

HILLTOP IP SURVEY DEFINES THIRD **COMPELLING DRILL TARGET AT THE** SOUTH COBAR PROJECT

HILLTOP: COPPER-GOLD-LEAD-ZINC TARGET

22 May 2023

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ACN 633 936 526

Australian Gold and Copper Ltd

- An eight square kilometre gradient array induced polarisation (IP) survey, along with a dipole-dipole survey line, has confirmed the presence of a strong chargeability anomaly at the Hilltop target
- This is the second of three high impact IP surveys being undertaken at the South Cobar Project, targeting sulphide-hosted base metal and gold mineralisation
- A 700 metre-long zone of strong chargeability (up to 28Mv/V) is coincident with outcropping stockwork-veined rocks hosting gold in rock chips up to 3.8g/t (RARK072)
- This new IP anomaly adds to the recently announced Achilles IP targets located 20km to the north which defined two compelling drill targets¹

Hilltop IP Anomaly (Section 6,305,600 N)

Strong chargeability anomaly under surface anomalism and hydrothermally altered outcrop



Figure 1: Hilltop dipole-dipole IP line highlighting a strong, steeply-dipping chargeability anomaly (up to 28mV/V) relative to rock chip assays sampled from outcropping stockwork veining on surface (section 6,305,600N)

¹ AGC ASX 5 May 2023, Achilles IP produces stellar drill targets



Australian Gold and Copper Ltd (**ASX: AGC**) (**"AGC" or the "Company"**) is excited to release the results of a new IP geophysical survey from the Hilltop target within the South Cobar Project. These results build on the two drill targets defined by the Achilles IP results released recently (*AGC ASX 5 May 2023*).

IP geophysical methods can be utilised to detect sulphide mineralisation below the ground. The eight square kilometre survey completed at Hilltop has defined a large chargeability anomaly coincident with surface soil and rock chip anomalism and alteration (*Figure 2, AGC ASX 5 April 2023*).

The primary method used for the Hilltop survey was gradient array IP (GAIP), which highlights anomalies based on a 2D array in plan view. GAIP is used to rapidly assess large areas for follow-up with other exploration techniques such as dipole-dipole IP, geochemistry and drilling.

AGC Managing Director, Glen Diemar said "This Hilltop chargeability anomaly is as clear a drill target as I have seen. It is a Federation look-a-like, with the shallow and high amplitude geophysics neatly coinciding with soil and rock chip geochemistry. The new rock chip results also add to this growing story.

We are bringing massive discovery potential of the Cobar Basin southward. With the two exceptional Achilles IP targets, this one at Hilltop and a third IP survey underway at Planet, AGC's forward path is very clear."



Figure 2: Hilltop plan showing the IP gradient array survey results and modelled chargeability anomaly that remain untested by previous drilling and coincident with gold in rock chips (AGC ASX 5 April 2023).



Hilltop is a high-priority base-metal gold target

Hilltop was identified during target generation and regional reconnaissance and followedup by soil and rock chip sampling through new licence EL9336 (*Figure 5*). Hilltop sits within prospective target horizons (see *Figure 5, ASX AGC 16 March 2023*) that is dominated by volcanic and sedimentary rocks consistent with the Cobar Basin (*Bull and McPhie, 2006*).

The target zone is under a hill and defined by soil sampling with a strong >100ppm lead in soil zone 1,000m long by 500m wide. The lead-in-soil anomaly separates into two zones greater than >200ppm lead that is coincident with gold in rock chips up to 3.8g/t gold (*Figure 2, ASX AGC 5 April 2023*).

The prospective geochemistry is hosted in sheared, quartz-sericite-chlorite altered volcaniclastic rocks that abut coherent, blocky rhyolite. Localised areas display strong leached sulphide textures, called gossans, which host the highest tenor gold (*Figure 2, AGC ASX 5 April 2023*).

Eleven new rock chips were recently collected, returning up to 3.8g/t gold (RARK072), with five of those returning 0.2g/t Au or greater (**Table 1**). These are in addition to previously reported assays to 3.5g/t gold (*Figure 2, AGC ASX 5 April 2023*).



Figure 3: Hilltop IP section at 6,305,600N Chargeability is shown at the top with resistivity on the bottom.



Next Steps

Given the potential of Hilltop and the nearby Achilles target to host significant base metal and gold mineralisation, AGC is currently examining various options for drill testing the strong chargeability features identified at both prospects. The Company expects drilling program design and planning to be finalised once IP results have also been received from the Planet survey currently under way.

Also, first pass soil sampling (pXRF) has been completed at Gundagai's Bongongalong target with results pending and first pass soils will commence shortly at South Cobar's Creamy Hills gold target where rock chips to 24.4g/t gold were recently reported within the shafts and dumps (see AGC ASX 3 March 2023).

Planet Target IP Commenced

A gradient array IP survey has commenced to extend a known zone of chargeable rock at the Planet target. Planet is located 20km north of Achilles (*Figure 5*). A dipole-dipole IP survey at the prospect (*Figure 4*) defined a significant 30mV/V chargeability anomaly located on the contact of two rock types (*Maniw, 1982*), with both rock types considerably altered and exhibiting gossanous ex-sulphide veining at surface. This is a similar structural position as the Hilltop IP target. The gradient array IP survey should take two weeks to complete.



Figure 4: Planet target's historic dipole-dipole IP line showing strong chargeability in red on the western side (after Maniw, 1982)

AGC Projects Overview

AGC's portfolio located in the Central Lachlan Fold Belt of NSW includes the **Moorefield/Ootha gold-copper project** exploring for multi-million ounce orogenic gold deposits, the **copper-gold/base-metal project** in the southern Cobar Super-Basin exploring for Hera and Federation style deposits, and the **Gundagai gold project**, exploring for multi-million ounce McPhillamy's type gold deposits.





Figure 5: Cobar Basin map showing recent major discoveries and mines relative to AGC's exploration licences in yellow and major prospective trends in red/yellow stars (ASX AGC 16 March 2023).



Table 1: Recent Hilltop rock chip results (GDA94).

SampleID	East	North	RL	Rock_Type	Assay_Method	Weight kg	Au g/t	Ag g/t
RARK064	420592	6305783	210	sulf veins cutting fg volc sst, strongly altered	Au-AA24 ME-MS61	1.46	0.07	1 1.5
RARK065	420594	6305784	210	sulf veins cutting fg volc sst, strongly altered	Au-AA24 ME-MS61	1.58	0.20	1 1.5
RARK066	420591	6305783	210	sulf veins cutting fg volc sst, strongly altered	Au-AA24 ME-MS61	1.84	0.15	9.5
RARK067	420594	6305785	210	sulf veins cutting fg volc sst, ser altered fragments	Au-AA24 ME-MS61	1.32	0.02	7.8
RARK068	420593	6305793	209	str sulf lim vein stk cutting fol fg volc sst, str seri alt	Au-AA24 ME-MS61	3.02	0.22	29.0
RARK069	420592	6305794	209	40mm sulf veins fg volc sst, chl atl, boxwork	Au-AA24 ME-MS61	1.14	0.06	30.0
RARK070	420594	6305791	209	fg grey volc sst 10-30mm sulf veinlets	Au-AA24 ME-MS61	1.84	0.08	17.0
RARK071	420595	6305793	209	fg grey volc sst , 10mm sulf veinlets	Au-AA24 ME-MS61	1.74	0.03	4.7
RARK072	420539	6305603	220	dominantly qtz + sulf vein network, red chl fg volc sst	Au-AA24 ME-MS61	0.74	3.82	2.1
RARK073	420551	6305626	221	str alt fg volc sst/breccia with gossanous infil	Au-AA24 ME-MS61	0.8	0.27	1.1
RARK074	420621	6305723	223	str alt fg volc sst/breccia, sulf + qtz vein	Au-AA24 ME-MS61	2.02	0.84	2.6

References

AGC ASX 18 November 2020, Prospectus

AGC ASX 3 March 2023, High Grade Historic Gold Mines Discovered at South Cobar

AGC ASX 20 March 2023, Hilltop: A new gold base metal target South Cobar

AGC ASX 5 April 2023, Hilltop: A new gold base metal target South Cobar Relodged

AGC ASX 5 May 2023, Achilles IP produces stellar drill targets

Maniw J.G., 1982. Electrolytic Zinc Company of Australasia Ltd, Report for the 6 months ended 25th February 1982 Prospecting Licences 741 and 742. (<u>R00010767</u>)

This announcement has been approved for release by the Board of AGC.

ENDS

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Forward-Looking Statements

This announcement contains "forward-looking statements," All statements other than those of historical facts included in this announcement are forward-looking statements. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and based upon information currently available to the company and believed to have a reasonable basis. Although the company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and no assurance can be given that these expectations will prove to be correct as actual results or developments may differ materially from those projected in the forward-looking statements. Forward-looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to, copper, gold, and other metals price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks and governmental regulation and judicial outcomes. Readers are cautioned not to place undue reliance on forward-looking statements due to the inherent uncertainty thereof. The forwardlooking statements contain in this press release are made as of the date of this press release and except as may otherwise be required pursuant to applicable laws, the Company does not undertake any obligation to release publicly any revisions to any "forward-looking statement".

Competent Persons Statement

The information in this document that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Glen Diemar who is a member of the Australian Institute of Geoscientists. Mr Diemar is a full-time employee of Australian Gold and Copper Limited, and is a shareholder, however Mr Diemar believes this shareholding does not create a conflict of interest, and Mr Diemar has sufficient experience which is 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 Diemar consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

Previously Reported Information

The information in this report that references previously reported exploration results is extracted from the Company's ASX IPO Prospectus released on the date noted in the body of the text where that reference appears. The ASX IPO Prospectus is available to view on the Company's website or on the ASX website (www.asx.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

Appendix 1 – JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data: South Cobar Project, Hilltop Rock chips and Induced Polarisation 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.	Gradient Array (GAIP) and Dipole-Dipole Induced Polarisation (DDIP) ground geophysical survey: Fender Geophysics conducted the survey utilising a Gradient Array and Dipole-Dipole electrode configuration with electrodes spaced at 50m Rx and Tx (DDIP) and 100m spacing for GAIP along 200m spaced lines running east to west, perpendicular to the mapped geology. Miniw, 1982 survey by Geoterrex was conducted utilising Dipole-Dipole electrode configuration with electrodes spaced at 100m Tx Rockchips: samples were taken from in-situ outcropping rocks in the field. Sampling was selective of outcrops that looked mineralised in order to gain an understanding of best grades possible.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	 GAIP & DDIP: Calibration is undertaken in the field during survey production. Constant QAQC is undertaken and threshold levels are monitored, including solar wind electromagnetic disturbance activity. Rockchips: Sampling was selective of outcrops that looked mineralised to gain an understanding of best grades possible. Sample sizes were typically large (multi kilogram) to better smooth average grades.
	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.	 GAIP & DDIP: Not applicable as only reporting Induced polarisation geophysical survey Rock chips: All sampling was from the oxide zone and hence oxide gold may be nuggety in nature. 1-5kg was pulverised to produce a 50g charge for fire assay Au-AA-24 and ME-MS61 ICP-MS/OES
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 applicable as no drilling conducted: Induced polarisation geophysical survey

Criteria	JORC Code explanation	Commentary
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	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 applicable as no drilling conducted: Induced polarisation geophysical survey
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.	Rock chips: samples were logged for rock type, structure, veining and alteration. Not applicable as no drilling conducted: Induced polarisation geophysical survey
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	The total length and percentage of the relevant intersections logged.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
Sub-sampling	If core, whether cut or sawn and whether quarter, half or all core taken.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
techniques and sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Rock chips: A few kg of rock was sampled into a calico bag by chipping with a geopick from the outcrop. Sampling was manual and bias to outcropping lithologies has occurred
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	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.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Not applicable as no drilling conducted: Induced polarisation geophysical survey

Criteria	JORC Code explanation	Commentary
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.	Rock chips: Standard assaying procedures by a reputable laboratory (ALS Group, Orange branch). 1-5kg RC sample was pulverised to produce a 30 g charge for fire assay by ALS Orange Laboratory and four acid ICP analysis, ME-MS61 by ALS Brisbane or other ALS lab. This method is considered a near total digestion.
	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.	Gradient Array (GAIP) and Dipole-Dipole Induced Polarisation (IP) ground geophysical survey. Fender Geophysics conducted the survey with electrodes spaced at 50m or 100m (Dipoles) and for GAIP along 200m spaced lines. Field data QAQC was completed by trained Fender Geophysics ('Fender') field staff, with further QAQC of data conducted post survey by Mitre Geophysics Fender Geophysics equipment and set up was as follows: Receiver Dipole length: 50m or 100m Transmitter Dipole moves: 50m for DDIP or GAIP Tx dipole at 3500m Domain and cycle: Time domain – 2 seconds or 0.125 Hz Receivers: GDD RX-32 - 16 Channel Receiver Transmitter: Instrumentation GDD TxII Power Supply: Kubota 9kva generator Receiver Electrodes: Non-Polarising Porous Pots Receiver Cable: Multi Core Roll-along Data Cable Transmitter electrodes: Aluminium Plates GPS: Garmin GPS62
	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 applicable as no drilling conducted: Induced polarisation geophysical survey
Verification of sampling and	The verification of significant intersections by either independent or alternative company personnel.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
assaying	The use of twinned holes.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	Discuss any adjustment to assay data.	GAIP & DDIP: Repeats completed until at least 3 similar results were attained. No adjustments made to raw data results except for not using data outside of repeatability. Rock chips: No adjustments made to assay results.

Criteria	JORC Code explanation	Commentary
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.	GAIP & DDIP & Rock chips: A handheld Garmin GPSmap was used to pick up soil and rock chip samples with waypoint accuracy of 3m.
	Specification of the grid system used.	All coordinates are based on Map Grid of Australia 1994 Zone 55.
	Quality and adequacy of topographic control.	GAIP & DDIP: GPS base station set up to give control in X, Y and Z axis.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	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.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	Whether sample compositing has been applied.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
Orientation of data in relation to geological	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	GAIP & DDIP: The survey lines were orientated east-west to cross the north striking stratigraphy perpendicular to gain as unbiased a reading as possible.
structure	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 applicable as no drilling conducted: Induced polarisation geophysical survey
Sample security	The measures taken to ensure sample security.	Rockchips: Rockchips taken by AGC staff. Chain of custody between sample site and lab is managed by AGC. Samples were driven to the lab by field staff.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	GAIP & DDIP: During data acquisition, the data is handed over daily, the data is cleaned and QAQC verified. Conducting this process is consultant geophysicist Rob Angus of Mitre Geophysics who has been working with IP data for over 30 years.

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.	EL9336 Rast licence is located north west and south west of Lake Cargelligo NSW. The tenement is held by Australian Gold and Copper Ltd. No royalties exist on AGC tenure. Ground activity and security of tenure are governed by the NSW State government via the Mining Act 1992. Land access was granted.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The geophysical survey was planned by Australian Gold and Copper exploration staff in consultation with our geophysical contractor, Fender Geophysics ('Fender') and geophysical Consultant Rob Angus Mitre Geophysics. Fender completed initial processing of the data with 2D and 3D inversions produced by Mitre Geophysics. Previous to AGC, BHP discovered mineralisation on Hilltop, completed soil sampling and drilled 3x shallow vertical holes in 1980. Rangott Mineral Exploration progressed the targets significantly in 2009 -2012. Kate Bull completed her PhD in 2006 on the volcanic facies of the Ural volcanics and GSNSW have unpinned the geology of the whole area by regional mapping.
Geology	Deposit type, geological setting and style of mineralisation.	VHMS to Cobar type polymetallic base metal ± gold silver. See body of report for full description.
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. 	Not applicable as no drilling conducted: Induced polarisation geophysical survey

Criteria	JORC Code explanation	Commentary
	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.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
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.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	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.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
Relationship between	These relationships are particularly important in the reporting of Exploration Results.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
mineralisation widths and intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Not applicable as no drilling conducted: Induced polarisation geophysical survey
	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 applicable as no drilling conducted: Induced polarisation geophysical survey
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 in body of report for survey and sampling locations relative to mineralisation
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.	See body of announcement, and references to prior announcements. For exploration results, significant and anomalous results are reported, except where the report provides expanded scope of information to better inform the reader of results otherwise not considered significant by AGC

Criteria	JORC Code explanation	Commentary
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.	The survey results are discussed in the body of the report.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	See body of report.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	See figures in body of report.