0.5m intervals)*

Additional holes drilled higher up and to the north of MHDD0021A returned patchy results, with the best intersection in hole MHDD0044 returning

HOLE ID	FROM	TO	INTERVAL	Cu%	Pb%	Zn%	SumBM%
MHDD0044	309.00	311.25	2.25m	5.6	2.8	13.0%	21%

*(Average of seven pXRF readings taken at 0.5m intervals)*

Table 2 provides a summary of significant intersections for all pXRF results for the current drill program. All pXRF data around these intersections are provided in Appendix A. Hole locations are shown in Figure 3, with the intersections shown in oblique long section in Figure 4.

### **Downhole Geophysical Survey**

Down-hole EM surveying was completed on the last of the holes drilled during the first phase of exploration at Mt Hardy in July (holes MHDD0039 and 0040) and the first completed holes for the current work program, including MHDD0043.

The results have been processed and interpreted in the context of the geology and mineralisation identified in each hole (see Appendix One). The geophysical interpretation and modelling also incorporated the DHEM data acquired earlier in the year and also other datasets as set out in the Company's ASX Announcement of 3 September 2018.

The Company's geophysical consultant has **modelled a further 11 conductor plates** from the new survey data in the EM1 area. The deeper modelled plates are shown on Figure 4, together with the drill-hole traces.



Some have been sufficiently tested, but several positions are prioritised as high priority with the remaining conductors to be further evaluated and constrained by additional down-hole geophysical surveys in new holes.

The plates all consistently dip steeply to the west-north-west, with modelled dips varying from 68 to 85 degrees. The deepest plate (modelled from hole MHDD0043) has an 85 degree dip, indicating the mineralisation may be steepening up at depth (below 200m RL).

Plate depth ranges from near-surface (centroid depth <50m below ground level) in the east, to around **600m below the surface**. Conductivities range from 200 to 1800 Siemens, with most base metal mineralised zones relating to modelled plates in the ca. 1000 Siemen range. Very high conductivity modelled plates mostly relate to pyrrhotite-rich sulphide zones.

Some of the plates are in-hole and therefore at least partially tested by existing drilling, while others are off-hole and essentially untested – offering significant **scope for further growth in the mineralised system** at EM1. Two newly identified plates are discussed below, as they offer significant potential to grow the zone of mineralisation.

**Plate #19**, outlined below and shown on Figure 3, has been modelled from hole MHDD0043 (the deepest hole surveyed to date). A large (80 x 300m) and strong in-hole plate, that extends both up-dip towards the drill hole above (MHDD0021A) and below hole. It is **modelled to 200m below hole**, indicating the **potential for significant additions at the grade and thickness represented by hole MHDD0043 (35.54m @ 14.7% Zn, 2.92% Pb and 0.91% Cu from 431.54m**, as outlined in ASX Announcement 7 November 2018).

#### DHEM Plates #19 and 20

Plate Number	Position			Orientation		Size		Strength (Siemens)
	Easting	Northing	RL (AHD)	Dip	DipDirn	Across	Depth	
19	762086	7552980	240	85	317.5	80	300	1000
20	762059	7552892	401	81	295	60	90	1000

Significantly the position of the mineralised intersection in hole MHDD0042 is some 80m to the south of Plate #19. It intersected moderately developed sulphide breccia, but the better grade material at this depth is expected to lie to the north of this position, within Plate #19.

**Plate #20** also provides potential to add to the mineralisation, being a 60 x 90m sheet modelled from hole MHDD0044. It is south and above this hole and has hole MHDD0034 piercing the top northern corner. Two of the remaining holes in the 2018 drill program will test this position at the 200-300m below surface depth. These may add to the known strike width of the EM1 sheet.

#### Moving Loop Geophysical Survey

A program of Moving Loop TEM (MLTEM) program commenced in October, and will continue into December. The survey covers a 3km x 2km area surrounding the EM1 drilling area, and is designed to identify conductor units relating to sulphides extensions or offsets from the known EM1 zone.



Initially, three orientation lines were completed to determine the best coupling with the mineralisation as noted at EM1 (steeply-dipping towards the WNW). Work is now continuing on lines oriented NNE/SSW with 100m x 100m loops at 100m spacings positioned along lines 200m apart. Work is continuing, however preliminary assessment and modelling indicates that several significant anomalies have been outlined. These will be reported once the 2018 work has been completed.

Figure 4 shows the outline of the proposed MLTEM survey that will continue into 2019

The MLTEM program will continue into mid-December and this data will be assessed and reported early in the new year. The program is designed to continue in early 2019, moving towards the Browns Prospect area (2km to NW).

**Table 1 – Drill Hole Location data, EM1 Prospect, Mt Hardy Project**

HOLE_ID	EASTING	NORTHING	AHD_m	DIP	AZI_MAG	TD	RC metres	DDH HQ	DDH NQ
MHDD0041	761892	7553038	642	-59	109.24	398.25	206.6	37.0	154.7
MHDD0042	761888	7553041	642	-77	107.24	679.00	203.6	37.7	437.7
MHDD0043	761922	7553064	642	-72	108.24	519.51	155.5	0.0	364.0
MHDD0044	761901	7552988	642	-63	109.24	361.01	166.5		194.5
MHDD0045	761896	7552992	642	-72	108.24	394.11	191.7	30.2	172.2
MHDD0045W1	761896	7552992	642	-72	108.24	448.84	0.0	0.0	249.2

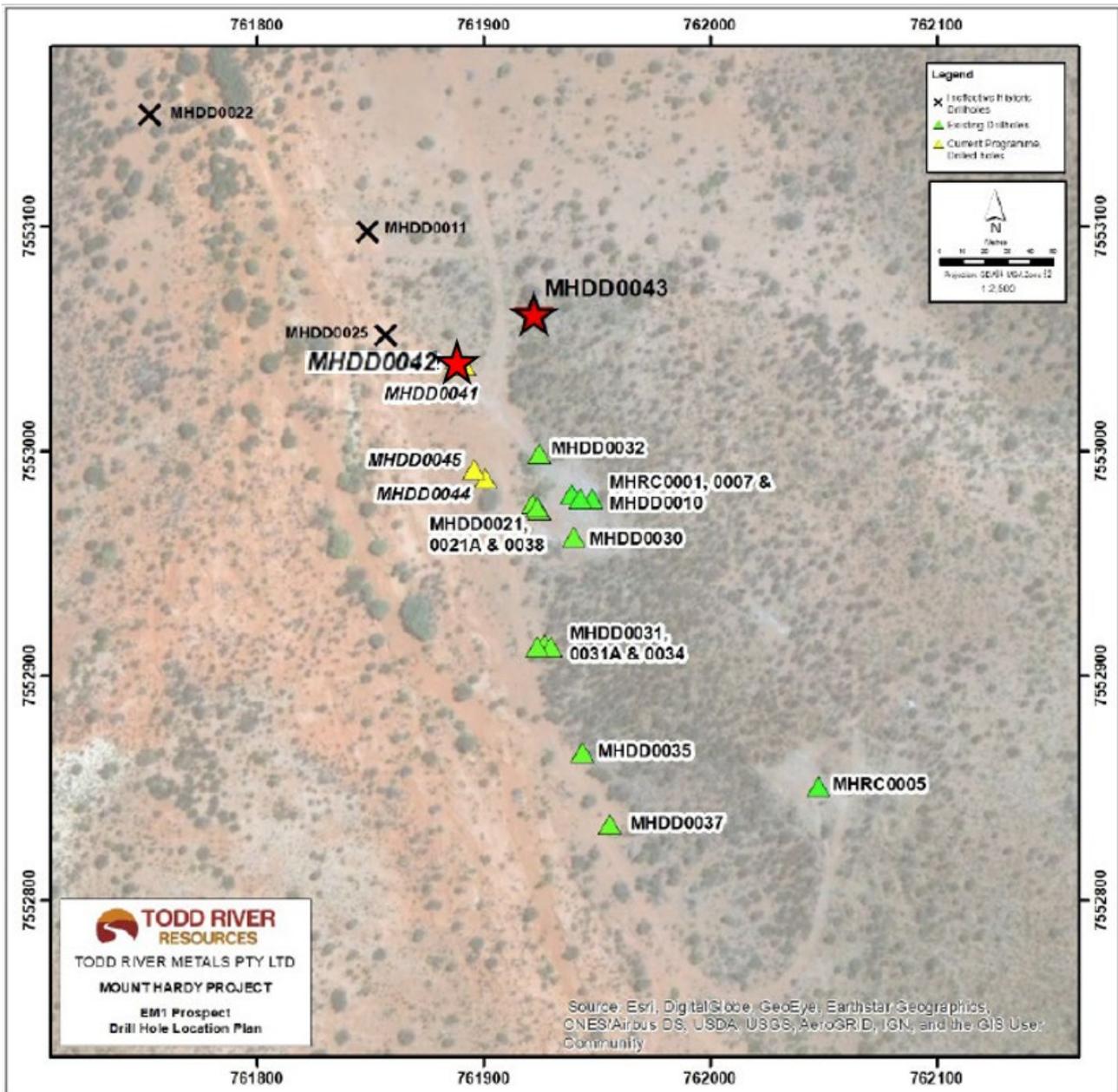


Figure 3 – Drill Hole Location Plan, EM1 area, Mount Hardy.

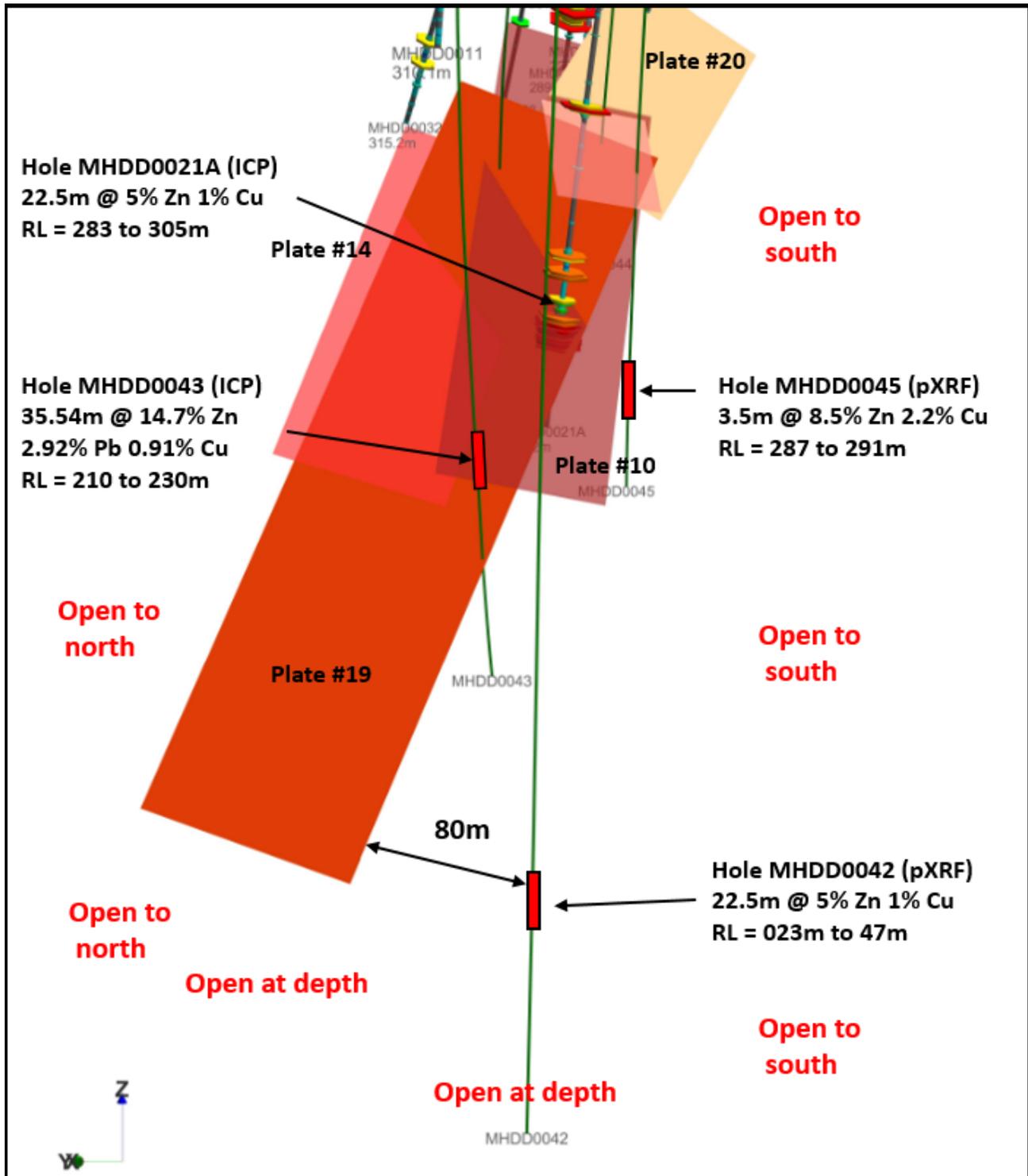


Figure 4 – Oblique Long Section (looking southeast) at EM1, showing the recent drilling intersections at depth (below 300m RL, 340m below ground surface).

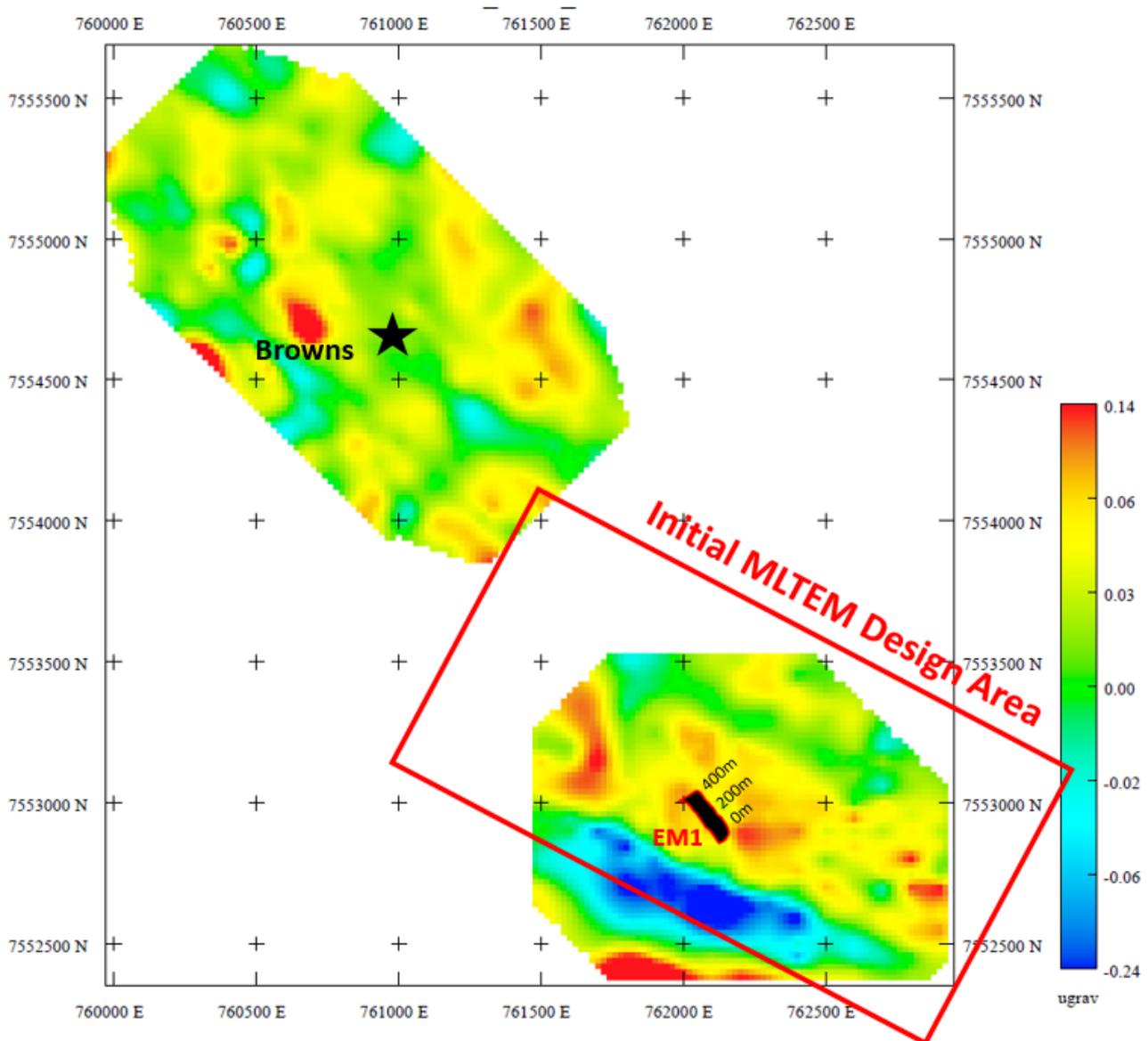


Figure 5 – MLTEM survey area on gravity background image.

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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 has recently announced a zinc-copper discovery, EM1, 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.

Whilst 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.



## Appendix One Portable XRF Data

All significant results for holes MHDD0041, MHDD0042, MHDD0044, and MHDD0045.

Hole ID	DEPTH	Cu_ppm	Zn_ppm	Pb_ppm	SumBM_%
MHDD0041	317.50	0	50	24	0.01%
MHDD0041	318.50	0	96	25	0.01%
MHDD0041	319.50	0	63	26	0.01%
MHDD0041	320.50	152	85	30	0.03%
MHDD0041	321.50	0	93	32	0.01%
MHDD0041	322.00	0	173	28	0.02%
MHDD0041	322.50	0	85	7	0.01%
MHDD0041	323.00	66028	27268	16082	10.94%
MHDD0041	323.50	0	237	46	0.03%
MHDD0041	324.00	22855	56762	17694	9.73%
MHDD0041	324.50	1853	1870	1516	0.52%
MHDD0041	325.00	441	407	267	0.11%
MHDD0041	325.50	61	710	99	0.09%
MHDD0041	332.00	0	109	76	0.02%
MHDD0041	332.50	0	103	69	0.02%
MHDD0041	333.00	0	159	226	0.04%
MHDD0041	333.50	1610	14151	15450	3.12%
MHDD0041	334.00	0	121	158	0.03%
MHDD0041	334.50	0	146	1147	0.13%
MHDD0041	335.00	6933	1312	1254	0.95%
MHDD0041	335.50	0	148	35	0.02%
MHDD0041	336.00	39	257	483	0.08%
MHDD0041	336.50	0	859	26	0.09%
MHDD0041	337.00	0	70	27	0.01%
MHDD0042	569.50	0	197	250	0.04%
MHDD0042	570.50	113	251	224	0.06%
MHDD0042	571.50	0	18	0	0.00%
MHDD0042	572.50	14610	117759	15312	14.77%
MHDD0042	573.50	337	630	49	0.10%
MHDD0042	574.50	0	94	71	0.02%
MHDD0042	575.50	0	271	143	0.04%
MHDD0042	618.50	0	89	44	0.01%
MHDD0042	619.50	0	343	72	0.04%
MHDD0042	620.50	0	118	59	0.02%



Hole ID	DEPTH	Cu_ppm	Zn_ppm	Pb_ppm	SumBM_%
MHDD0042	621.00	0	96	32	0.01%
MHDD0042	621.50	3450	1383	146	0.50%
MHDD0042	622.00	1552	133260	1330	13.61%
MHDD0042	622.50	15769	69767	2990	8.85%
MHDD0042	623.00	13274	2211	130	1.56%
MHDD0042	623.50	78	103	43	0.02%
MHDD0042	624.00	0	119	16	0.01%
MHDD0042	624.50	0	122	31	0.02%
MHDD0042	625.00	111	176	16	0.03%
MHDD0042	625.50	67	117	356	0.05%
MHDD0042	626.00	850	112	207	0.12%
MHDD0042	626.50	0	25562	582	2.61%
MHDD0042	627.00	27253	25840	97	5.32%
MHDD0042	627.50	870	784	150	0.18%
MHDD0042	628.00	0	1194	34	0.12%
MHDD0042	628.50	0	83	73	0.02%
MHDD0042	629.00	108	189	87	0.04%
MHDD0042	629.50	223	273	55	0.06%
MHDD0042	630.00	1719	59089	278	6.11%
MHDD0042	630.50	155	306	48	0.05%
MHDD0042	631.00	362	2157	72	0.26%
MHDD0042	631.50	101772	31689	1291	13.48%
MHDD0042	632.00	44971	5803	918	5.17%
MHDD0042	632.50	1648	842	48	0.25%
MHDD0042	633.00	41292	208277	9425	25.90%
MHDD0042	633.50	325	9059	52	0.94%
MHDD0042	634.00	0	228	84	0.03%
MHDD0042	634.50	126	126	192	0.04%
MHDD0042	635.00	44	181	167	0.04%
MHDD0042	635.50	879	800	257	0.19%
MHDD0042	636.00	816	15896	135	1.68%
MHDD0042	636.50	0	49566	5115	5.47%
MHDD0042	637.00	0	220	37	0.03%
MHDD0042	637.50	4659	1280	37	0.60%
MHDD0042	638.00	12043	27545	9340	4.89%
MHDD0042	638.50	524	1172	272	0.20%
MHDD0042	639.00	0	1921	284	0.22%
MHDD0042	639.50	40739	112939	4864	15.85%
MHDD0042	640.00	14686	199181	1604	21.55%
MHDD0042	640.50	28426	197004	1900	22.73%
MHDD0042	641.00	26956	322798	645	35.04%
MHDD0042	641.50	2116	252	3470	0.58%
MHDD0042	642.00	4191	329	951	0.55%
MHDD0042	642.50	13033	43109	1160	5.73%
MHDD0042	643.00	21942	38453	1280	6.17%
MHDD0042	643.50	9048	164743	7384	18.12%
MHDD0042	644.00	10094	522	303	1.09%
MHDD0042	644.50	2089	5482	22	0.76%
MHDD0042	645.00	0	269	79	0.03%
MHDD0042	645.50	0	90	89	0.02%
MHDD0042	646.00	0	111	93	0.02%
MHDD0042	646.50	0	171	76	0.02%



Hole ID	DEPTH	Cu_ppm	Zn_ppm	Pb_ppm	SumBM_%
MHDD0044	306.75	0	53	41	0.01%
MHDD0044	307.00	171	102	133	0.04%
MHDD0044	307.25	99	88	81	0.03%
MHDD0044	307.50	0	85	38	0.01%
MHDD0044	307.75	82	57	28	0.02%
MHDD0044	308.00	2175	8574	1100	1.18%
MHDD0044	308.25	0	175	53	0.02%
MHDD0044	308.50	785	499	385	0.17%
MHDD0044	308.75	774	238	352	0.14%
MHDD0044	309.00	501	360	29	0.09%
MHDD0044	309.25	64196	163942	29695	25.78%
MHDD0044	309.50	66042	134253	34904	23.52%
MHDD0044	309.75	76281	135056	36144	24.75%
MHDD0044	310.00	75955	222087	48387	34.64%
MHDD0044	310.25	61041	119382	27997	20.84%
MHDD0044	310.50	92533	220524	34966	34.80%
MHDD0044	310.75	2637	6843	1542	1.10%
MHDD0044	311.00	10587	40026	12415	6.30%
MHDD0044	311.25	0	154	28	0.02%
MHDD0044	311.50	0	136	39	0.02%
MHDD0044	311.75	0	226	35	0.03%
MHDD0045	385.50	0	131	67	0.02%
MHDD0045	386.00	0	131	84	0.02%
MHDD0045	386.50	1457	1165	34	0.27%
MHDD0045	387.00	0	127	75	0.02%
MHDD0045	387.50	1497	570	50	0.21%
MHDD0045	388.00	246	51	470	0.08%
MHDD0045	388.50	895	309	1230	0.24%
MHDD0045	389.00	293	3752	1004	0.50%
MHDD0045	389.50	36015	172986	58639	26.76%
MHDD0045	390.00	13945	96006	27408	13.74%
MHDD0045	390.50	23047	1665	2893	2.76%
MHDD0045	391.00	5959	100773	13059	11.98%
MHDD0045	391.50	36118	91024	59325	18.65%
MHDD0045	392.00	5530	54382	10441	7.04%
MHDD0045	392.50	30651	81107	40959	15.27%
MHDD0045	393.00	0	51	24	0.01%
MHDD0045	393.50	0	44	40	0.01%
MHDD0045	394.00	0	72	10	0.01%



## Appendix Two      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. In 2017 through September 2018 Todd River



		completed two drilling programs and has reported results in several ASX releases (such as 26 April and 7 November 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	<p>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:</p> <ul style="list-style-type: none"> <li>○ Easting and northing of the drill collar</li> <li>○ Elevation of RL (Reduced Level – elevation above sea level in metres) of the drill collar</li> <li>○ Dip and azimuth of the hole</li> <li>○ Down hole length and interception depth</li> <li>○ Hole length</li> </ul>	<p>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.</p>
Data aggregation methods	<p>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.</p>	<p>All results are length weighted averages. No maximum or minimum cuts applied.</p>
Relationship between mineralisation widths and intercept lengths	<p>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').</p>	<p>Orientation not well defined. Expected true thickness ca. 60-80% of drill/intercept interval.</p>
Diagrams	<p>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.</p>	<p>See Figures 3 and 4.</p>
Balanced reporting	<p>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.</p>	<p>Portable XRF results are reported here. All data used is included in Appendix 1.</p>
Other substantive exploration data	<p>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.</p>	<p>No substantial new information is available other than that reported above.</p>
Further work	<p>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.</p>	<p>Samples from this drilling will be submitted for analysis and will be reported when available. Drilling will continue at EM1 at Mount Hardy until mid-December 2018, with sample submission and analytical results reported as available.</p>