ASX Announcement | ASX: CPM

6 April 2023

Significant IP chargeability anomaly upgrades Cu-Au prospectivity at Ardmore

Highlights

- **Induced polarisation (IP) survey identifies significant chargeability zone broadly coincident with copper-gold mineralised shear zones recently defined by Cooper's mapping and rock chip sampling at Ardmore**
- **Gold assays up to a stunning 14.9g/t Au in new assay results received from twenty-two rock chip samples at Ardmore. Significant copper results up to 23.1% Cu (and 2.2g/t Au) in sample MER151. Several other high grade rock chip assays from samples taken from the same shear zone include:**
  - **12.2% Cu & 1.0g/t Au (MER145)**
  - **5.3% Cu & 0.0g/t Au (MER146)**
  - **11% Cu & 0.1g/t Au (MER147)**
  - **23.1% Cu & 2.2g/t Au (MER151)**
  - **18.9% Cu & 6.5g/t Au (MER152)**
  - **12.5% Cu & 1.0g/t Au (MER156)**
  - **22.4% Cu & 1.9g/t Au (MER157)**
  - **8.4% Cu & 0.1g/t Au (MER158)**
  - **0.8% Cu & 14.9g/t Au (MER168)**
- **Surveying of two IP profile lines is in progress at Ardmore south over the higher chargeability areas to better define drill targets and the depth of the chargeability anomalies**

Managing Director Ian Warland, commented:

"The IP survey had been very encouraging with the chargeability anomaly broadly coincident with the copper-gold mineralised shear zone defined in the recent rock chip sampling and mapping. The combination of significant copper-gold in rock chips and IP chargeability anomaly presents a compelling drill target. The IP crew is completing two profile lines over the highest chargeability areas and a separate IP survey over a mineralised shear zone in the northern part of EPM19125, just 10km to the northeast of the southern IP grid. Further IP and rock chip updates will be available over the next few weeks, along with plans for drill testing."

Cooper Metals Limited (ASX: CPM) ("CPM" or "the Company") is pleased to provide an update on the results of the induced polarization (IP) survey and new geochemical sampling on the Ardmore tenement (EPM19125) within the Mt Isa East Copper Gold Project in northwestern Queensland (Figure 3).

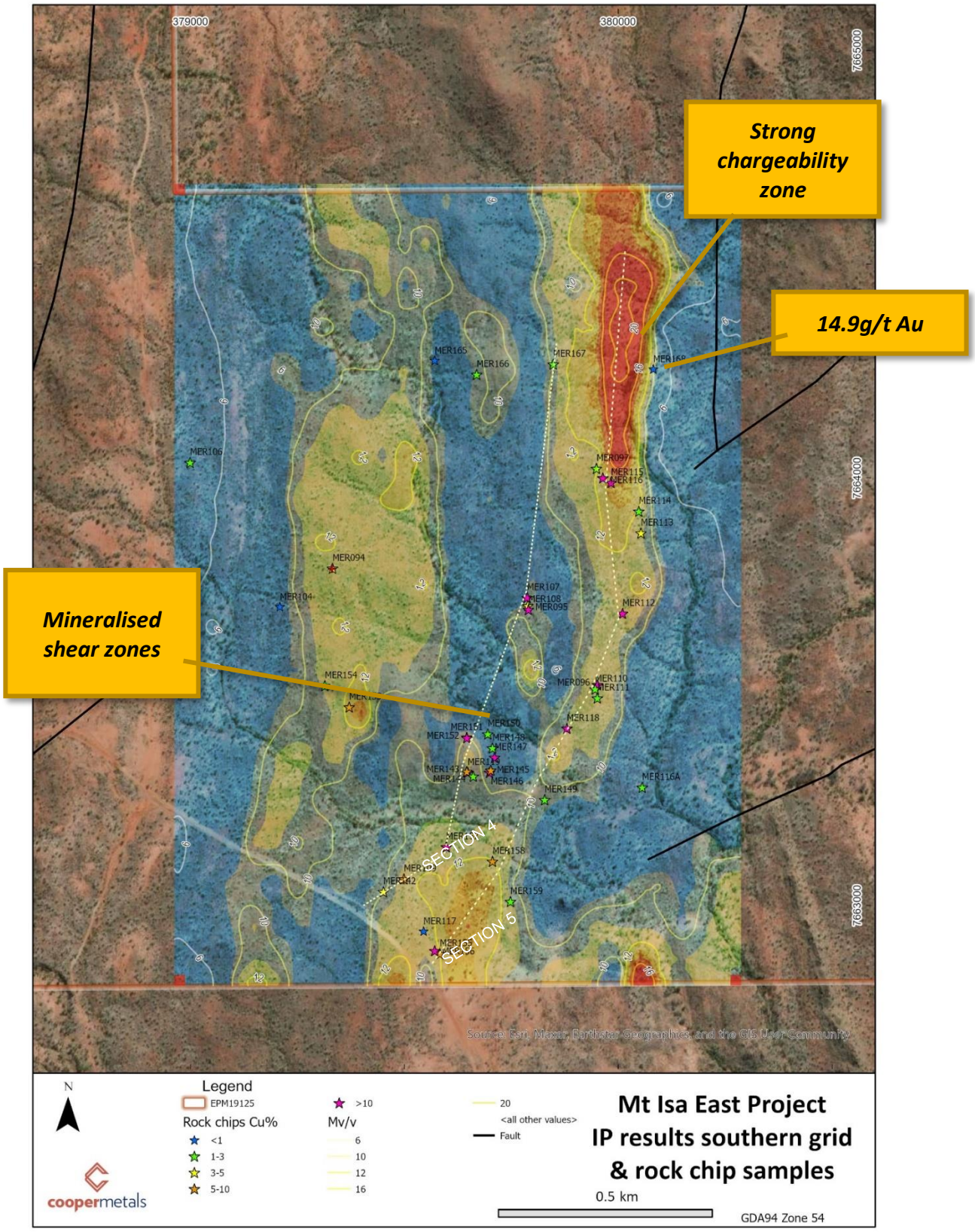

Figure 1: Location of rock chip samples and IP chargeability contours (mV/V) Ardmore south and mineralised trend

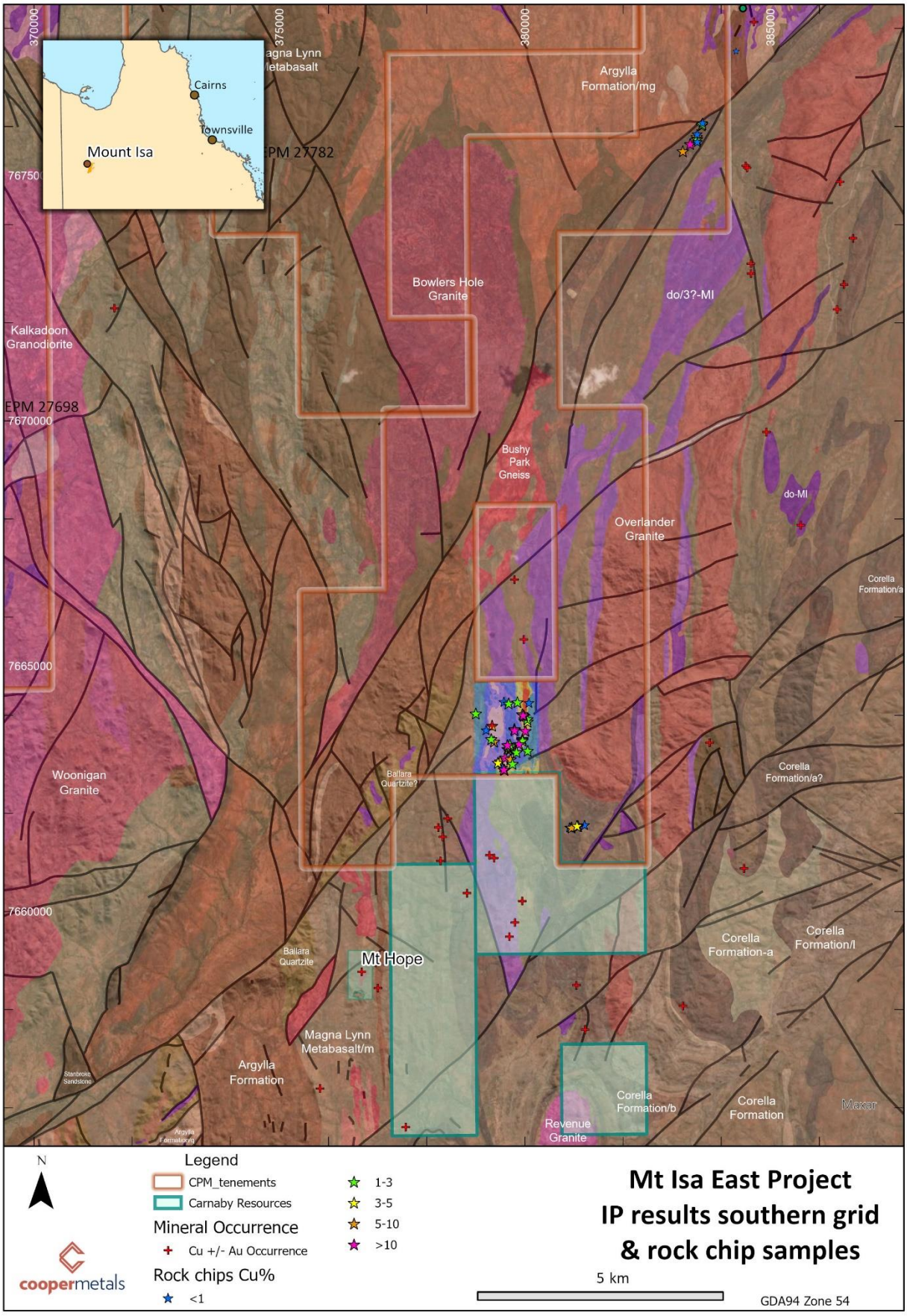

Figure 2: Rock Chip and IP grid Location Map EPM19125 (Ardmore)

Induced Polarisation results

IP surveys were planned over two separate (northern and southern) grids on the Ardmore tenement. Results for the southern grid have been processed and show a significant chargeability feature on the eastern side of the grid, broadly coincident with the copper-gold mineralisation identified by recent mapping by Cooper geologists (**Figure 1**).

The strongest part of the IP anomaly is in the north-eastern portion of the southern grid and is around 500m long with a peak chargeability of 22 mV/V, or around 5 times background. Importantly, samples MER115 and MER116 collected from copper veining, located at the southern end of this high chargeability zone contain significant copper and gold including, **21.9% Cu & 1.1g/t Au (MER116) and 21.3% Cu & 0.5g/t Au (MER115)[1].** The centre of the chargeability anomaly is yet to be mapped.

The geophysical field crew is completing two IP profile lines over the higher chargeability zones in the southern grid to test their depth extent and provide information for drill testing. Results are expected for these profiles in the next two weeks. The IP survey for the northern grid is still in progress.

Reconnaissance Sampling

Assay results for another twenty-two rock chips from Ardmore have been received with the best gold result a stunning 14.9g/t Au from an iron oxide gossan (MER168) located just 80m to the east of the chargeability high. As per the batch of samples announced in March[1], this new batch contains six samples with gold greater than 1g/t Au taking the total number of rock chips of 1g/t Au or greater to twelve out of the total thirty-nine assayed to date (Table 1).

The copper grades are also typically high in the new batch of assays, with the copper mineralisation malachite dominated and hosted in two subparallel shear zones within the Corella Formation and associated with strong quartz carbonate and iron oxide alteration typical of iron oxide copper-gold (IOCG) mineralisation in the area. The mineralised shear zones have been traced for around 1.1km along strike and the IP anomaly indicates that it remains open to the northeast (**Figure 2**).

High gold grades tend to correlate with the high copper values with MER168 a notable exception. New samples with high copper and or gold (>1g/t) include:

- **12.2% Cu & 1.0g/t Au (MER145)**
- **5.3% Cu & 0.0g/t Au (MER146)**
- **11% Cu & 0.1g/t Au (MER147)**
- **23.1% Cu & 2.2g/t Au (MER151)**
- **18.9% Cu & 6.5g/t Au (MER152)**
- **12.5% Cu & 1.0g/t Au (MER156)**
- **22.4% Cu & 1.9g/t Au (MER157)**
- **8.4% Cu & 0.1g/t Au (MER158)**
- **0.8% Cu & 14.9g/t Au (MER168)**

There are several outstanding rock chip samples at the laboratory which will help further define the mineralised trend. The surface mineralisation in combination with the IP chargeability anomaly presents a compelling drill target and may be an indication of significant copper sulphide mineralisation at depth. Cooper is now planning to fast-track RC drilling at Ardmore South to test for shallow copper-gold mineralisation.

About Ardmore Tenement (EPM19125)

The Ardmore tenement adjoins Cooper's existing tenement EPM27782, to the north and lies just north of Carnaby's (ASX: CNB) interpreted IOCG corridor defined by the position of Nil Desperandum, Lady Fanny and Mt Hope (**Figure 2**). The southern IP grid is just 5.5 km to the northeast of Carnaby's Mt Hope prospect.

Table 1: Rock Chip Summary Table

Sample_id	Cu_%	Au_ppm	Easting	Northing	Comments/description
MER104	0.6	0.0	379209	7663699	Malachite in sheared calcite vein
MER105	0.0	0.0	379125	7663992	Very weakly malachite and goethite stained fractures on buck quartz vein
MER106	1.1	0.0	378999	7664036	Corella Fm, with calcite and malachite veining
MER107	26.2	2.0	379787	7663720	Calcite malachite veining
MER108	12.0	1.3	379790	7663692	Calcite malachite veining in Corella Fm
MER109	5.8	0.6	379499	7663062	Dolerite, malachite veining
MER110	2.6	1.0	379946	7663506	Calcite veining, malachite, pyrite and haematite
MER111	2.3	0.1	379951	7663485	Ironstone gossan, calcite and malachite veining
MER112	23.4	0.4	380010	7663683	Calcite and malachite veining
MER113	4.4	0.1	380053	7663871	Malachite in sandstone
MER114	1.1	0.1	380048	7663922	Calcite and malachite veining
MER115	21.3	0.5	379983	7663989	Malachite and calcite veining within highly albitite corella siltstone
MER116	21.9	1.1	379964	7664000	Calcite and malachite veining
MER116A	1.3	0.0	380056	7663276	Hematite goethite malachite quartz breccia
MER117	0.5	0.0	379545	7662940	Qtz calcite hematite gossan vein cross cutting corella quartzite / sandstone
MER118	14.4	1.2	379880	7663414	Calcite vein 1m thick with hematite malachite blebs
MER119	11.5	1.7	379648	7663311	Iron oxide malachite gossan
MER142	3.2	0.2	379451	7663032	Calcite minor quartz hem malachite vein
MER143	8.7	0.2	379646	7663313	copper sulphide vein 20cm x 5m, lensoidal, plugs of calcite
MER144	2.8	0.2	379661	7663302	Mineralised sand/limestone layer, albitisation alteration
MER145	12.2	1.0	379699	7663311	Calcite vein with mal/hem , some malachite in bed partitioning
MER146	5.3	0.0	379702	7663316	narrow copper sulphide vein
MER147	11.0	0.1	379711	7663346	Quartz/calcite/malachite vein
MER148	2.0	0.9	379706	7663368	narrow calcite vein with malachite mineralised sandstone margin
MER149	1.3	0.2	379828	7663247	Mineralised metasomatised Corella
MER150	2.8	0.6	379695	7663401	Hematite/goethite gossan , with trace malachite
MER151	23.1	2.2	379646	7663393	Malachite/iron rich laterite
MER152	18.9	6.5	379646	7663392	Bedrock mineralised massive Corella sandstone 20cm wide vein
MER153	5.6	0.0	379371	7663464	small calcite veins 0.5 x 2m with strong malachite selvedges
MER154	2.2	0.1	379314	7663514	Qtz malachite stringer veins in semi-massive corella arkose silt/sand
MER155	5.1	0.2	379583	7662887	Calcite/quartz/iron gossan vein not highly mineralised - malachite float
MER156	12.5	1.0	379571	7662894	cuprite and malachite rich rock
MER157	22.4	1.9	379598	7663137	old working 1x1x0.5m, with copper oxide minerals
MER158	8.4	0.1	379706	7663103	small gossan with weathered pyrite and chalcopyrite
MER159	2.2	0.3	379748	7663009	Weakly mineralised quartz malachite veins in limestone
MER165	0.4	0.0	379571	7664275	iron oxide gossan trace malachite
MER166	1.3	0.1	379669	7664242	Corella limestone band 1m+ calcite vein with goethite/mal
MER167	1.4	0.3	379848	7664266	Calcite vein 1m wide, weak goethite malachite gossan , strongly albetised
MER168	0.8	14.9	380082	7664255	iron oxide gossan with trace malachite

Note: new rock chip samples MER142 to MER168

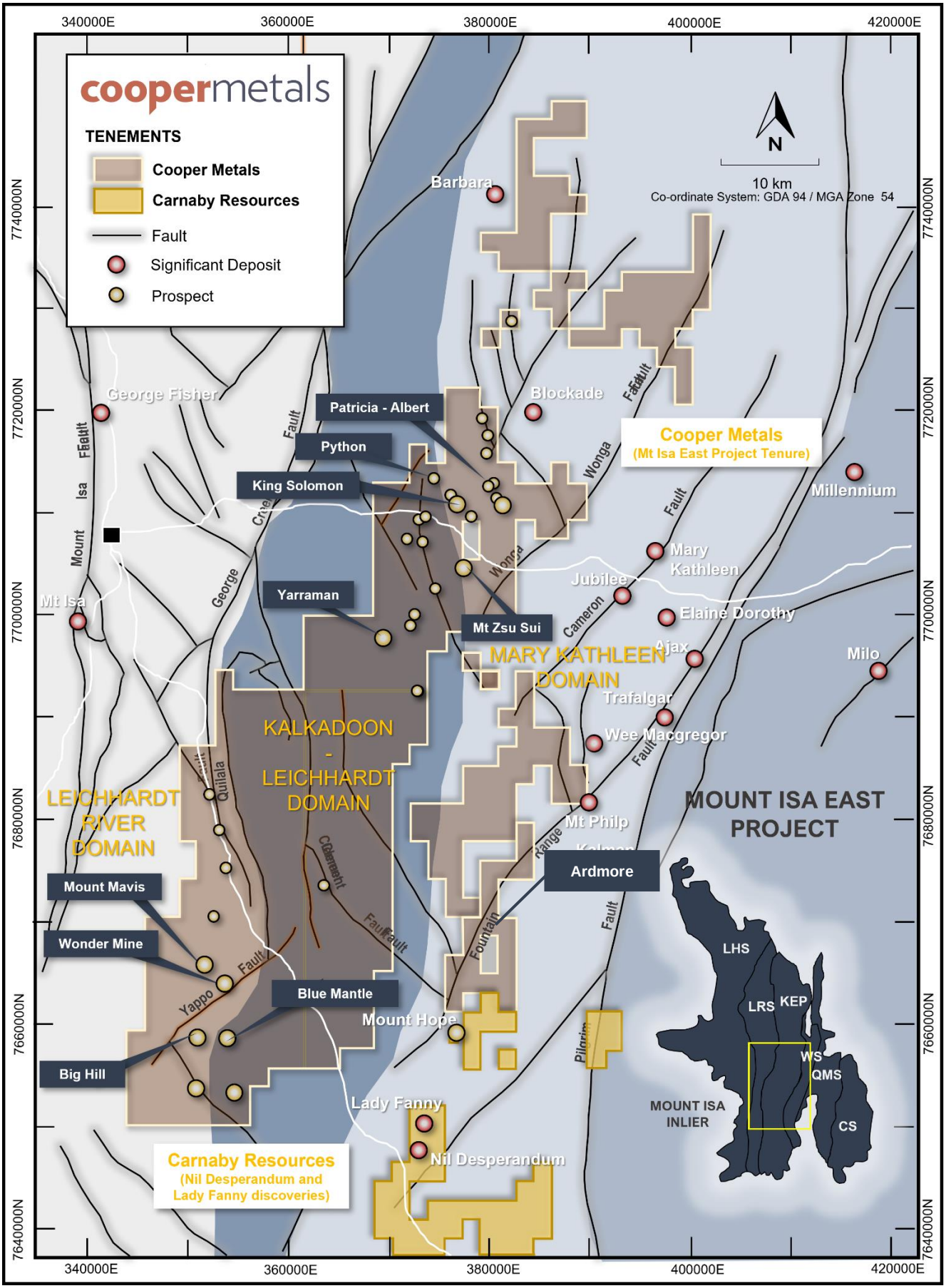

Figure 3: Mt Isa East Project Location Plan

Next steps and ongoing Geochemical Reconnaissance

- Further rock chip assay results from Ardmore South and North
- Completion of IP survey at Ardmore South and North
- RC drilling at Ardmore South

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 Australasian Institute of Geology. 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: 16 March 2023: High grade rock chip define mineralised trend at Ardmore

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 Mozz 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.

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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 to update**

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

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. • 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.	IP survey by Planetary Geophysics Pty Ltd March/April 2023. Transmitter GDD model Tx4 20A/5000W/2400V Iris Elrec Pro receiver Ground IP Survey Southern Grid Geophysical technique: Time Domain Induced Polarisation / Resistivity • Array: Gradient Array (GAIP) • Rx Diploe Separation: 50m • Station Separation: 50m • Line Separation: 100m • Line Length: 1300m • Transmitter Frequency: 0.125Hz (2 sec time base) • Number of Grids: 1 • Number of lines 19 in total • Line Direction: 090 deg (GDA94, MGA Zone 54) • Chargeability Integration: 990 – 1650ms Typical Current: 3.6 A • Cooper Metals Ltd (ASX: CPM) is reporting a new geochemistry survey completed at the Company's Mt Isa East Project. • CPM Rock chip samples were collected predominantly on selective outcrop where there were signs of mineralisation or alteration of interest. • All samples were submitted to ALS Laboratory in Mount Isa for sample preparation and then forwarded to ALS Laboratory in Brisbane for analysis. • Rock samples preparation completed by ALS using method CRU-21 crush of 70% passing 6mm, then PUL-23 pulverise to nominal 85% passing 75 microns. • Samples were analysed using method ME-ICP61 for 33 element four acid ICP-AES. Au was analysed by 50g charge ICP-AES finish code a-Au-ICP22. • Ore Grade Elements were assayed using four acid digest and MEOG62. Ore Grade Cu was assayed using Cu-OG62
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).	• No new drilling is reported in this release
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.	• No new drilling is reported in this release

Criteria	JORC Code explanation	Commentary
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.	• CPM rocks have been described in detail and photographed.
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	• All field descriptions are qualitative in nature.
	• The total length and percentage of the relevant intersections logged.	• No drilling reported in this release
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.	• CPM rocks - sample preparation was appropriate for the level of reporting. No duplicates were submitted. • CPM rock chips were taken by geologist to be representative of the subcrop or outcrop sampled. • CPM rock samples of ~1kg are appropriate for style of mineralisation and regional exploration.
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.	• CPM Rock chips - No duplicates, standards or blanks were submitted with rock chip samples. The laboratory has its own QAQC system for standards, repeats and duplicates.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• Due to the early stage of exploration no verification of significant results has been completed at this time.
	• The use of twinned holes.	• No drilling reported
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• All data is digitally recorded
	• Discuss any adjustment to assay data.	• No adjustments to the data.
Location 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.	• CPM rock chips - Location of samples by handheld Garmin GPS to +/- 5m accuracy, GDA94 Zone 54. • IP locations were obtained using a Garmin GPS in UTM MGA94 mode
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	• The competent person considers the level of accuracy associated with the borehole collar survey methods and the historical borehole spacing to be appropriate for the reporting of exploration results and as an indication of mineralization prospectivity for the mineral tenements. • CPM rock chips - Rock Chips samples were collected based on variable rock

Criteria	JORC Code explanation	Commentary
		distribution.
	• 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.	• No mineral resources or reserves have been estimated, the competent person considers the results of further exploration, drilling, sampling and laboratory analysis, trenching for bulk samples, etc., would be required to establish the geological, grade continuity and an understanding of the metallurgical properties for each of the project areas.
	• Whether sample compositing has been applied.	• No sample compositing applied.
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.	• CPM - Rock chips were taken from selected outcrops, and may not be representative of the whole outcrop. The sample selection was based on outcrop distributions, and the link with geological structures has not been defined at this time. • No new drilling reported • GAIP lines orientated 90. This is approximately right angles to the geology. Line spacing is 100m apart, station spacing is 50m, using a 50m receiver dipole
Sample security	• The measures taken to ensure sample security.	• CPM rock chips are collected in individually numbered calico bags and loaded into polyweave bags and cable tied. • Samples were collected and stored at a secure location and transported to the Mt Isa laboratory by CPM personnel along with appropriate identification and paperwork
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits or reviews undertaken.

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Section 2 Reporting of Exploration Results

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

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 tenements (specifically EPM 19125) referred to in this release are held by Ardmore Resources Pty Ltd, Cooper Minerals Ltd acquired 100% of the Ardmore Resources.
	• 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 tenements are secure under Qld legislation.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• 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". .
Geology	• Deposit type, geological setting and style of mineralisation.	• 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.
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: ➢ easting and northing of the drill hole collar ➢ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ➢ dip and azimuth of the hole ➢ down hole length and interception depth ➢ hole length. • 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.	• No new drilling reported in this release
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	• Unless stated otherwise in the announcement all grades were reported as certified by the laboratory for the sample length as taken in the field.
	• The assumptions used for any reporting of metal equivalent values should be clearly stated.	• No metal equivalents used.

Criteria	JORC Code explanation	Commentary
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 (e.g., 'down hole length, true width not known').	• No new drilling reported in this release,
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 main body of this release.
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 avoiding misleading reporting of Exploration Results.	• Rock chip samples are reconnaissance in nature from selected sites to demonstrate the prospectivity of the area. The reporting is considered balanced
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.	• Considerable historical work was completed with mapping sampling and geophysics This work needs further review.
Further work	• The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	• 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.
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• Refer to figures in this report.