

## Copper sulphides in first drilling at Jessica IOCG Project (NT)

- The first two drill holes completed at the Zeta target (“Zeta”), drilled 1.3km apart, at the Jessica Copper Project (“Jessica”) provide support for the targeted IOCG deposit model
- Zeta is a coincident gravity and magnetic anomaly associated with a discrete seismic reflector. Encouragingly, the first drilling has intersected a number of key IOCG indicators including:
  - Chalcopyrite/bornite in thin quartz-carbonate veins;
  - Intense and pervasive red rock hematite alteration; and
  - Bimodal felsic volcanic-basalt sequences (indicating a major, long lived structure).
- These were bold, conceptual drill holes in a new area which have highlighted the IOCG prospectivity of this region
- Geophysical techniques are being evaluated to vector into the best parts of the mineral system at Zeta
- Jessica is being explored under a farm-in agreement with South32

Encounter Resources Ltd (“Encounter”) is pleased to announce that the first drilling at Jessica (South32 farm-in) in the NT has intersected copper mineralisation in an IOCG setting at Zeta.

**Commenting on the first drilling at Zeta, Encounter Managing Director Will Robinson said:**  
*“South32, our farm-in partner at Jessica, has informed us that observations from the first drill holes at the Zeta target have provided encouragement for the targeted IOCG copper model. In a previously unexplored region of the NT, both holes drilled have intersected red-rock hematite alteration together with copper sulphides contained in quartz–carbonate veins. The 6,500m diamond drill program at Jessica/Carrara is ongoing with drilling to continue through to November 2023.”*



Photo 1 – Z23DD002 – Chalcopyrite in quartz-carbonate veins (3.2m estimated 0.25% chalcopyrite from 664.55m)



Photo 2 – Z23DD001 – Bornite-chalcopyrite in chlorite quartz–carbonate vein ~457.3m

## CAUTIONARY STATEMENT ON VISUAL ESTIMATES OF MINERALISATION

References in this announcement to visual results are from diamond drilling at the Zeta target at Jessica. Copper sulphide mineralisation (Z23DD001 & Z23DD002) consisted of chalcopyrite + bornite in thin (2-7mm) quartz–carbonate veins.

Visual estimates of mineral abundance should never be considered a proxy or substitute for laboratory analyses where concentrations or grades are the factor of principal economic interest. Visual estimates also potentially provide no information regarding impurities or deleterious physical properties relevant to valuations. It is intended to cut and sample the core with assay results expected in the December 2023 quarter.

## Background

Jessica covers ~10,300km<sup>2</sup> along key structural corridors east of Tennant Creek and is prospective for sediment-hosted copper and IOCG style deposits (Figure 1).

Reprocessing of seismic data that extends through Jessica was completed by HiSeis, to provide greater detail of the geology and structure in the upper 1,000m. A 2km spaced gravity survey was also completed with 1km spaced gravity infill data collected over a series of high priority magnetic targets.

The seismic reprocessing and gravity surveys have identified a series of targets for drilling including the Zeta IOCG target (“Zeta”). Zeta is a significant and discrete gravity feature coincident with a prominent magnetic feature on the margin of a large interpreted intrusive body (Figures 2, 3 & 4). In addition, there is a discrete seismic reflector immediately underlying Zeta (Figure 5) (ASX announcement 28 October 2022).

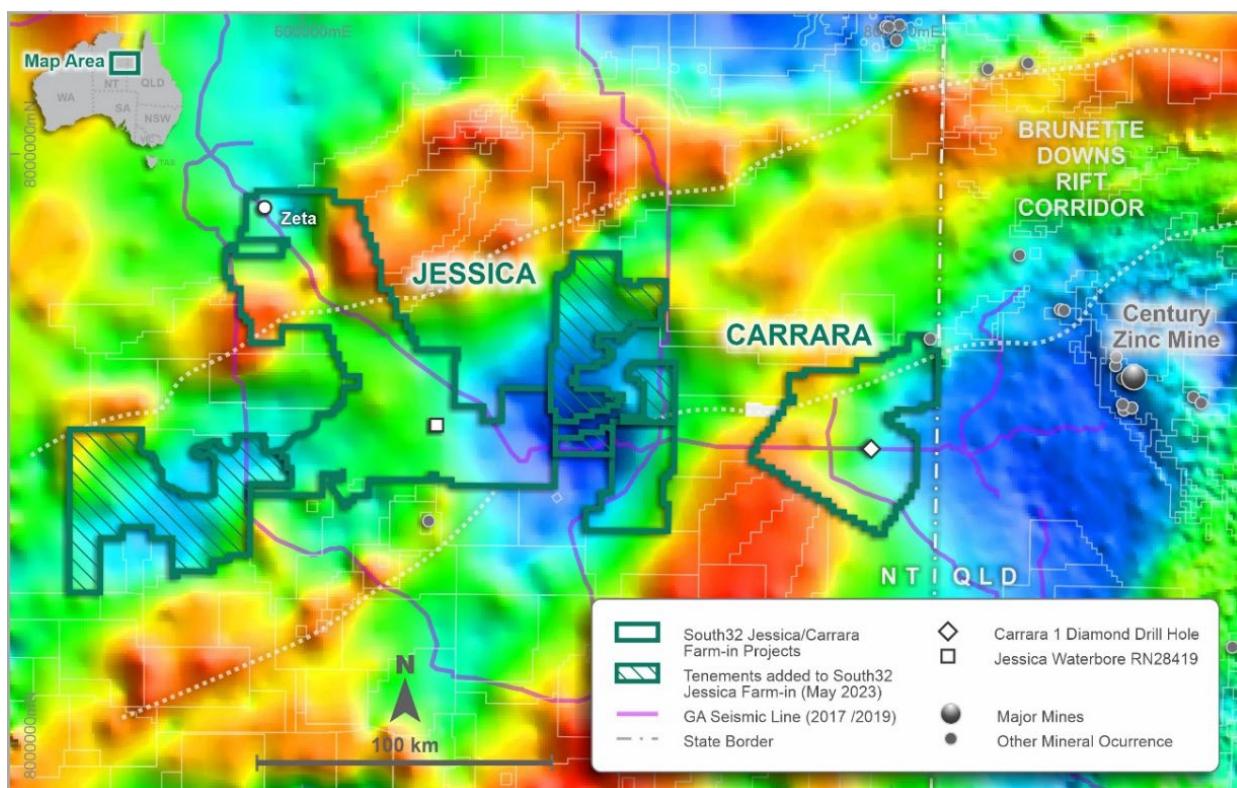


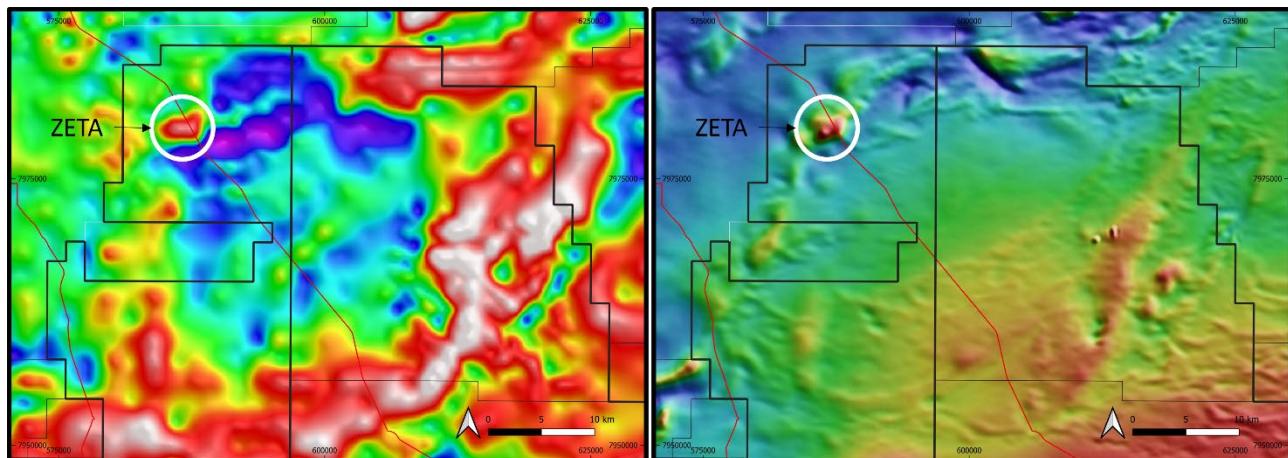
Figure 1 – Jessica and Carrara project location plan over Bouguer gravity

## Diamond Drilling at the Zeta IOCG Target

Two diamond drill holes have been completed at the Zeta target (Z23DD001 & Z23DD002). Z23DD002 drilled through the Georgina formation before intersecting basement at 448.2m. Proterozoic rocks below this depth consisted of a strongly red rock (hematite dusted k feldspar) (Photo 3) altered felsic – intermediate porphyritic volcanic rock down to 578m. The red rock alteration becomes more variable beyond this depth until a mafic volcanic (basalt) was intersected at 662.75m depth.

Quartz carbonate veining containing chalcopyrite was intersected from 664.55m – ~667.75m depth. The chalcopyrite is fine to medium grained occurring as isolated grains within thin (2mm – 7mm) carbonate veins. Trace chalcopyrite was observed in veins beyond this interval until ~750m. Minor chlorite & epidote alteration was associated with the mineralised veins. The hole terminated in basalt at 796m.

Z23DD001 drilled through Georgina Basin sediments until basement was intersected at 413.7m depth. Basement rocks below this depth consisted of dolerite and basalt with hematite alteration associated with late quartz carbonate veins. Minor chalcopyrite and bornite was observed in these quartz – carbonate veins between 456.4m – 458m. The hole was terminated in dolerite at 700.1m depth.



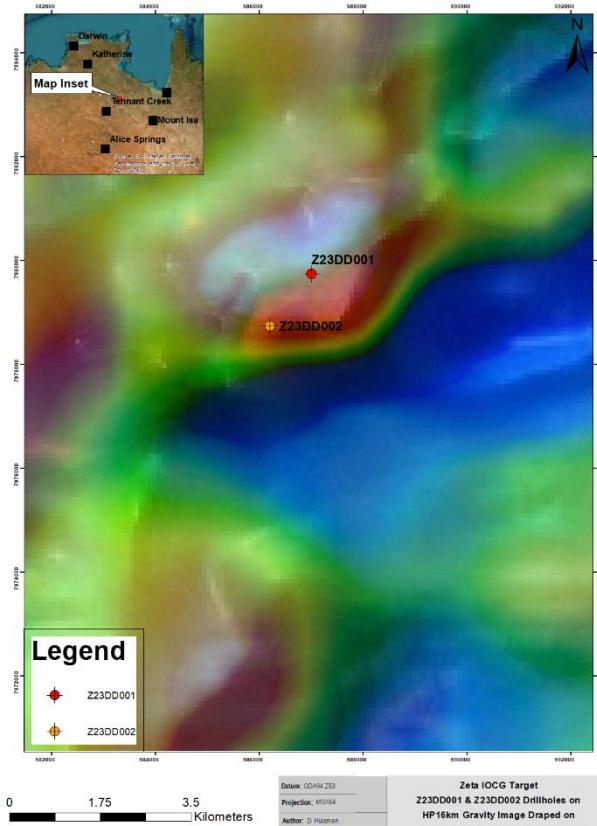
**Figures 2 & 3 – Jessica Project – Zeta IOCG target. Gravity (1VD) (left) and Magnetics (RTP) (right), location of GA seismic lines shown in red**

## Next Steps

The red rock alteration and copper mineralisation in Z23DD002, in addition to the mineralised veins containing chalcopyrite + bornite, intersected within similar geology in Z23DD001 represent an encouraging start to exploration at Jessica.

Assay results from the holes are expected in the December 2023 quarter. Geophysical techniques are being evaluated to vector into the best parts of the Zeta mineral system.

The 6,500m diamond drill program at Jessica/Carrara is ongoing through to November 2023.



**Figure 4 – Zeta IOCG target – gravity image draped on TMI RTP Magnetics**

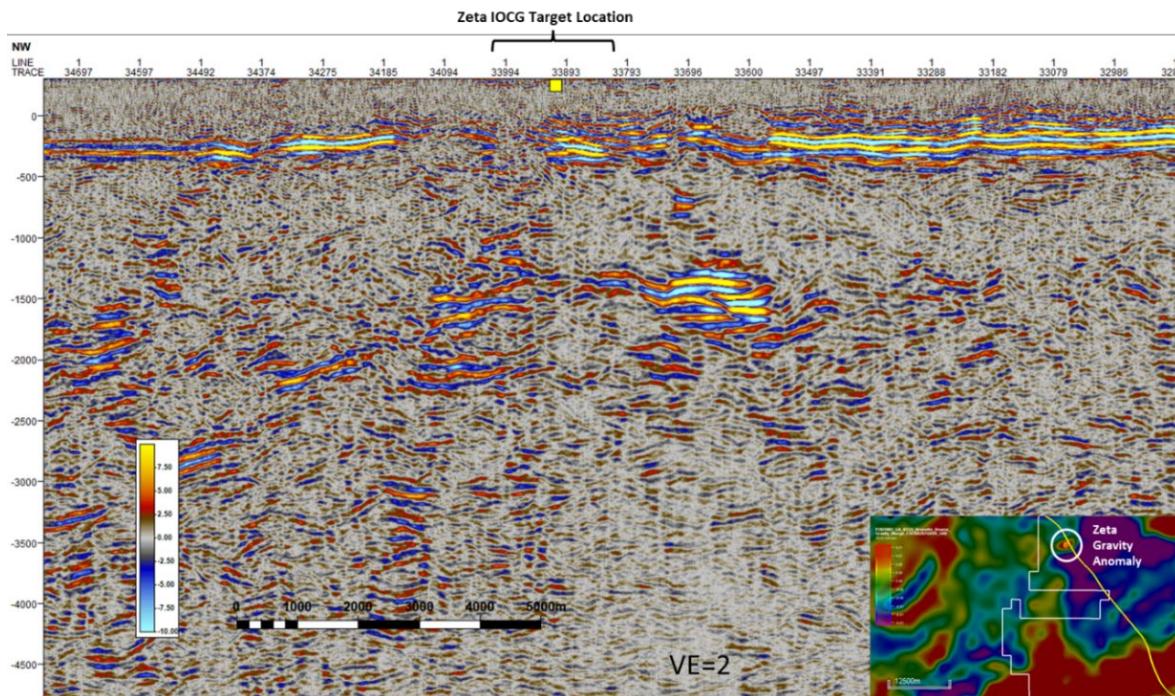


Figure 5 - Jessica Project – Zeta IOCG Target – Seismic cross section (inset)

Hole_ID	Hole_Type	MGA_Grid_ID	MGA_East	MGA_North	MGA_RL	Azimuth	Dip	EOH Depth
Z23DD001	DDH	GDA94 Z53	586970	7979746	238	180	-90	700.1m
Z23DD002	DDH	GDA94 Z53	586199	7978736	236	180	-90	796m

Table 1: Collar locations and drill hole information of completed diamond holes at Zeta

Hole_ID	Thickness (m)	From (m)	Bornite Estimate (%)	Chalcopyrite Estimate (%)
Z23DD001	1.6m	456.4m	0.1	0.1
Z23DD002	3.2	664.55	0	0.25
including	1.15	664.55	0	0.5

Table 2: Diamond drill hole copper sulphide intersections at Zeta

The information in this report that relates to Exploration Results is based on information compiled by Mr Danny Huisman who is a Member of the Australian Institute of Geoscientists. Mr Huisman is a full time employee of South32 Ltd and has sufficient experience which is relevant to the style of mineralisation under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Huisman consents to the inclusion in the report of the matters based on the information compiled by him, in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information in the relevant ASX releases and the form and context of the announcement has not materially changed. The Company confirms that the form and context in which the Competent Persons findings are presented have not been materially modified from the original market announcements.

This announcement has been approved for release by the Board of Encounter Resources Limited.



**Photo 3 – Z23DD002 - Red-rock altered felsic volcanic ~467m**

### Farm-in and Joint Venture Agreement – Key Terms

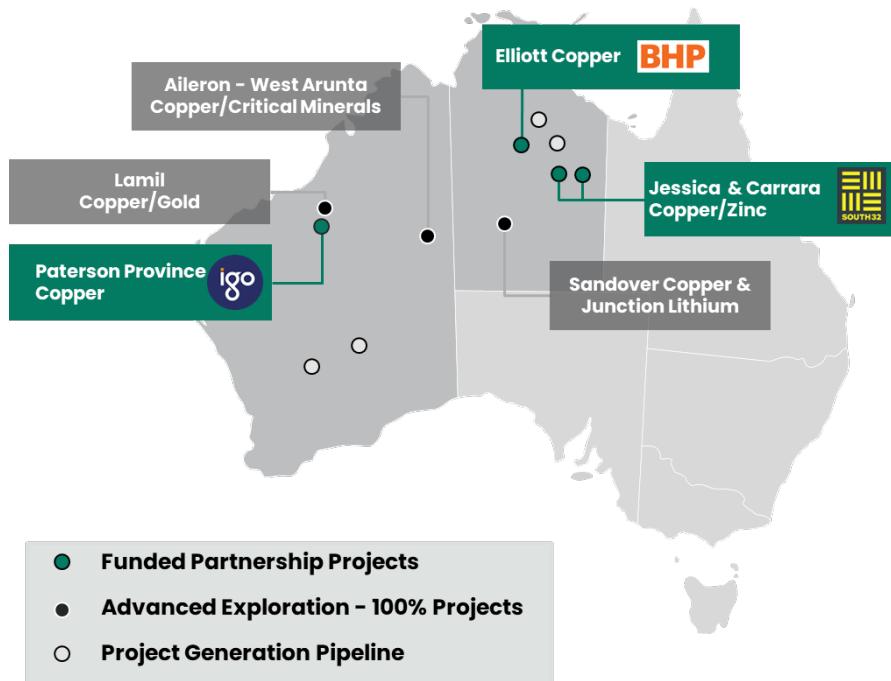
The key terms for the farm-in and joint venture agreement include:

- South32 has the right to earn a 60% interest in Jessica (the “Initial Interest”) by sole funding \$15 million of exploration expenditure within 10 years.
- During the farm-in phase or joint venture period, South32 may earn an additional 15% interest in Jessica (the “Further Interest”) by completing a Scoping Study.
- Upon South32 earning the Initial Interest or Further Interest in Jessica, a 60:40 or 75:25 joint venture will be formed and in the case of South32 earning the Further Interest, the parties must contribute funds based on their pro-rata interest or dilute according to a standard dilution formula. Should a party’s interest dilute to below 10%, that party’s interest automatically converts to a net smelter return royalty.
- During the farm-in phase, South32 is the Manager of the project.

During the farm-in phase, a technical committee comprising representatives from each of Encounter and South32 review and approve annual exploration programs and budgets. All decisions of the technical committee are decided by majority vote, with South32 having the casting vote.

**Scoping Study** means an order of magnitude technical and economic study of the potential viability of JORC Mineral Resources for the project.

## About Encounter



Encounter is one of Australia's leading mineral exploration companies listed on the ASX. Encounter's primary focus is on discovering major copper dominant deposits in Australia.

Encounter controls a large portfolio of 100% owned projects in Australia's most exciting mineral provinces that are prospective for copper and critical minerals. Complementing this, Encounter has numerous large scale copper projects being advanced in partnership and funded through farm-in agreements with leading miners: BHP, South32 and IGO. Encounter's assets include:

### 100% ENR Projects

#### Aileron Copper-Critical Minerals Project – WA

- Large niobium-REE rich carbonatite discovered
- 10,000m RC drill program in progress

#### Sandover Copper Project – NT

- Outcropping shale units that contain copper mapped for >20km
- Diamond drilling program Oct-Nov 2023

#### Junction Lithium Project – NT

- Highly anomalous lithium & critical minerals
- Confirmed LCT pegmatites

#### Lamil Copper-Gold Project – Paterson Province WA

- High-grade copper-gold reefs

### Copper Farm-in Partners

\$7m invested by partners on ENR projects in 2022

#### Elliott Copper Project – NT

(up to \$25m farm-in funding)



- Diamond drilling intersected a potential "first reductant" horizon in 2022
- Key target for sediment-hosted copper deposits

#### Jessica and Carrara Projects – NT

(ENR carried to Scoping Study)



- Diamond drilling July to November 2023
  - 4 holes (3,500m) at Jessica
  - 3 holes (3,000m) at Carrara

#### Yeneena Project – Paterson Province WA

(up to \$15m farm-in funding)



- Diamond drilling July to September 2023
- 5 holes (2,900m) targeting high-value sediment-hosted copper

## For further information, please contact:

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## SECTION 1 SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<p><i>Nature and quality of sampling (e.g. 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.</i></p> <hr/> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used</i></p>	<p>Diamond drilling was completed by South32 at the Zeta target within the Jessica project in the Northern Territory. A two hole program was completed to test a semi-coincident magnetic and gravity anomalies defined in regional aeromagnetics and gravity surveys.</p> <hr/> <p>Drill hole collar location was recorded by handheld GPS, which has an estimated accuracy of +/- 5m.</p>
	<p><i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information</i></p>	<p>Not applicable as the diamond drill core has not been sampled</p>
<b>Drilling techniques</b>	<p><i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).</i></p>	<p>Diamond drilling was used to a depth of 700.1m &amp; 796m for Z23DD001 &amp; Z23DD002 respectively.</p> <p>Cambrian sequences were drilled using HQ2 and the basement rocks were drilled NQ2</p>
<b>Drill sample recovery</b>	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed</i></p> <hr/> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples</i></p> <hr/> <p><i>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.</i></p>	<p>Sections of lost core were minimal and were noted by the diamond drillers.</p> <hr/> <p>HQ/NQ diamond drilled with core recovery +95%.</p> <hr/> <p>Not applicable as the diamond drill core has not been sampled</p>

Criteria	JORC Code explanation	Commentary
Logging	<i>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.</i>	Not applicable as the diamond drill core has not been logged in detail
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	Not applicable as the diamond drill core has not been logged in detail
	<i>The total length and percentage of the relevant intersections logged</i>	Not applicable as the diamond drill core has not been sampled
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	Not applicable as the diamond drill core has not been cut
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	Not applicable as all drilling was core drilling
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Not applicable as the diamond drill core has not been sampled
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	Not applicable as the diamond drill core has not been sampled
	<i>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.</i>	Not applicable as the diamond drill core has not been sampled
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Not applicable as the diamond drill core has not been sampled
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	Not applicable as the diamond drill core has not been analysed
	<i>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.</i>	Not applicable as no analytical results have been reported
	<i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i>	Not applicable as the diamond drill core has not been sampled

Criteria	JORC Code explanation	Commentary
<b>Verification of sampling and assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Not applicable as the diamond drill core has not been analysed
	<i>The use of twinned holes.</i>	No twinned holes have been drilled.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Not applicable as the diamond drill core has not been logged in detail
	<i>Discuss any adjustment to assay data.</i>	No adjustments, no assay data
<b>Location of data points</b>	<i>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.</i>	Drill hole collar locations are determined using a handheld GPS.  Down hole surveys were collected during this drilling program at approx. 30m intervals downhole.
	<i>Specification of the grid system used.</i>	The grid system used is MGA_GDA94, zone 53.
	<i>Quality and adequacy of topographic control.</i>	Estimated RLs were assigned during drilling using hand held GPS
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	A two diamond drill holes were completed spaced 1280m apart
	<i>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.</i>	Not applicable as the diamond drill core has not been analysed
	<i>Whether sample compositing has been applied.</i>	Not applicable as the diamond drill core has not been sampled
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Not applicable as the diamond drill core has not been sampled
	<i>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.</i>	Not applicable as the diamond drill core has not been sampled
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	Not applicable as the diamond drill core has not been sampled
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	Not applicable as the diamond drill core has not been sampled

## SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<p><i>Type, reference name/number, location and ownership including agreements or material issues with third parties including joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></p>	<p>The Zeta target is located within the tenement EL32386.</p> <p>This tenement is contained within the Brunette Downs pastoral property.</p> <p>Native title rights are held by the Karrkarrkuwaja Group, the Mangurinji Group &amp; Kujuluwa Group.</p> <p>No historical or environmentally sensitive sites have been identified in the area of work.</p>
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	No previous exploration has been conducted on the tenement other than government precompetitive data.
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation</i>	Jessica covers key structural corridors east of Tennant Creek and is prospective for sediment-hosted copper and IOCG style deposits.
<b>Drill hole information</b>	<p><i>A summary of all information material to the understanding of the exploration results including tabulation of the following information for all Material drill holes:</i></p> <ul style="list-style-type: none"> <li>• <i>Easting and northing of the drill hole collar</i></li> <li>• <i>Elevation or RL (Reduced Level – elevation above sea level in meters) of the drill hole collar</i></li> <li>• <i>Dip and azimuth of the hole</i></li> <li>• <i>Down hole length and interception depth</i></li> <li>• <i>Hole length</i></li> </ul>	Refer to tabulations in the body of this announcement.
<b>Data aggregation methods</b>	<p><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></p> <p><i>Where aggregated 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.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<p>Not applicable as the diamond drill core has not been analysed</p> <p>Not applicable as the diamond drill core has not been analysed</p> <p>No metal equivalents have been reported in this announcement.</p>

Criteria	JORC Code explanation	Commentary
<b>Relationship between mineralisation widths and intercept lengths</b>	<p><i>These relationships are particularly important in the reporting of exploration results.</i></p> <p><i>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 (e.g. 'down hole length, true width not known').</i></p>	Not applicable no mineralisation has been reported and the geology is poorly understood in this region
<b>Diagrams</b>	<p><i>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 plane view of drill hole collar locations and appropriate sectional views.</i></p>	Not applicable as no results are being reported
<b>Balanced Reporting</b>	<p><i>Where comprehensive reporting of all Exploration Results is not practical, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></p>	Not applicable as no results are being reported
<b>Other substantive exploration data</b>	<p><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observation; 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.</i></p>	All meaningful and material information has been included in the body of the text.
<b>Further Work</b>	<p><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large – scale step – out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	Geophysical techniques are being evaluated to vector in to the best parts of the Zeta mineral system.