

## DIAMOND DRILLING UPDATE – Mt HARDY COPPER-ZINC PROJECT, NT

*Initial results show mineralisation expands to the south with strong base metal intercept in first new diamond hole of 2019 and additional visual sulphide intersections recorded*

Todd River Resources Limited (ASX: TRT; “Todd River” or “the Company”) is pleased to announce that it has completed the first three holes of the 2019 drilling campaign at its 100%-owned **Mt Hardy Copper-Zinc Project** in the Northern Territory (Figure 1) with initial analytical results received.

The Company has planned approximately 5,000m of drilling split between Reverse Circulation (RC) and diamond drilling, predominantly targeting strike extensions and in-fill to the previously announced EM1 (renamed “Hendrix”) high-grade copper-zinc discovery.

### Diamond Drilling

The initial three holes of the program focussed on an area south and below MHDD0043, which intersected a broad zone of mineralisation in 2018. Analytical results from the first completed hole, MHDD0053A (the southern-most hole drilled to date), returned **10.53m @ 6.44% Zn, 0.86% Pb and 0.17% Cu** from 494m down-hole, including **4.67m @ 11.13% Zn, 0.83% Pb and 0.83% Cu** from 499.86m down-hole. Importantly, this intersection represents a 90m step out south of MHDD0043 and over 100m down dip of hole MHDD0045.

Appendix 2 contains the full analytical results for this hole.

Holes MHDD0055 and MHDD0056 have also been completed and assays are awaited for these intersections. Both holes intersected sulphide mineralisation, although in MHDD0055 only stringer zones over 5-6m were identified above and below a thick zone of pegmatite which appears to “stope out” the mineralisation in this location.

In contrast, hole MHDD0056, drilled approximately 20m south of MHDD0055, intersected approximately 24m of varying intensity sulphide mineralisation, with the strongest zone of around 6m being visually similar to the high-grade zinc mineralisation seen in holes MHDD0043 and MHDD0021A.

Table 1 shows the collar information for the completed 2019 diamond holes:

Hole ID	Easting	Northing	AHD-m	DIP	Azimuth	Total Depth
MHDD0053A	761892	7553008	643	-69	120.0	505
MHDD0055	761850	7553135	640	-60	121.0	621
MHDD0056	761881	7553023	643	-80	103.0	560



Figure 2 shows the mid-point pierce point locations for all drilling including the initial 2019 holes completed at Hendrix.

The difference in sulphide mineralisation between two relatively closely-spaced holes highlights the variable nature of the mineralisation at Hendrix and the Company expects that, as further holes are completed, the distribution of pegmatites and variability of the sulphide mineralisation will be better understood.

The next holes in the program are designed to test the mineralisation at the same depth as hole MHDD0043, stepping out around 80m north and south along strike. These holes are shown on Figure 2.

### **Moving Loop EM**

In addition, a geophysical crew has mobilised to Mt Hardy to continue the moving loop TEM program originally started in November 2018. The ongoing program is designed to test a number of new areas, in particular the Browns Prospect where limited historical drilling intersected 13m @ 1.9% Cu and 1.17% Zn in 2013.

To date the Moving Loop survey has identified a number of additional subtle targets on the western side of the survey area, to the north-west of the Hendrix mineralisation.

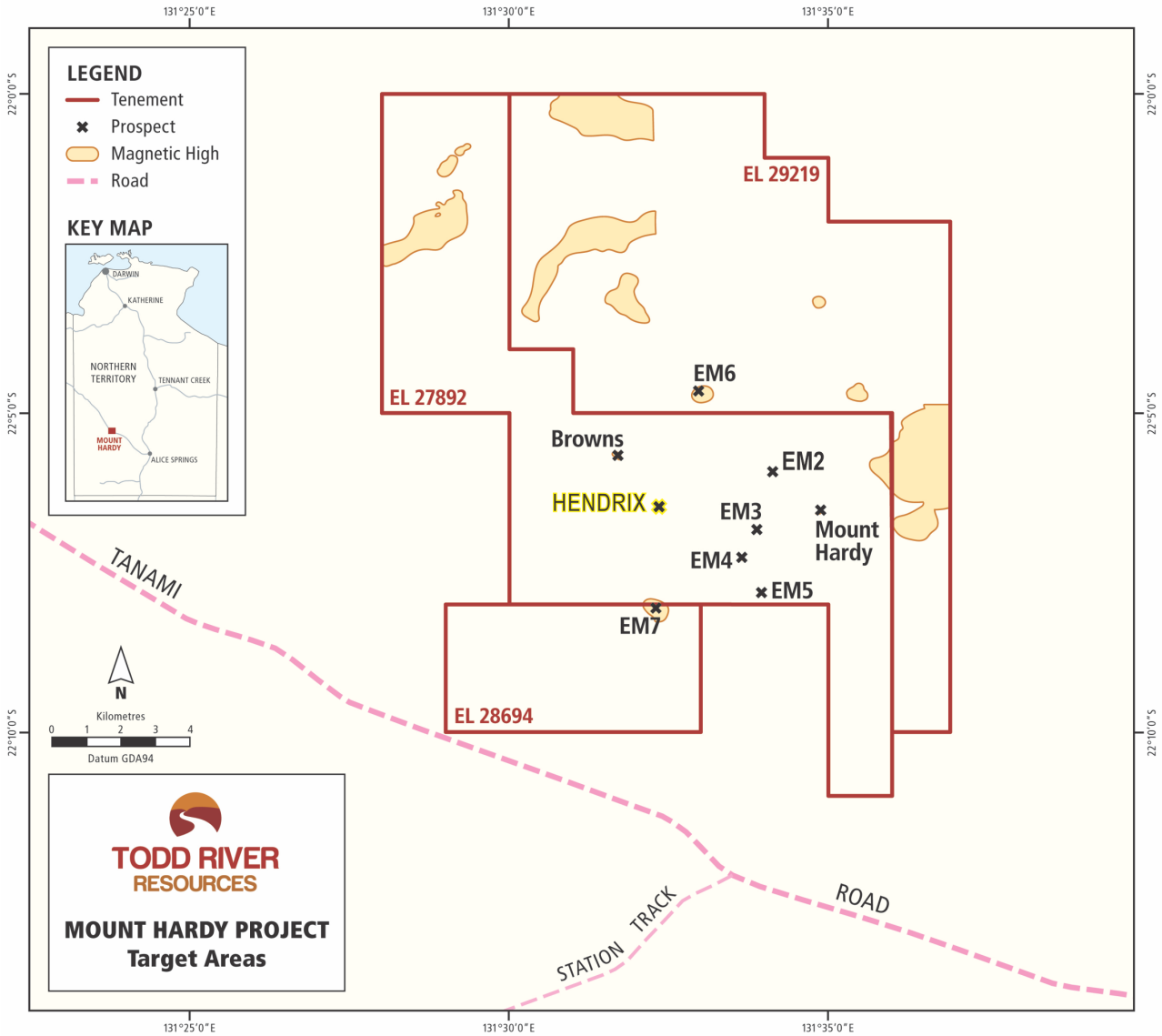
It is anticipated that drill testing of a number of regional targets following modelling of the moving loop TEM data and the specific design of drill holes will commence around the end of May.

Commenting on the outcomes from the first holes of drilling at Mt Hardy, Todd River's Managing Director, Will Dix, said:

*"Our 2019 exploration program is off to a positive start with some very encouraging intercepts in the first few holes designed to test extensions of the mineralisation at Hendrix.*

*"We have a number of additional holes planned and will continue to drill to expand the mineralised footprint as well as work up our regional program.*

*"We are looking forward to seeing what the ongoing drilling can deliver as we target extensions of the mineralisation both along strike and down-dip and begin to test some of the key regional targets now being firmed up."*



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

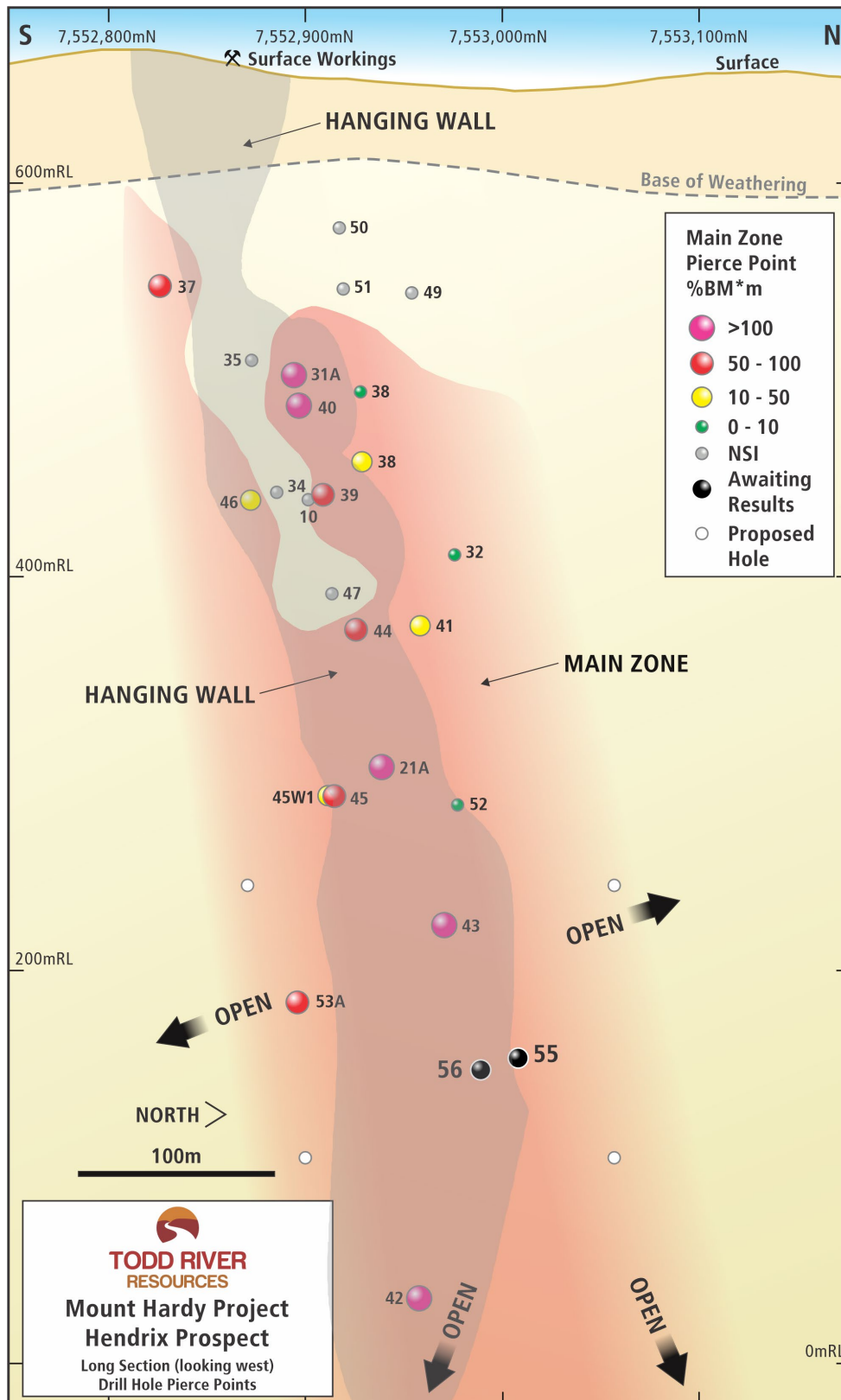


Figure 2 – Mt Hardy Project, Hendrix Prospect area long projection looking west showing current and planned drilling for the remainder of 2019.



## **Will Dix, MD – 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.

### **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.



## Appendix 1

### JORC Table One – Section One. Sampling Techniques and Data Mount Hardy Drilling – RC and Diamond Drilling

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.	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 <sup>th</sup> 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.	Three certified base metal standards and a certified blank sample were analysed during pXRF sampling, at a rate of 1 in 25 samples.



	<p>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</p>	<p>Standards were GBM399-7, GBM399-2, and GBM908-10 – low, medium and high grade for base metal respectively. Blank GLG312-2 was used. pXRF results for the standards and the blank were acceptable, and no calibration factors have been applied.</p> <p>Analytical results for the standards and the blank were acceptable, and no calibration factors have been applied.</p> <p>All samples were analysed at Genalysis Intertek by ICP technique, lab codes 4A/OE33 and FA25/OE04. The four acid digest for the ICP data is considered a “total” result. Given the above QA/QC work the results are considered to be a total result for the base metals reported (Cu, Pb, Zn), and to have acceptable levels of accuracy and precision.</p>
Verification of sampling and assaying	<p>The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes.</p> <p>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.</p> <p>All data was entered into standardized spreadsheets on field laptops and uploaded into the company database.</p> <p>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.</p> <p>Quality and adequacy of topographic control.</p>	<p>All drilling collars were located up using a standard GPS unit with accuracy of ca. 5m for Easting, Northing and RL</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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 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).</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 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



	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.	know 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	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.	Analytical results are reported in this release.. All data used is included in Appendix 1.
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).	Samples from the remaining Hendrix drilling have been submitted for analysis and will be reported when available.





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 at Mount Hardy over the coming few weeks, with sample submission and analytical results reported as available. Regional drilling will also commence in the next few weeks

## Appendix 2 – Analytical Results MHDD0053A

hole_id	From	To	Interval	Zn_pct	Pb_pct	Cu_pct	Ag_ppm	Sum BM (%)
MHDD0053a	176.5	177.5	1	0.008	0.002	0.002	-0.5	0.01
MHDD0053a	177.5	178.55	1.05	0.006	0.003	0.006	-0.5	0.02
MHDD0053a	178.55	179.5	0.95	0.006	0.003	0.001	-0.5	0.01
MHDD0053a	179.5	180.54	1.04	0.011	0.003	0.002	-0.5	0.02
MHDD0053a	180.54	181.5	0.96	0.568	0.004	0.105	1.6	0.68
MHDD0053a	181.5	182.65	1.15	0.182	0.007	0.077	-0.5	0.27
MHDD0053a	182.65	183.6	0.95	0.009	0.004	0.007	-0.5	0.02
MHDD0053a	183.6	184.6	1	0.006	0.002	0.000	-0.5	0.01
MHDD0053a	184.6	185.65	1.05	0.004	0.002	0.001	-0.5	0.01
MHDD0053a	185.65	186.7	1.05	0.005	0.003	0.001	-0.5	0.01
MHDD0053a	267	268	1	0.009	0.006	0.001	-0.5	0.02
MHDD0053a	268	269	1	0.010	0.004	0.001	-0.5	0.01
MHDD0053a	269	270	1	0.015	0.014	0.011	0.5	0.04
MHDD0053a	270	271	1	0.021	0.009	0.031	-0.5	0.06
MHDD0053a	271	272	1	0.018	0.008	0.002	-0.5	0.03
MHDD0053a	272	273	1	0.014	0.008	0.000	-0.5	0.02
MHDD0053a	489.5	490.54	1.04	0.105	0.005	0.006	-0.5	0.12
MHDD0053a	490.54	491.6	1.06	0.174	0.078	0.010	0.8	0.26
MHDD0053a	491.6	492.8	1.2	0.047	0.065	0.003	0.7	0.11
MHDD0053a	492.8	494	1.2	0.042	0.009	0.001	-0.5	0.05
MHDD0053a	494	495.05	1.05	4.778	2.292	0.161	37.8	7.23
MHDD0053a	495.05	496	0.95	0.218	0.125	0.053	2.6	0.40
MHDD0053a	496	496.79	0.79	9.047	2.909	0.841	63.8	12.80
MHDD0053a	496.79	497.8	1.01	0.811	0.114	0.026	2.8	0.95
MHDD0053a	497.8	498.8	1	0.574	0.017	0.012	-0.5	0.60
MHDD0053a	498.8	499.86	1.06	2.013	0.227	0.127	6.1	2.37
MHDD0053a	499.86	501	1.14	13.000	2.460	0.070	52.6	15.53
MHDD0053a	501	502.1	1.1	8.143	0.520	0.093	13.1	8.76
MHDD0053a	502.1	502.9	0.8	16.899	0.026	0.175	1.6	17.10
MHDD0053a	502.9	503.8	0.9	6.737	0.017	0.038	0.8	6.79
MHDD0053a	503.8	504.53	0.73	11.786	0.621	0.490	19.2	12.90



MHDD0053a	504.53	505.5	0.97	0.170	0.021	0.014	-0.5	0.20
MHDD0053a	505.5	506.5	1	0.023	0.012	0.002	-0.5	0.04
MHDD0053a	506.5	507.6	1.1	0.023	0.007	0.001	-0.5	0.03