

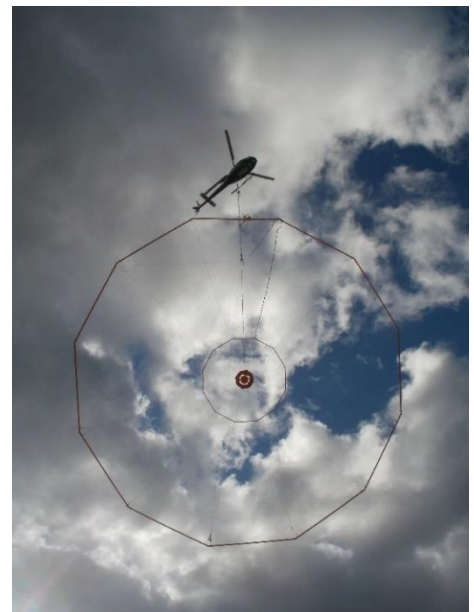
**ASX Announcement | ASX: CPM**

1 June 2023

## **New VTEM survey identifies strong conductors at Mt Isa East Project**

### **Highlights**

- Detailed Versatile Time-Domain Electromagnetic (VTEM) airborne survey identifies ten high priority conductors on new tenement EPM28087, which is part of Cooper's Mt Isa East copper-gold Project
- A consultant geophysicist and Cooper geologists have completed desktop assessment of the VTEM data for potential conductors resulting from sulphide mineralisation, identifying ten anomalies for priority ground checking
- The survey is partly funded by the Qld government's Collaborative Exploration Initiative (CEI) grant for \$137,500<sup>1</sup>
- RC drilling at Ardmore South is still progressing, with the first batch of 500 one metre samples sent to the laboratory in Mt Isa for analysis. Assay results are expected in late June and drilling expected to be completed by early to mid June



**Plate 1: Photo of helicopter VTEM survey**

- Including these recent ten VTEM anomalies, Cooper has now built a pipeline of over 40 early-stage targets at its Mt Isa East Project with potential for copper (+/- gold) mineralisation, which the Company continues to rank for further exploration work

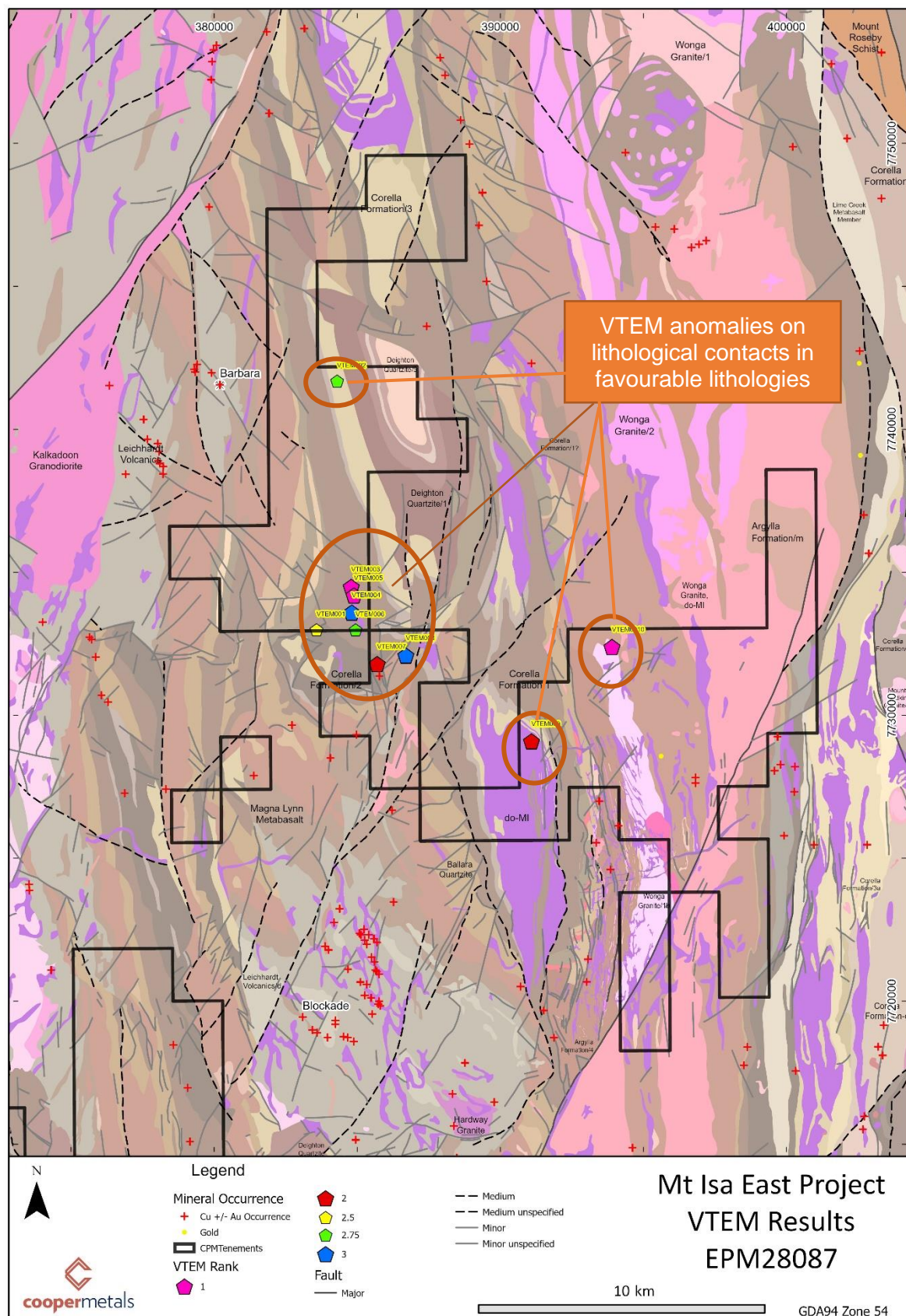
### **Cooper Metals Managing Director Ian Warland commented:**

*"The VTEM survey over EPM28087 has identified ten promising anomalies located in favourable lithologies and structural positions. This is potentially very significant because the nearby Barbara deposit is thought to have a VTEM signature, demonstrating the usefulness of this method in identifying sulphide rich copper mineralisation. Next steps include ground truthing the promising anomalies in order to assess them for drill testing, I look forward to updating the market with our exploration progress over the coming weeks".*





**Cooper Metals Limited (ASX: CPM) ("CPM" or "the Company")** is pleased to announce the results of the VTEM survey over tenement EPM28087 (Barbara East) (**Figure 1**).



**Figure 1: Location of VTEM anomalies on EPM28087 (over geology)**



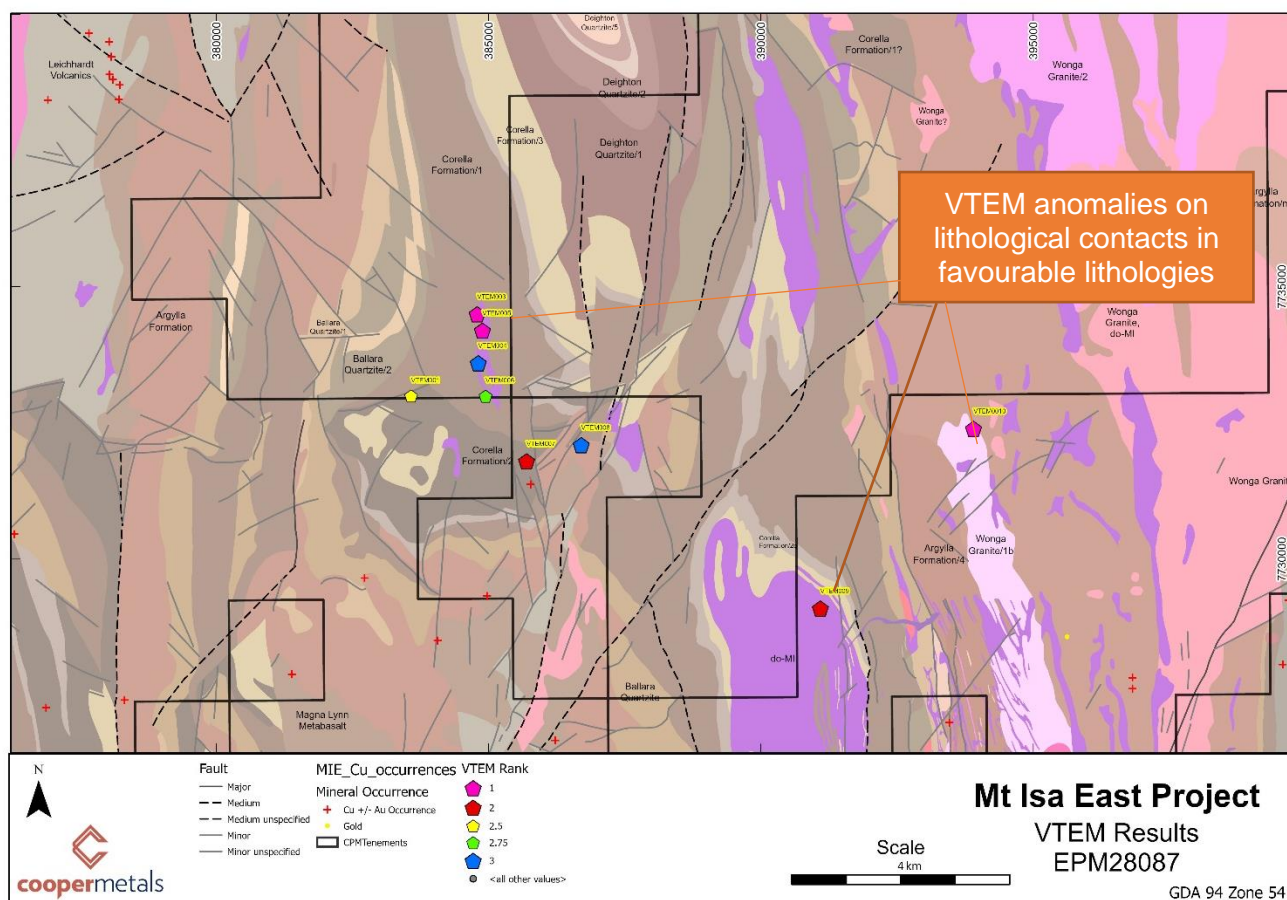


## VTEM Survey Results (EPM28087)

Desktop modelling of VTEM data by a consultant geophysicist has resulted in identifying **ten high priority anomalies (Table 1)** based on the strength of their conductive response (**Figure 2**). Anomalies that show higher conductivity are ranked the highest. Cooper geologists then further prioritize the anomalies using additional criteria including;

- the presence of favorable host lithologies such as Corella, and Argylla Formations,
- their proximity to mapped faults, lithology contacts and mafic rocks,
- evidence of historical geochemistry anomalies,
- absence of possible conductors such as black shales, graphite, and cultural features (e.g.: metal cattle yards).

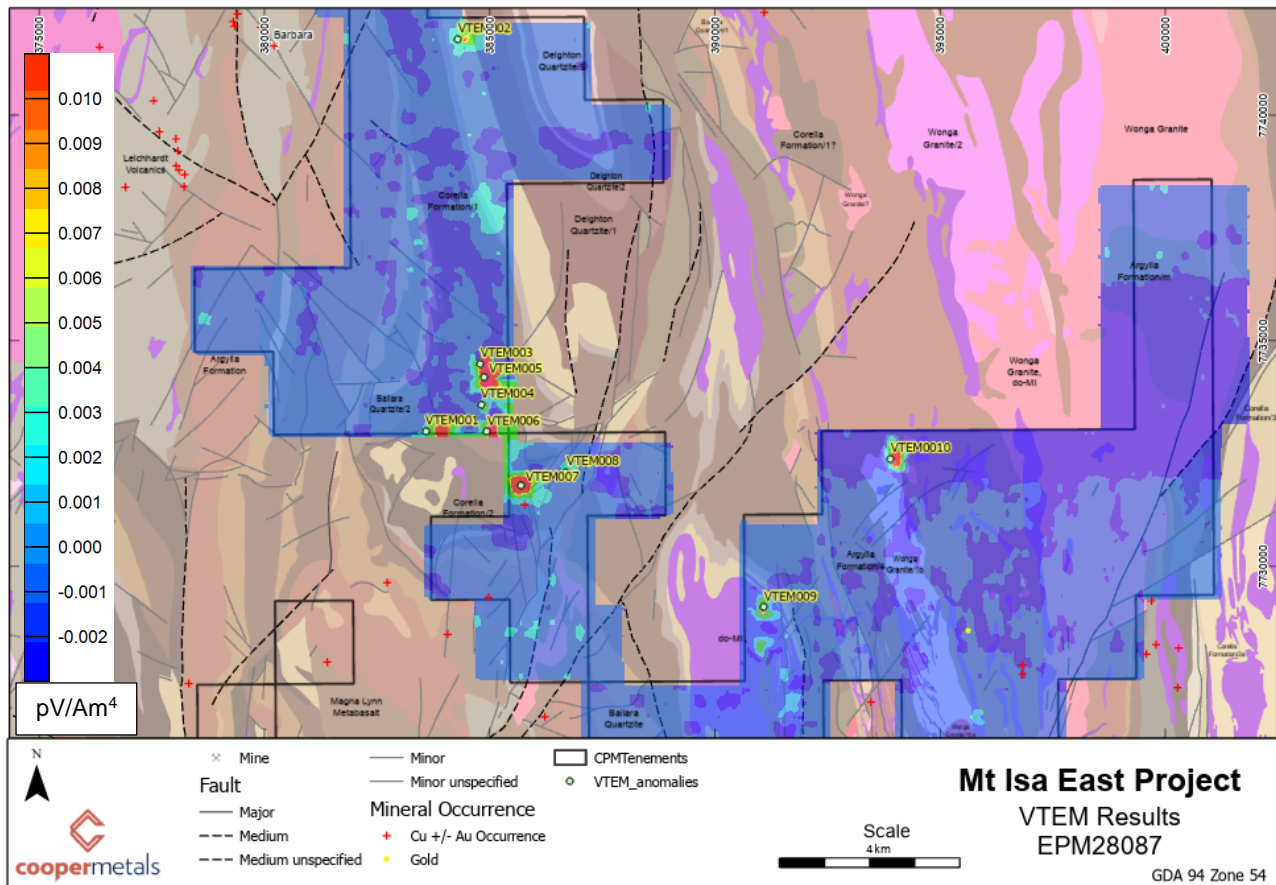
The ten VTEM anomalies identified have all been selected for ground truthing. Ground truthing will commence shortly to further rank targets for follow up geochemistry and/or ground geophysics ahead of potential drill testing.



**Figure 2: VTEM anomalies on EPM28087 (over geology)**

**Table 1 List of priority VTEM anomalies**

Label	Easting_GDA94	Northing_GDA94	Priority	Lithology	Comment
VTEM003	384788	7734501	1	Corella/Dolerite	on lithological contact
VTEM005	384884	7734200	1	Corella/Dolerite	on lithological contact
VTEM010	393902	7732400	1	Argylla/granite	on lithological contact
VTEM007	385695	7731803	2	Argylla	proximal to fault
VTEM009	391090	7729100	2	Dolerite	on lithological contact
VTEM001	383575	7733000	2.5	Corella	proximal to fault
VTEM002	384295	7741696	2.75	Corella	on lithological contact
VTEM006	384942	7732997	2.75	Dolerite	on lithological contact
VTEM004	384808	7733603	3	Dolerite	on lithological contact
VTEM008	386699	7732100	3	Argylla	proximal to fault



**Figure 3: VTEM anomalies (over Channel 41 dB/dt z component VTEM image and geology)**

### Geophysical Program Rationale and Details

VTEM is a powerful first-pass tool for the identification of potential copper-gold mineralisation. It is most effective on iron-sulphide dominated copper-gold deposits (ISCG), which are more likely to conduct an electromagnetic current compared to iron-oxide copper gold (IOCG) mineralisation. Other geological factors such as the presence of black shale, pyrrhotite and graphitic rocks can produce VTEM anomalies. Desktop modelling by consultant geophysicist and Cooper geologist aims at selecting the most promising anomalies for ground truthing.

As part of the Company's strategy to rapidly screen the area for new copper-gold targets, a VTEM survey was completed in May covering 200sqkm and 725-line kilometers. Significantly, EPM28087 covers part of the Mary Kathleen Domain, a highly prospective structural Domain for Cu-Au deposits. For example, the Barbara Cu-Au deposit is located just 1.8km west of EPM28087, which has a VTEM response. The heliborne detailed survey was completed on 300m line spacing in an east-west orientation. The survey is designed to identify any bedrock conductors that may represent copper sulphide mineralisation.





## Ardmore South RC Drilling Update

RC drilling of induced polarization (IP) and geochemical targets<sup>2</sup> is progressing at Ardmore South and should be completed within the next 1 to 2 weeks. The first batch of 500, one metre RC samples have been sent to the laboratory in Mt Isa for analysis. Assay results are expected in late June. An update will be provided when drilling is finished.



**Plate 2: RC Drilling at Ardmore South May 2023**

### Next Steps

- Ground checking of ten VTEM anomalies, geochemical sampling and mapping
- Completion of RC drilling at Ardmore South, assay analysis and interpretation
- Update ranking of 40+ prospects at Mt Isa East to progress towards drilling of target

The Board of Cooper Metals Limited has approved this announcement and authorised its release on the ASX.

### For further information:

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### COMPETENT PERSON'S STATEMENT:

*The information in this report that relates to Geological Interpretation and Exploration Results is based on information compiled by Ian Warland, a Competent Person who is a Member of The Australian Institute of Geoscientists. Mr Warland is employed by Cooper Metals Limited. Mr Warland has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 Warland consents to the inclusion in the report of the matters based on his information and the form and context in which it appears.*

### Reference

1. ASX: CPM: 30 March 2023: Cooper awarded \$137,500 Collaborative Exploration Initiative (CEI) grant for detailed VTEM survey
2. ASX:CPM: 9 May 2023: Drilling brought forward to next week at Ardmore South



## About Cooper Metals Limited

Cooper Metals Ltd (ASX: CPM) is an ASX-listed explorer with a focus on copper and gold exploration. CPM aims to build shareholder wealth through discovery of mineral deposits. The Company has three projects all in proven mineralised terrains with access to infrastructure. The Projects are detailed briefly below:

### **Mt Isa East Project (Qld)**

Cooper Metal's flag ship Mt Isa East Cu-Au Project covers ~1600 sq.km of tenure with numerous historical Cu-Au workings and prospects already identified for immediate follow up exploration. The Mt Isa Inlier is highly prospective for iron oxide copper gold (IOCG), iron sulphide copper gold (ISCG) and shear hosted Cu +/- Au deposits.

### **Yamarna Gold Project (WA)**

The Yamarna Gold Project located along strike from Gold Roads 6.16 Moz world class Gruyere Gold Deposit (ASX: GOR) has an extensive length of untested Dorothy Hills Shear Zone that was important in the formation of Gruyere gold deposit located ~10 km to the southeast of Cooper's tenements.

### **Gooroo Project (WA)**

Lastly the Gooroo Cu and or Au Project covers newly identified greenstone belt ~20 km from Silver Lakes (ASX: SLR) Deflector mine. The 26 km expanse of covered greenstone belt has had almost no exploration and was only added to government geology maps in 2020 after reinterpretation of geophysical data.

[www.coopermetals.com.au](http://www.coopermetals.com.au)





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**APPENDIX 1: The following tables are provided to ensure compliance with JORC Code (2012) requirements for exploration results for the Mt Isa East Project in Qld.**

**1.1. Section 1 Sampling Techniques and Data**

**1.2. (Criteria in this section apply to all succeeding sections.)**

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>No new drilling or surface sampling in this release.</li> <li>CPM is reporting the results of a Versatile Time Domain electromagnetic survey conducted by GEOTECH in May 2023</li> <li>The survey was flown in May 2023 by Geotech Ltd. The geophysical survey consisted of helicopter borne EM using the versatile time-domain electromagnetic (VTEM™MAX) full receiver-waveform streamed data recording system with Z and X component measurements and a caesium magnetometer.</li> <li>Survey specifications <ul style="list-style-type: none"> <li>East-west flight lines</li> <li>Spaced 300m apart</li> </ul> </li> </ul> <p>Flight height ~90m, with EM sensor height 45m, magnetic sensor 80m(final data pending)</p>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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).</li> </ul>	<ul style="list-style-type: none"> <li>No new drilling is reported in this release</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No new drilling is reported in this release</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No logging reported in this release</li> </ul>
	<ul style="list-style-type: none"> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> </ul>	<ul style="list-style-type: none"> <li>No logging reported in this release</li> </ul>
	<ul style="list-style-type: none"> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release</li> </ul>





Criteria	JORC Code explanation	Commentary
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• 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.</li> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>• No logging reported in this release</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• 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.</li> <li>• 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.</li> </ul>	<p>VTEM Max system specifications</p> <p>Transmitter</p> <ul style="list-style-type: none"> <li>• Transmitter loop diameter: 34.6 m</li> <li>• Effective Transmitter loop area: 3761 m<sup>2</sup></li> <li>• Number of turns: 4</li> <li>• Transmitter base frequency: 25 Hz</li> <li>• Peak current: 185.4 A</li> <li>• Pulse width: 7.17 ms</li> <li>• Wave form shape: trapezoid</li> <li>• Peak dipole moment: 697,324 nIA</li> <li>• Average transmitter-receiver loop terrain clearance: 45 metres</li> </ul> <p>Receiver</p> <ul style="list-style-type: none"> <li>• X Coil diameter: 0.32 m <ul style="list-style-type: none"> <li>◦ Number of turns: 245</li> <li>◦ Effective coil area: 19.69 m<sup>2</sup></li> </ul> </li> <li>• Y Coil diameter: 0.32 m <ul style="list-style-type: none"> <li>◦ Number of turns: 245</li> <li>◦ Effective coil area: 19.69 m<sup>2</sup></li> </ul> </li> <li>• Z-Coil diameter: 1.2 m <ul style="list-style-type: none"> <li>◦ Number of turns: 100</li> <li>◦ Effective coil area: 113.04 m<sup>2</sup></li> </ul> </li> </ul> <p>The magnetic sensor utilized for the survey was Geometrics optically pumped caesium vapour magnetic field sensor mounted 10 metres below the helicopter, as shown in this release. The sensitivity of the magnetic sensor is 0.02 nanotesla (nT) at a sampling interval of 0.1 seconds.</p>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>• The verification of significant intersections by either independent or alternative company personnel.</li> </ul>	<ul style="list-style-type: none"> <li>• VTEM data is preliminary supplied by UTS Geophysics Pty Ltd and data reviewed by Geo Discovery Group and VTEM anomalies selected as between 1, 2 and 3. high, medium and low priority based on strength of conductor and reviewed against possible cultural affects.</li> </ul>
	<ul style="list-style-type: none"> <li>• The use of twinned holes.</li> </ul>	<ul style="list-style-type: none"> <li>• No drilling reported in this release</li> </ul>
	<ul style="list-style-type: none"> <li>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul style="list-style-type: none"> <li>• All data is digitally recorded</li> </ul>
	<ul style="list-style-type: none"> <li>• Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>• No adjustments to the data.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• No drilling reported in this release</li> <li>• VTEM - The navigation system used was a Geotech PC104 based navigation system utilizing a NovAtel's WAAS (Wide Area Augmentation System) enabled GPS receiver.</li> <li>• GDA94 Zone 54.</li> </ul>
<b>Data spacing and distribution</b>	• Data spacing for reporting of Exploration Results.	• VTEM – lines spaced 300m apart and orientated east-west
	• 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.	• VTEM – line spacing is appropriate for the size of the deposits targeted and orientated at high angle to regional faults that may host mineralisation.
	• Whether sample compositing has been applied.	• No sample compositing applied.
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• 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.</li> </ul>	• VTEM lines are orientated east-west roughly perpendicular to the main strike of rock units in the Mt Isa Inlier
<b>Sample security</b>	• The measures taken to ensure sample security.	• No sampling reported
<b>Audits or reviews</b>	• The results of any audits or reviews of sampling techniques and data.	• No audits or reviews undertaken.



## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The tenement (specifically EPM28087) referred to in this release is held by Cooper Metals Ltd who hold 85% of the tenement with 15% held by Revolution Minerals Pty Ltd.</li> </ul>
	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The tenement is secure under Qld legislation.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The historical tenure reports indicated that several companies have explored the project area over the last 50 years. Exploration has mainly consisted of geochemical sampling of rock and soil. Geological mapping and acquisition of airborne magnetics. Limited historical drilling is recorded within the Qld Government database "GeoResGlobe".</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Mt Isa East Project is in the Mount Isa Inlier, which is prospective for IOCG, ISCG and shear hosted Cu-Au deposits. See body of this release for more information.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>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>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>No Drilling reported in this release</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>No drill results reported</li> </ul>
	<ul style="list-style-type: none"> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>No drill results reported</li> </ul>





Criteria	JORC Code explanation	Commentary
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul style="list-style-type: none"> <li>No drill results reported</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>See the main body of this release.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>VTEM data is presented is for the whole survey area.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Considerable historical work was completed with mapping sampling and geophysics. This work needs further review.</li> <li>Further modelling of the VTEM data is in progress and ground truthing of anomalies will be ongoing to assess their prospectivity.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> </ul>	<ul style="list-style-type: none"> <li>Early-stage exploration and follow-up of identified Cu and Au anomalies including additional interpretation of geophysical data, reviews and assessments of regional targets, and infill geochemical sampling of ranked anomalies in preparation for future drill testing.</li> </ul>
	<ul style="list-style-type: none"> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to the figures in this report.</li> </ul>