

MULTIPLE STRONG AND EXTENSIVE BASE METAL GEOPHYSICAL TARGETS GENERATED FROM RECENT SKYTEM SURVEY AT McARTHUR RIVER PROJECT, NT

5 significant conductors defined for ground follow-up including drilling

HIGHLIGHTS

- **Five large, strong and extensive geophysical targets identified from interpretation of the recently acquired SkyTEM airborne EM survey at the McArthur River Project in the NT.**
- **Excellent acquisition data allows clear stratigraphic and structural definition within the survey area.**
- **Base metal conductor targets outlined include:**
 - **Targets A, B and I – large (up to 3km long) and strong conductors modelled from 80 to 400m depth in the prospective Mallapunyah Formation;**
 - **Target D – strong conductor in the footwall sequence; and**
 - **Target G – strong shallow feature in the prospective Wollogorang Formation with overlying geochemical and structural support.**
- **Targets will be prioritised for further modelling and ground follow-up in early 2018 including drilling.**

Todd River Resources Limited (ASX: TRT) is pleased to advise that interpretation and assessment of the recently completed SkyTEM airborne electromagnetic (AEM) survey over the Company's McArthur River Project (Figure 1) in the Northern Territory has outlined significant conductor anomalies.

The survey was designed to cover the extensive existing 11km strike length of copper-zinc geochemical soil anomalism and recent rock chip results (see TNG's ASX announcement – 16 September 2013; TNG ASX announcement – 18 December 2014 and TRT ASX announcement – 14 November 2017).

These results provide another indication that these previous surface results are related to a possible large base-metal target at depth. The Company has based its exploration work to date on this model, which is consistent with other base metal discoveries in this large, under-explored province.

The 600 line km survey was completed in August by SkyTEM, a leading geophysical survey company (see TRT ASX announcement – 14 August 2017). The SkyTEM survey incorporated a helicopter-borne 16 x 28m acquisition loop and its state-of-the-art dual moment transient electromagnetic system.



Survey Details

The entire survey area (Figure 1) was flown at 400m line spacing on east/west lines. As the stratigraphic dip varies around the Mallapunyah Dome, three additional areas were flown with the flight lines more perpendicular to the strike of the stratigraphy, in order to obtain better conductivity sections for interpretation.

These were flown at 400m spacing along the northern side of the dome with NNE/SSW orientation (Block 2), at 200m line spacing along the eastern side of the dome (SE/NW lines, Block 3), and on 400m spaced lines (Block 4) to the south (Figures 1 and 2).

The geophysical dataset was delivered by the contractor in October, following data validation, levelling and processing. It has now been processed by Todd River's geophysical consultant to provide several products including:

- 3D inversion model of the conductivity data;
- 3D TMI magnetics inversion model;
- Sectional conductivity and resistivity on flight lines;
- Depth slice plan images of conductivity and resistivity; and
- 3D conductivity voxets representing the shale units.

The area of the survey was chosen mainly to allow testing of the region with the prospective Wollgorang Formation stratigraphy (outcrop area shown on Figure 2), identified by TNG/TRT exploration work with highly anomalous copper-zinc-lead, at a depth of up to 600m.

SkyTEM Data Interpretation

The SkyTEM data provided excellent quality to relatively deep levels (400-500m) below surface and allows for interpretation of conductor units that relate to specific stratigraphic horizons expected to contain base metal sulphides, which would have a moderate to high conductivity response.

These geophysical units can be followed over several kilometres and to depths of 250-400m below surface. Similarly, sandstone and dolomitic units containing no conductive minerals can be followed in the sub-surface, by their highly resistive/low conductivity responses. The highly resistive/low conductivity units are the Warramana and Masterton sandstone, and the Amelia Dolostone.

The Wollgorang Formation, with outcrop extent shown on Figure 2, consistently has two moderate to strong conductor units showing in the SkyTEM dataset. These correspond to the lower Wollgorang Formation copper shale horizon (see ASX announcement – 14 November 2017, and shown on Figure 1), and the central Wollgorang Formation ovoid beds unit that has anomalous zinc-lead values.

Both have surface geochemical anomalism associated with areas of outcrop and residual soils. Drilling by TNG in 2014 (see TNG ASX announcement – 18 December 2014) showed these units to be highly bituminous black shales with abundant very fine sulphides and anomalous zinc (to 0.20% Zn) and copper (to 0.21% Cu).

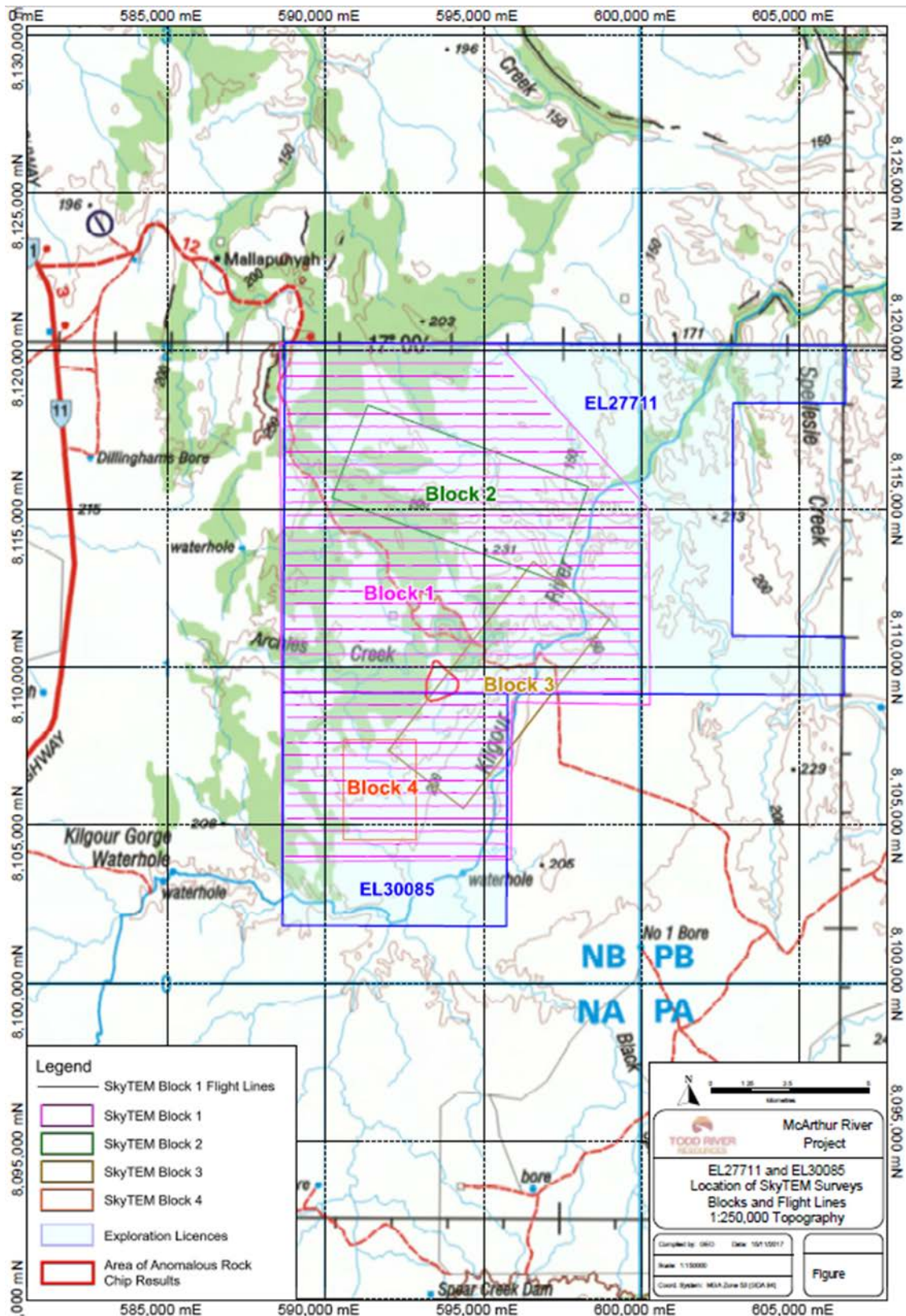


Figure 1. Location plan for the McArthur River Project, showing tenure, the area covered by the SkyTEM AEM program, and the area of recently-reported copper anomalous rock chip results.

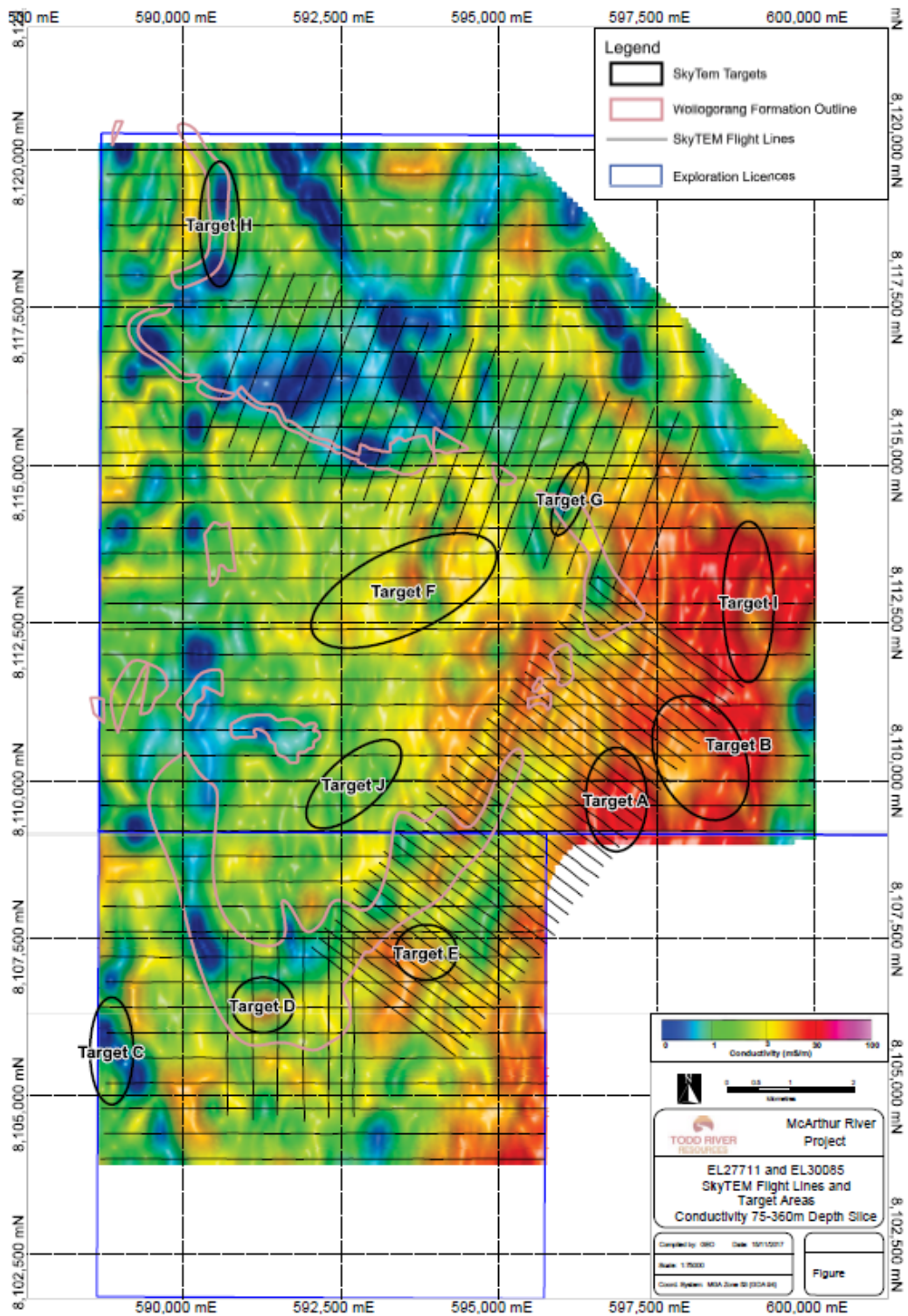


Figure 2. Plan of the McArthur River Project area, showing the SkyTEM survey lines and Target areas in Block 1 mid-late time conductivity image.



Figure 3 shown below is a west-to-east slice through the acquisition data, illustrating how most of the stratigraphy in the survey area can be traced/mapped in the conductivity data on section.

The dolomite and sandstone units are highly resistive with low conductivity, while any units/horizons with moderate sulphide contents show up clearly as conductors.

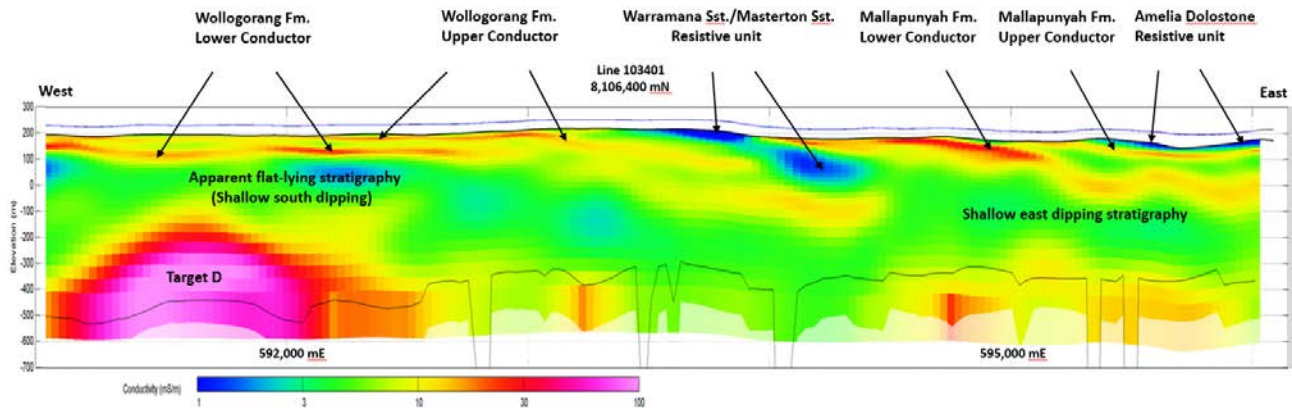


Figure 3. Conductivity Section (Block 1 Line 103401) showing geophysically-outlined stratigraphy and the Target D conductor.

Also outlined on Figure 3 are two conductor units within the Mallapunyah Formation. This unit is generally dolomitic interbedded siltstone and sandstone. These two horizons (the lower and upper conductors on Figure 3) have formed strong conductor targets along the eastern side of the survey area. The Mallapunyah Formation has not been the focus of base metal exploration in this area by TNG/TRT previously, and will now be fully explored.

The Mallapunyah Formation in this area is host to the historical **Kilgour Crossing copper** prospect – two dolomitic and variably bituminous beds hosting copper mineralisation in shale cropping out over a 500m strike. As described, the Kilgour Crossing prospect has similarities with the recently outlined copper horizon at the base of the Wollgorang Formation (see TNG ASX announcement – 9 June 2015 and TRT ASX announcement – 14 November 2017). The historical Kilgour Copper Mine, located some 6km to the south-west of the survey area, has copper hosted/associated with the Amelia Dolostone.

Target Anomalies

The interpretation has outlined significant conductors which represent targets for future exploration. These are shown on Figure 2, a mid-time depth slice of Block 1 data.

A total of 10 targets were identified with five selected as high priority. These are described below.

It should be noted that no one geophysical image can clearly outline all targets as they vary from near-surface (<100m) to deep (300-500m below surface), and individual images represent only a single slice through the modelled conductivity dataset.



High Priority Targets

Targets A, B and I

These are all large (each up to 3km in width) and strong EM features (see Figure 4). All appear to be within the targeted and prospective Mallapunyah Formation, and collectively cover a strike length of 5km. They range, west to east, from approximately 100m below surface to around 400m depth as the unit dips to the east and into the basinal area.

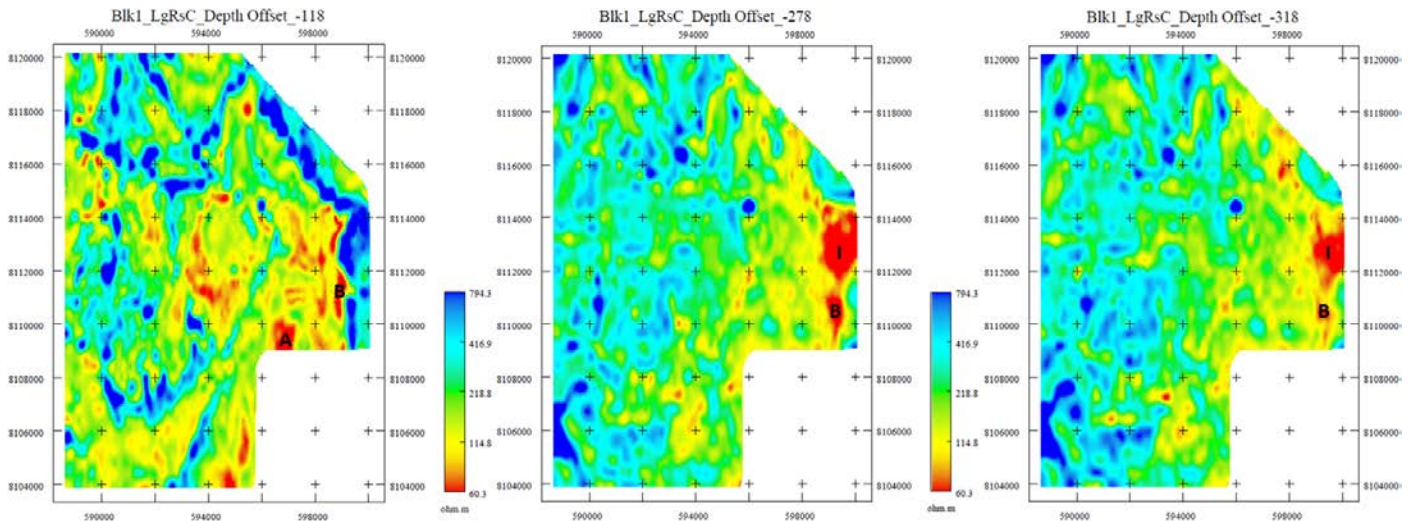


Figure 4. Resistivity depth slices for Block 1 SkyTEM data, showing Targets A, B and I as low resistivity areas. Slices at ca. 120m, 280m, and 320m below the ground surface. Target A is shallow (80-200m below surface), Target B moderately deep (200-350m), and Target I deeper (240-400+m). All appear hosted within the Mallapunyah Formation.

Target G

A strong conductor at shallow depth that corresponds with the prospective Wollogorang Formation (see Figure 5).

Target G also has historical anomalous copper geochemistry results (see TNG ASX announcement – 16 September 2013, Figure 3), overlying and coincidental copper minerals on surface of malachite, azurite and chalcocite within 200m of the anomaly's surface expression. This provides strong support for this anomaly ranking.

The regionally important Mallapunyah Fault also passes through the location, and along the northern edge of the Mallapunyah Dome. Given the geological and structural support for the geophysical target, this target warrants detailed field investigation and sampling early in the 2018 dry season.

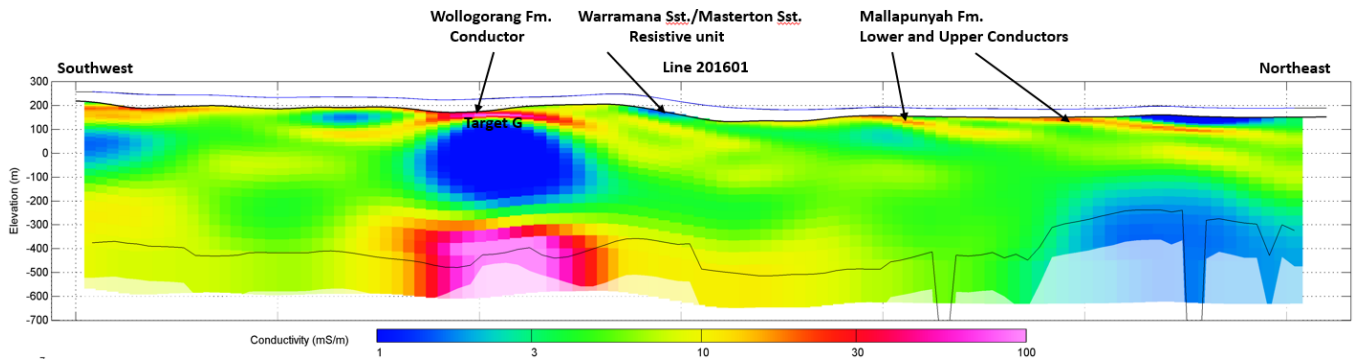


Figure 5. Conductivity Section (Block 2 Line 201601) showing Target G, which coincides with historical surface copper geochemical anomalism and the position of the regionally important Mallapunyah Fault.

Target D

A strong deep signature on the western side of Figure 6. At a depth of 400-500m, it is likely to be located at the base, or below, the Settlement Creek Dolerite. Further modelling is planned, and should provide better control on the peak position, depth, and strength of this strong but deep conductor feature.

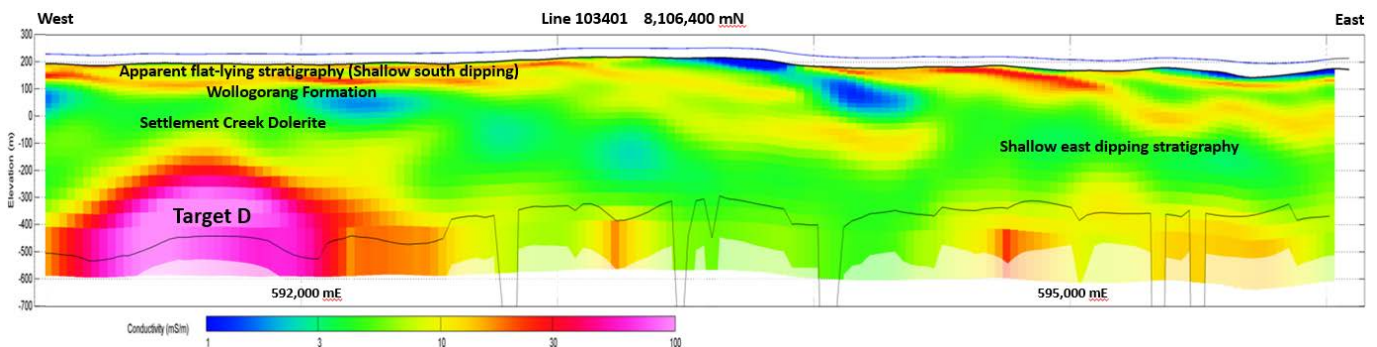


Figure 6. Conductivity Section (Block 1 Line 103401) showing Target D.

Lower Priority Targets

Other targets outlined on Figure 2 have also been identified on the basis of conductivity and geological/structural setting. Syn-sedimentary structures, identified from both existing geological mapping and interpretation of the magnetic data acquired by the SkyTEM survey, are important to provide metal fluid conduits and deposits of McArthur River/Teena type, which are usually found within 2km.

The SkyTEM dataset will also have further structural and geological interpretation work completed to put the targets into context.

Overall Assessment

Flying airborne EM allows for direct detection of sulphide-rich units that may represent base metal sulphide accumulations, like the giant McArthur River and Teena deposits 60km to the north.



Ten target areas have now been outlined for further assessment. Interpretation of the geophysical data has also confirmed the Wollgorang Formation as a solid target for HYC-style zinc-lead and copper stratiform mineralisation.

In addition, the search space has been opened up by the recognition of conductors in the overlying Mallapunyah Formation, and potentially the footwall sequence below the Settlement Creek Dolerite.

Next Steps

Further modelling of the geophysical targets outlined in this release will be completed this Quarter. Modelling will better define the targets and allow a clear plan for testing the best ones.

Field investigations of the shallow conductors will be conducted early in the 2018 dry season, with drill testing likely to follow.

Management Comment

Todd River's Technical Director and acting CEO, Mr Paul Burton, said: "The results of this AEM survey provide another significant layer of support for the McArthur Project. The identification of strong EM targets beneath strong surface geochemistry in an area with known Tier-1 base-metal potential is just what you want to see in exploration.

"We have now carried out systematic field work on the back of the original discovery work by TNG. The more survey and field work we do, the more encouragement we get in this highly prospective and underexplored area," he said.

"The McArthur project could easily turn into a major project for the Company, and we are very much looking forward to getting on the ground to drill some of these impressive targets early next year."

Paul E Burton
Technical Director

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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

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Appendix A - JORC Table One - Sampling Techniques and Data

McArthur River – SkyTEM Geophysical Survey

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.	Not relevant
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).	Not relevant
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.	Not relevant
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.	Not relevant
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.	Not relevant
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.	Not relevant
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Not relevant



	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.	
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.	Not relevant All coordinate data for the McArthur River project are in MGA_GDA94 Zone 53. SkyTEM data acquired with DGPS sub-metre accuracy.
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.	Not relevant
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.	Not relevant
Sample security	The measures taken to ensure sample security.	Not relevant
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Not relevant

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 McArthur River project is located on tenements EL 27711 and 30085, held 100% by Todd River Metals Pty Ltd, which is a wholly-owned subsidiary of Todd River Resources Limited. The tenement is in good standing with no known impediments.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The most significant previous work looking for base metals in the area was completed in the late 1960's by AGPL and is available on NTGS open file. Work from 2011 to 2016 by TNG is outlined in the Todd River Resources Prospectus.
Geology	Deposit type, geological setting and style of mineralisation.	The main target for this project is Zn-Pb-Cu-Ag mineralisation of a similar style to that found at the McArthur River Mine, some 60km NNE of the project location.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> o Easting and northing of the drill collar o Elevation of RL (Reduced Level – elevation above sea level in metres) of the drill collar o Dip and azimuth of the hole o Down hole length and interception depth o Hole length 	Not relevant
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.	No aggregation or averaging was conducted on the data reported here.



	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
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').	Not relevant.
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 1, 2, 3, 4, and 5.
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.	Not relevant
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.	Geophysical assessment reported here is ongoing and will be used to plan a program for the 2018 field season.