

# **COPPER SULPHIDES INTERSECTED IN MAIDEN DRILLING PROGRAM AT MOUNT HARDY**

*Zones of copper sulphides and massive sulphides intersected in all four initial holes*

## **HIGHLIGHTS**

- **Recently commenced maiden diamond and RC drilling programme well underway following Todd River Resources' recent successful listing on the ASX.**
- **Visual copper sulphides intersected in all of the initial four holes completed at the Browns Prospect, the first target to be tested at the 100%-owned Mt Hardy Copper Project.**
- **All samples submitted for laboratory assay.**
- **The rig has now moved to the main Mt Hardy copper prospect, where drilling will test the down-plunge position of a previously identified IP anomaly below existing drilling and historical workings.**

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Todd River Resources Limited (ASX: TRT) is pleased to advise that its inaugural exploration drilling programme has been successful in outlining zones of copper sulphides in the first few holes drilled at the Browns Prospect, part of its 100%-owned **Mount Hardy Copper Project** in the Northern Territory.

A total of four Reverse Circulation (RC) holes have now been completed at the **Browns Prospect** (Figure 1). All holes were designed to intersect and define the extent of the IP anomaly outlined from previous work at Mount Hardy. The Company is pleased to advise that visual mineralisation was intersected in all four holes.

Based on this initial work, the mineralised package appears to dip shallowly to the south-east, is hosted by chlorite/sericite altered schist and vein quartz, and, in places, approaches massive sulphide composition.

The mineralisation observed in the initial drilling represents up to 40% of the drill intervals and has been visually logged as copper sulphides in the drill chips. Samples have now been submitted for laboratory analysis and will be reported when available.

Visually, the mineralisation is dominated by chalcopyrite (copper sulphide), with sphalerite (zinc) and minor pyrite also noted.

Portable XRF (pXRF) was used to assess the strength of the base metal zones, and to assist with screening of samples to be submitted to the laboratory for assay. The pXRF method only uses a very small sample size and is not representative of the interval or actual assay.

Representative results can only be obtained from laboratory analysis of the 2-3kg RC samples per metre drilled. These samples have now been submitted to the ALS laboratory and the results will be reported when available.



Indicative results from the pXRF show the presence of mineralised intervals ranging between 3-6 metres in each hole with average grades of 2% Cu, 1% Zn and 0.5% Pb., showing mineralisation is extensive and continual.

Drilling has now moved to the main Mount Hardy Copper prospect. Drilling over the coming days will test the down-plunge position of the IP anomaly below the existing drilling and surface workings at the Mount Hardy copper prospect.

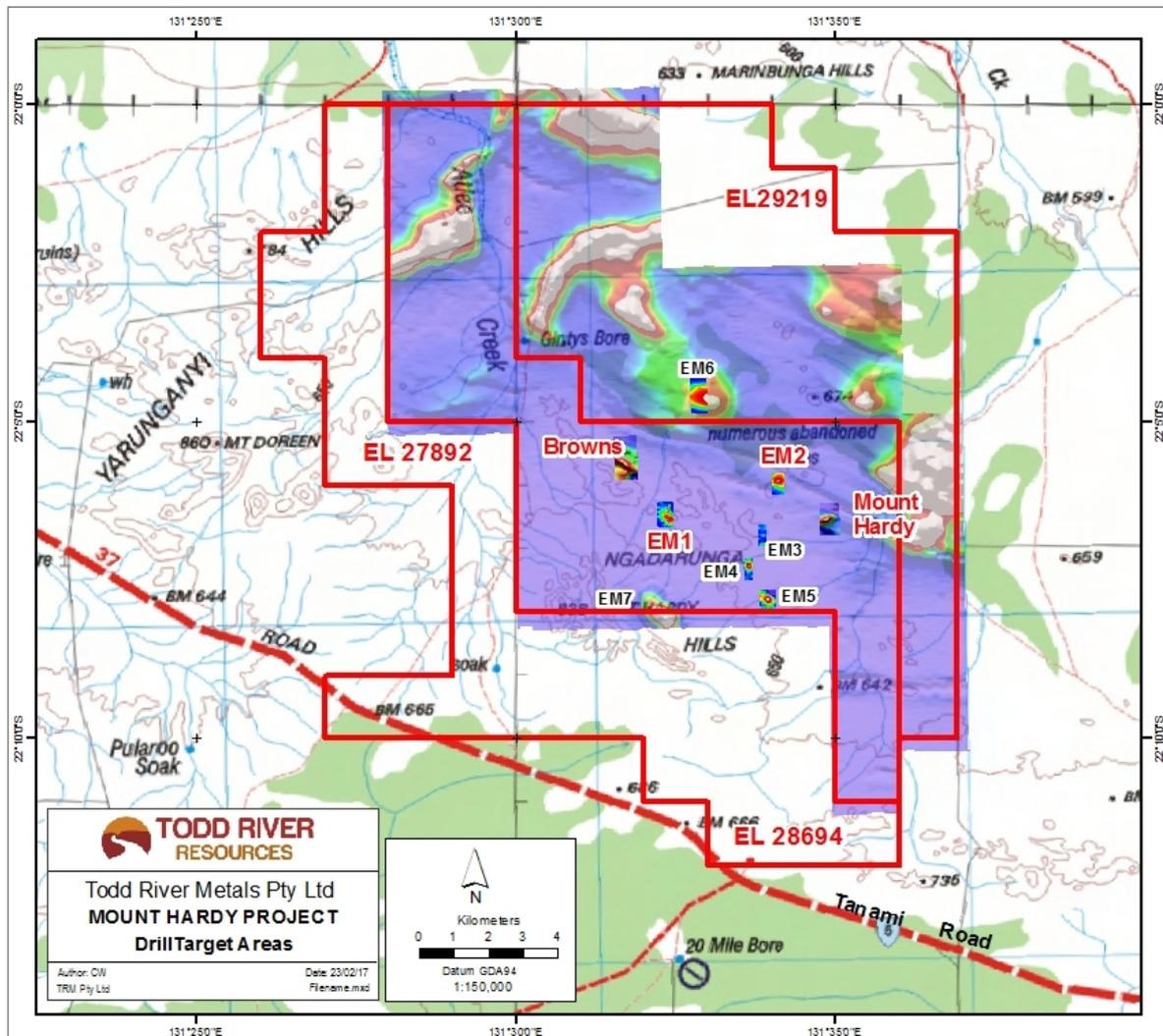


Figure 1. Location of the Mount Hardy Project in the Northern Territory, with the upcoming drilling areas highlighted in red. Background imagery HELITEM survey and smaller blocks of ground FLEM surveys.

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## **Competent Person Statement**

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 appear.

## **Forward-Looking Statements**

This announcement has been prepared by Todd River Resources Ltd. This announcement is in summary form and does not purport to be all inclusive or complete. Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained.

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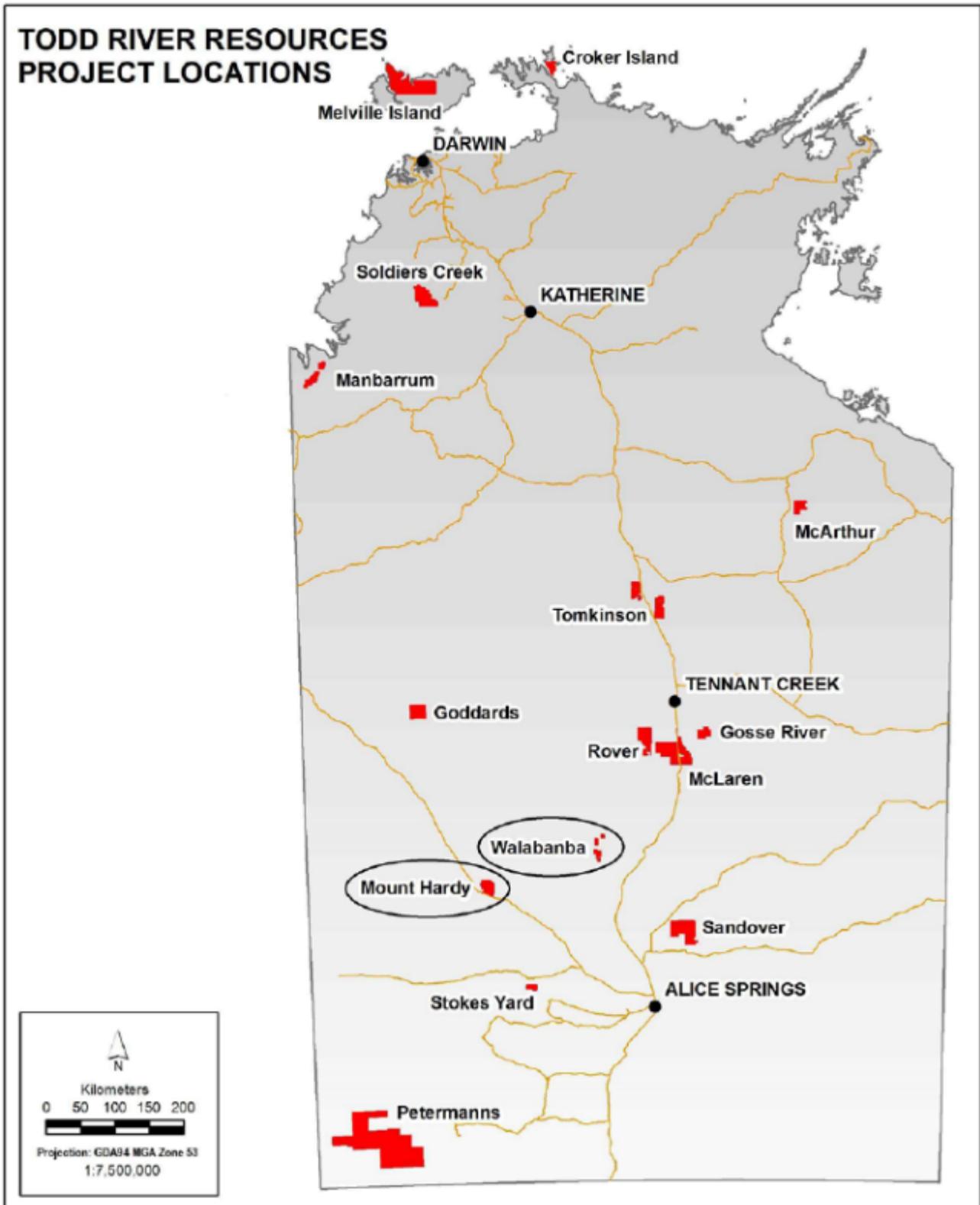


Figure 3. Plan showing Todd River Resources tenure in the Northern Territory. Drilling areas highlighted - Mount Hardy and Walabanba.



## JORC Table One - Sampling Techniques and Data

### Mount Hardy Drilling – Reverse Circulation 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. All samples from 2017 drilling have been submitted to ALS Laboratories for industry standard preparation (whole sample crushed to >85% <75um) and analysis by ME-ICP61.
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
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. 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. No field duplicates have been taken. 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 grainsize 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 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.	All samples are to be analysed at ALS in Perth by technique ME-ICP61, considered a “total” result. Base metal standards were inserted into the laboratory batch, results are awaited.
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 ALS 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. Todd River Resources Ltd has recently been spun out from TNG Ltd, which held the ground prior to the float. All tenements are in good standing with no know impediments																																				
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	All significant work was conducted by TNG Limited, and has been reported to the ASX in several ASX Releases (Mentioned in the text).																																				
Geology	Deposit type, geological setting and style of mineralisation.	Exploration at Mount Hardy conducted by TNG Ltd over the last few years 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>	Four holes have been drilled to date in 2017 at Mount Hardy. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="6">MGA94 Zone52</th> </tr> <tr> <th>HOLE_ID</th> <th>EASTING</th> <th>NORTHING</th> <th>DEPTH</th> <th>DIP</th> <th>AZIMUTH</th> </tr> </thead> <tbody> <tr> <td>17MHRC016</td> <td>760900</td> <td>7554500</td> <td>124</td> <td>-60</td> <td>180</td> </tr> <tr> <td>17MHRC017</td> <td>760900</td> <td>7554600</td> <td>102</td> <td>-60</td> <td>180</td> </tr> <tr> <td>17MHRC018</td> <td>761000</td> <td>7554500</td> <td>162</td> <td>-60</td> <td>360</td> </tr> <tr> <td>17MHRC019</td> <td>760800</td> <td>7554600</td> <td>102</td> <td>-60</td> <td>360</td> </tr> </tbody> </table> RL ca. 640m AHD. Visual estimates and pXRF data only reported.	MGA94 Zone52						HOLE_ID	EASTING	NORTHING	DEPTH	DIP	AZIMUTH	17MHRC016	760900	7554500	124	-60	180	17MHRC017	760900	7554600	102	-60	180	17MHRC018	761000	7554500	162	-60	360	17MHRC019	760800	7554600	102	-60	360
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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 weighting used for summary intervals. 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.	Orientation not well defined. Expected true thickness ca. 60-80% or drill/intercept interval.																																				



	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').	
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.	To await final laboratory results ASX release in May. Coordinates indicated above.
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.	Only visual and pXRF results being reported here.
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 the Browns prospect drilling have been submitted for analysis and will be reported when available. Drilling will progress to other prospects at Mount Hardy over the coming weeks.