



## QUARTERLY ACTIVITIES REPORT 31 DECEMBER 2022

### HIGHLIGHTS

- Planned field activities last quarter were affected by the extensive flooding in NSW. These areas have since dried out and field work by AGC staff has recommenced
- Two new exploration licence applications were submitted during the quarter: Ootha ELA6549 for copper and Nyora ELA6586 for rare earth elements (REE) and copper-gold
- Ongoing field and interpretation work conducted at the South Cobar project has highlighted new target horizons and the large scale of the prospective trends
- 50-line kilometre induced polarisation (IP) geophysics survey at the South Cobar Project planned to commence late this quarter
- IP survey targeting base metal deposits adjacent to major fault structures at the Achilles, Hilltop, and Planet prospects

### MOOREFIELD-OOTHA: COPPER-GOLD TARGETS

- A new 322 km<sup>2</sup> exploration licence application (ELA), called 'Ootha', was lodged which is immediately south of the Company's 15km long Boxdale-Carlisle Reefs gold trend in the Central Lachlan Fold Belt, NSW.
- The Ootha Project saw extensive historic rock chip sampling conducted in the late 1970's, which defined a very large zone of copper anomalism over a 10km strike.
- The 10km zone incl. 44 samples exceeding 0.10% Cu, up to a maximum of 0.36% Cu.
- The copper trend is confined by sampling on low level hilly outcrops and the primary source of copper is currently unknown and poses as a significant exploration target.
- No modern geochemistry, geophysics or drilling has been conducted on the project over the last four decades.

### SOUTH COBAR: RARE EARTH ELEMENTS-COPPER-GOLD-LEAD-ZINC TARGETS

- During the quarter an application was made for a new 118 km<sup>2</sup> exploration licence called 'Nyora' (ELA6586, the "ELA"), which adjoins the Rast and Cargelligo licences in the South Cobar Basin, NSW, now termed the South Cobar Project and totalling 1,180 km<sup>2</sup>.
- Fourteen samples collected from historic drill core at the NSW government core library have been submitted by AGC for rare earth element ("REE") analysis.
- Outcropping areas are flagged for follow up sampling once the licence is granted.
- The ELA is also prospective for copper and gold with five magnetic bullseye targets on a crustal-scale fault, analogous to the fault that hosts the high-grade CSA copper mine near Cobar. The ELA encompasses the Nyora Granite, a 14km long by 1.5km wide A-type, porphyritic granite considered prospective for REE's.
- Previous sampling in 2004 by the Geological Survey of NSW confirmed elevated REEs and a potential genetic link to the fertile Cobar A-type volcanics.

### GUNDAGAI: GOLD TARGETS

- Field work conducted at the Bongongalong Ag Pb Zn target including rock chip sampling of gossanous outcrop with assays pending.

Australian Gold and Copper Ltd (ASX: AGC) (“AGC” or the “Company”) is pleased to report on its December 2022 quarter activities.

### Corporate

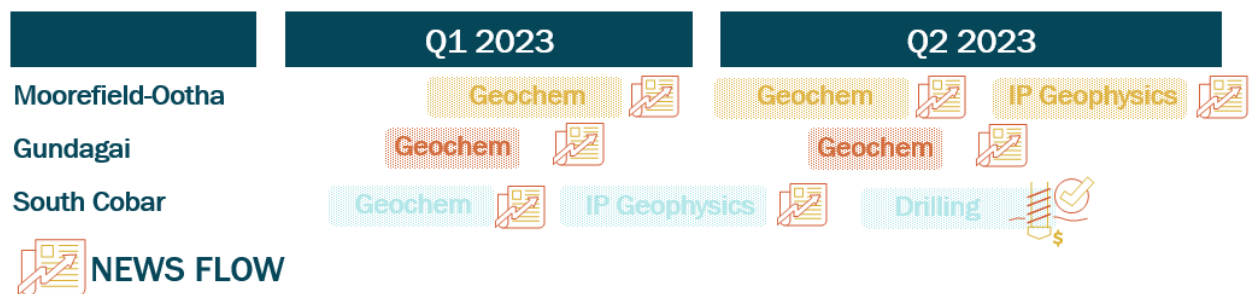
During the quarter, the Company held its Annual General Meeting with all resolutions passed. The Company cash at the end of the quarter was \$3.3m.

### Forward Exploration Schedule

**Moorefield-Ootha Project:** Once Ootha is granted, widespread geochemistry sampling will be completed in the coming quarter to focus on the most prospective areas within the 10km copper trend.

**South Cobar Project:** 50-line kilometres of induced polarisation geophysics at the South Cobar Project is planned to start late in this quarter and aims to highlight metal sulphide rich deposits adjacent to major fault structures at the Achilles, Hilltop, and Planet prospects. Nyora granite outcropping areas are flagged for follow up REE sampling once the licence is granted.

**Gundagai Project:** Field work conducted in January at the Bongongalong Ag Pb Zn target including rock chip sampling of gossanous outcrop with assays pending.



### Exploration and Operations December Quarter

#### **MOOREFIELD-OOETHA PROJECT: COPPER-GOLD (EL7675, ELA6549, ELA6563, AGC 100%)**

During the quarter, an application was lodged for two new exploration licences (ELA6549 and ELA6563) called ‘Ootha’ (AGC ASX 16 Nov 2022) and these will be grouped into one licence upon granting. Ootha replaces the Derriwong licence which was relinquished, as Derriwong did not cover the area of elevated copper. Together Moorefield and Ootha licences total 610 km<sup>2</sup>.

A review of historic data led AGC’s geologists to the recognition of an extensive, multipoint, +10km long, copper in rock chip anomaly. The original sampling was done between 1977 and 1979 by Mines Exploration Pty Ltd (AGC ASX 16 Nov 2022 and references therein).

The historic sampling returned 44 samples out of 481 exceeding 0.10% Cu with a maximum of 0.36% copper. The rock chip sampling is confined to low level hilly outcrops that trend northeast. The primary source of copper is currently unknown (AGC ASX 16 Nov 2022 and references therein).

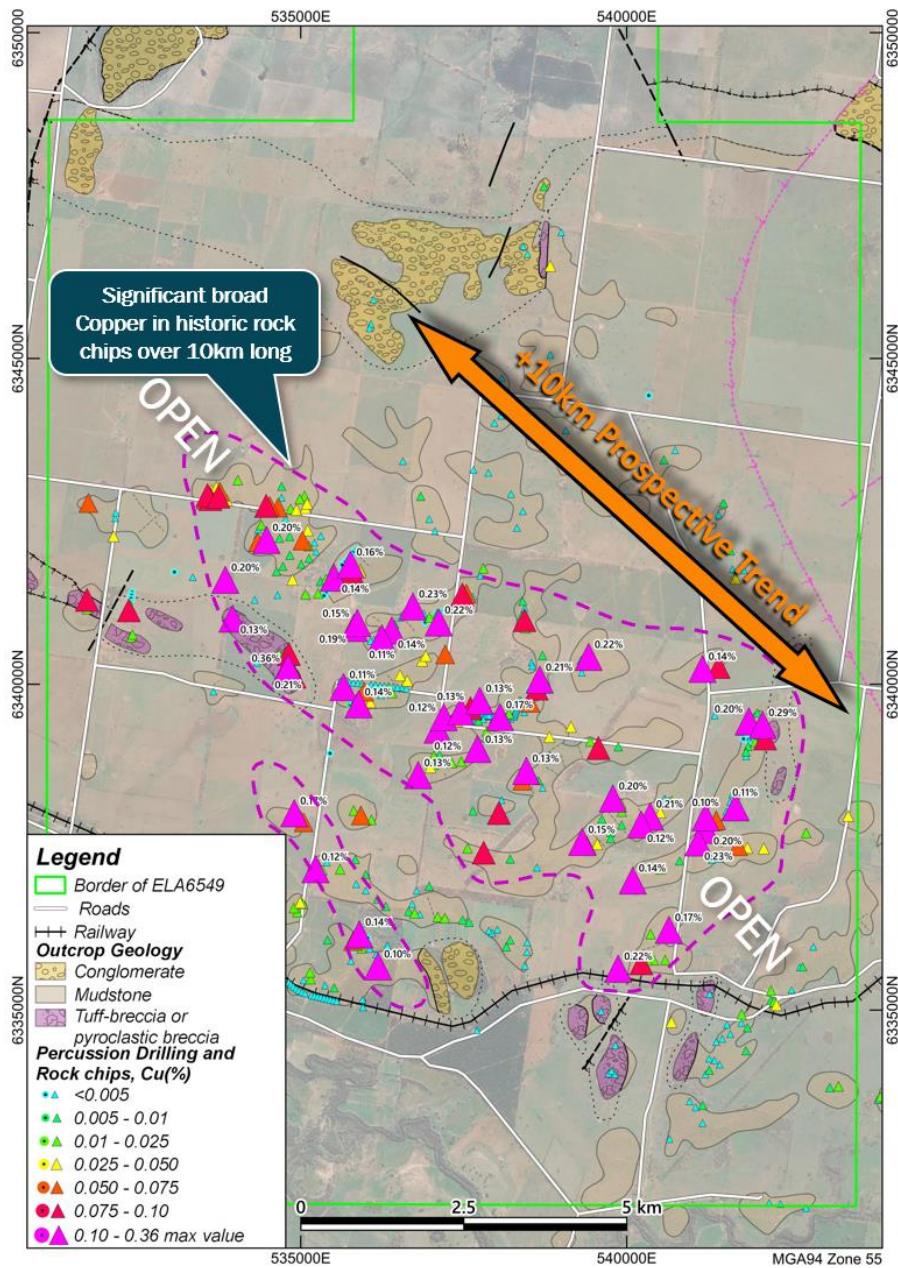
The copper anomaly strikes northwest - the same direction as AGC’s 15km Boxdale to Carlisle Reefs gold trend 20km to the north (ASX AGC 5 July 2022). This may imply the mineralisation event is controlled by a similar structure pattern, which subsequently leads to increased mineral prospectivity of both prospects.

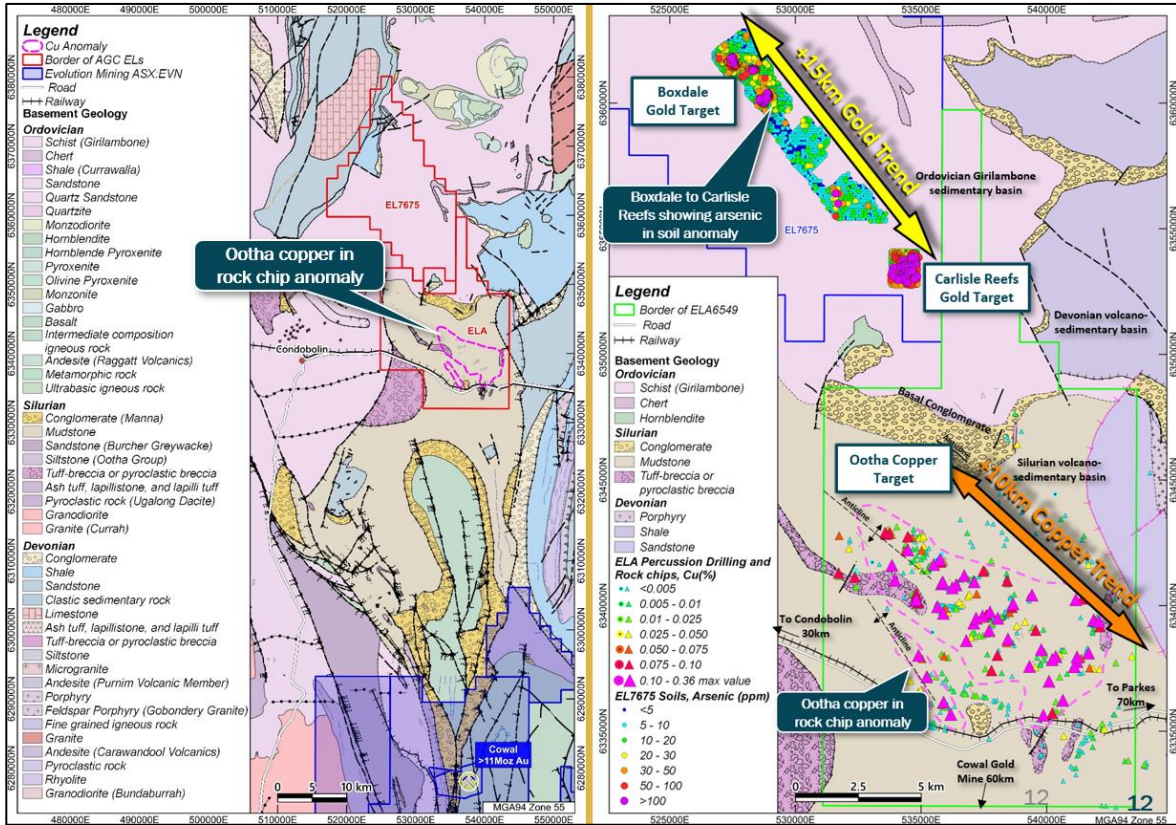
The copper at Ootha is hosted within a Siluro-devonian aged volcano-sedimentary basin, with deformed mudstones and volcanoclastic rocks. A series of northwest trending structures associated with anticline/synclines are believed to control the anomalous trend. The world-class CSA Mine near Cobar is an example of a basin hosted, structurally controlled copper deposit.

Copper is typically chemically scavenged by oxidised iron and manganese in the regolith, which is likely at the Ootha target, and with such consistent high concentrations (>0.10%) and spread across great distances demonstrates a strong potential for a substantial primary copper source waiting to be found.

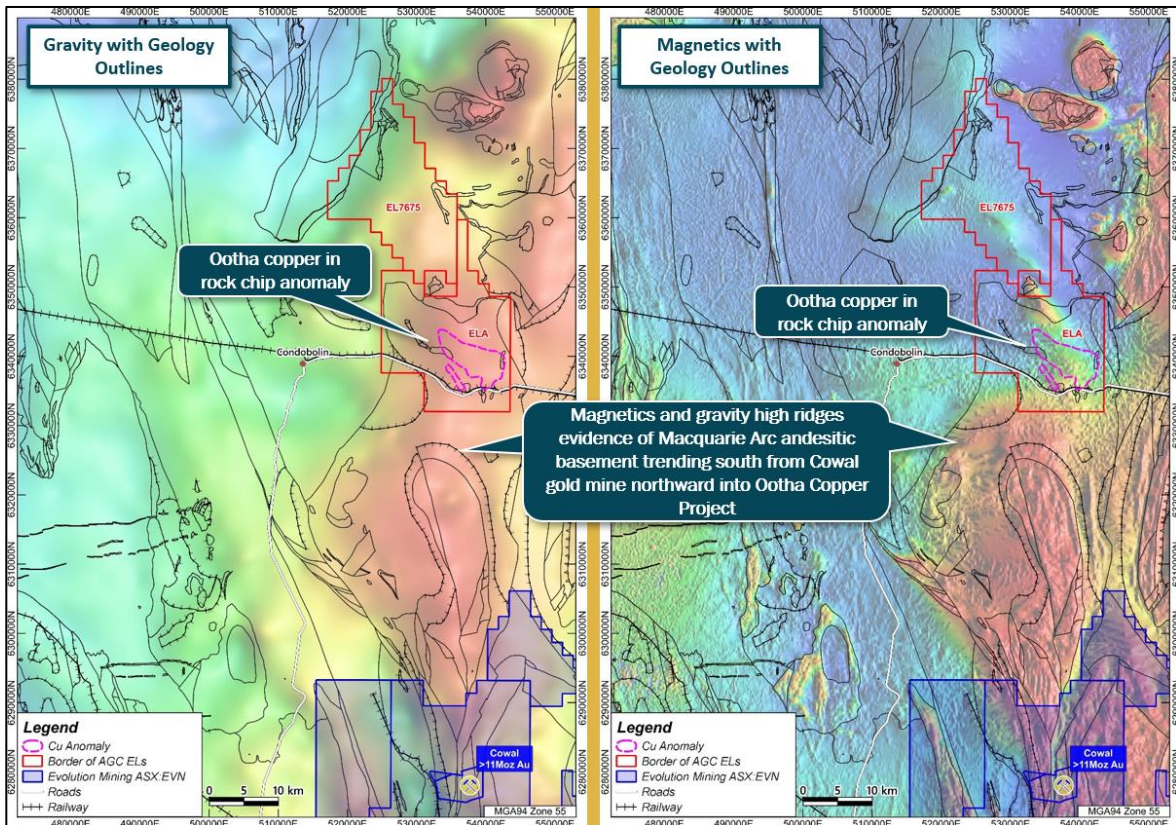
Roadside sampling was undertaken to confirm the presence of the copper anomaly and validate the historic sampling data.

Once the licence is granted, widespread geochemistry sampling will be completed in the coming quarter to focus in on the most prospective areas within the 10km copper trend.





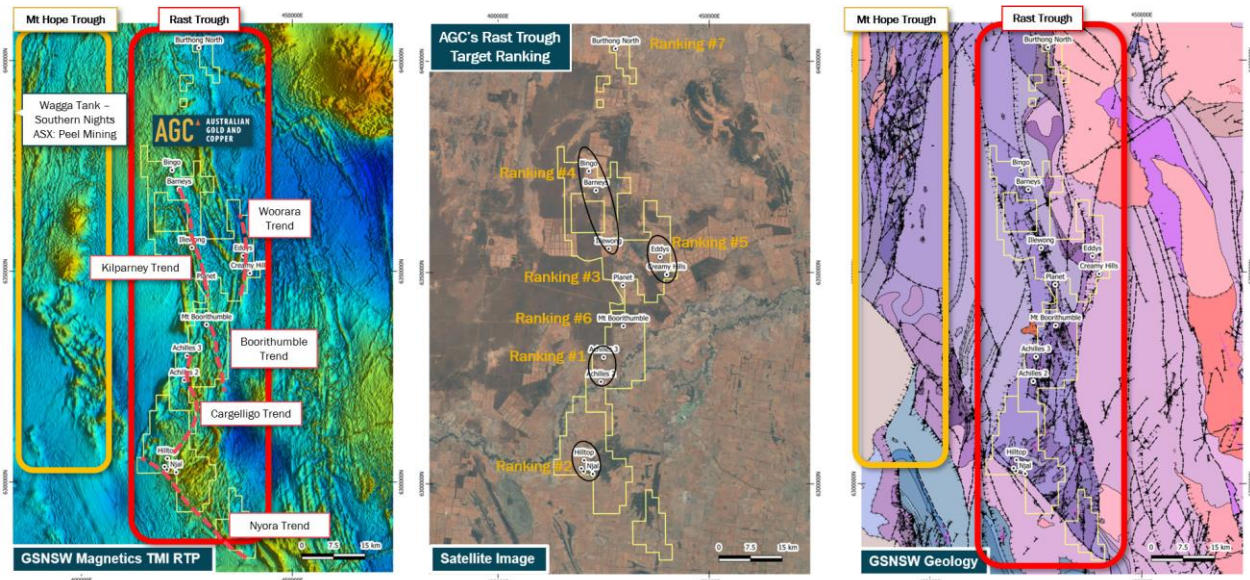
**Figure 2:** Regional map (left) and plan view map (right) of the Ootha Copper Target relative to the Cowl Gold Mine (ASX:EVN) 50km to the south along strike and the Company's 15km Boxdale to Carlisle Reefs trend with basement geology by the NSW Geological Survey (AGC ASX 16 Nov 2022 and references therein).



**Figure 3:** Regional map (left) and plan view map (right) of the Ootha Copper Target relative to the Cowl Gold Mine (ASX:EVN) 50km to the south along strike on gravity high ridge (left) and magnetics (right) by the NSW Geological Survey.

**SOUTH COBAR PROJECT: COPPER-GOLD-LEAD-ZINC (EL8968, EL9336, ELA6563, AGC 100%)**

During the quarter, a significant regional exploration program got underway but was hampered by extensive flooding, hence, attention was drawn to defining regionally significant prospective areas using a large-scale mineral systems approach.



**Figure 4:** NSW Geological Survey open file images of the 120km long Cargelligo – Rast Project area tenements in the Southern Cobar basin. Left is TMI RTP magnetics with the red dashed lines highlighting the fertile trends being explored; middle image is AGC's EL boundaries and main target locations and ranking; right, NSW Geological Survey mapping highlighting similarities between AGC's Ural volcanic trend and the Mount Hope volcanic trend.

This work led an application been made for a new 118 km<sup>2</sup> exploration licence called 'Nyora' (ELA6586, the "ELA"), which adjoins the Company's South Cobar Project in the Central Lachlan Fold Belt, NSW (AGC ASX 15 Dec 2022).

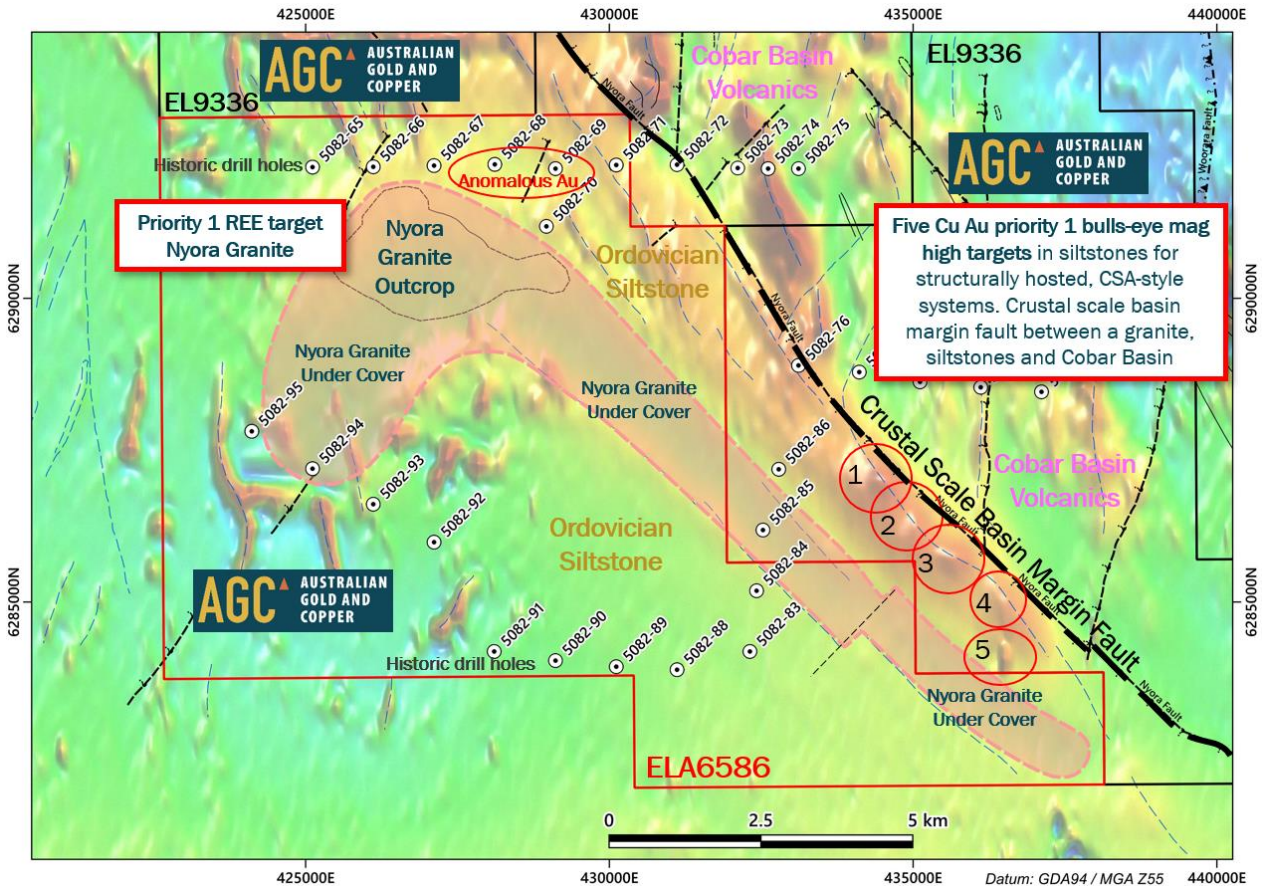
Fourteen samples have been submitted by AGC for rare earth element ("REE") analysis. These were sampled from historic drill core (AGC ASX 15 Dec 2022 and references therein) at the NSW Government core library in western Sydney.

The licence encompasses the Nyora Granite, a 14km long by 1.5km wide A-type, porphyritic granite (Colquhoun et al., 2005, p92-93). It has seen only limited previous sampling by the Geological Survey of NSW confirming elevated REEs and a possible genetic link to the fertile Cobar A-type volcanics (AGC ASX 15 Dec 2022 and references therein). Variable crystallisation zonation that is encouraging for REE potential is mapped in the outcropping parts of the granite however systematic sampling has never been undertaken (AGC ASX 15 Dec 2022 and references therein). Outcropping areas are flagged for follow up sampling once the licence is granted.

The licence is also highly prospective for Cu-Au as it encompasses one of the Cobar Basin margin's crustal scale faults, which is analogous to the Rookery Fault that hosts the high-grade CSA copper mine and the Federation orebody on the eastern edge of the Cobar Basin. The five magnetic bullseyes seen in Figure 1 are typical of alteration signatures surrounding such deposits.

Planning is also advanced for a 50-line kilometre induced polarisation (IP) geophysics survey at the South Cobar Project.

The IP survey is planned to start late this quarter, targeting metal sulphide rich deposits adjacent to major fault structures at the Achilles, Hilltop, and Planet prospects the survey is expected to start in late March.



**Figure 5:** Plan view map of ELA6586 with basic geology over magnetics TMI RTP (NSW geological survey), historic drill holes (Jones and Seeley, 1997) and AGC's priority 1 REE and Cu-Au targets. (AGC ASX 15 Dec 2022 and references therein)

**GUNDAGAI PROJECT: GOLD (EL8955, AGC 100%)**

Field work conducted in January at the Bongongalong Ag Pb Zn target including rock chip sampling of gossanous outcrop with assays pending.

**ASX Additional Information**

As per ASX Listing Rule 5.3.1: Exploration and Evaluation Expenditure during the Quarter was \$226,000. Full details of exploration activity during the Quarter are set out in this report.

As per ASX Listing Rule 5.3.2: There were no substantive mining production and development activities during the Quarter.

As per ASX Listing Rule 5.3.5: Payments to related parties of the Company and their associates during the Quarter were \$166,000. The Company advises that this relates to director's fees, shared services and accounting and company secretarial related services.

As per ASX Listing Rule 5.3.4 the following expenditures have occurred since listing:

Item	Current Quarter	Year to date	As per IPO Prospectus dated 18 November 2020 *
Exploration – Moorefield	\$107k	\$1.54m	\$2.720m
Exploration – Cargelligo	\$77k	\$1.95m	\$2.280m
Exploration – Gundagai	\$11k	\$538k	\$1m
Exploration - Other	\$31k	\$31k	-
Working capital/operating expenses	-	\$719k	\$3m
Cost of offer – fundraising	-	\$615k	\$600k
Costs of offer – other	-	\$480k	\$400k

\* Costs per the prospectus are over the first two years following admission of the Company to the official list of ASX.

The differences in the above, as reported in previous quarters, are as follows:

- *Costs of Offer – Other.* These costs include legal costs, accounting and tax advice costs, and other support services
  - Legal and related costs increased due to an amendment to the offer, as evidenced by the Supplementary prospectus dated 30 November 2020);
  - Delays in the anticipated listing of the Company increased costs of the offer, predominantly legal costs;
  - The Company exceeded the Financial Acquisitions Threshold (FAT) and was therefore unable to claim all of the GST Input Tax Credits for Legal, ASX and associated costs relating to the IPO. The Prospectus was prepared assuming all GST Input Tax Credits could be claimed and were disclosed on an ex-GST basis.
- *Costs of Offer – Fundraising.* These costs included brokerage fees for the IPO. As the Company exceeded the Financial Acquisitions Threshold (FAT) they were not entitled to claim the full amount of the GST Input Tax Credits for brokerage fees.

## Tenement Register

Tenement	Reference	Location	Interest at 01/10/22	Acquired/ Disposed	Interest at 31/12/22
Moorefield	EL 7675	NSW	100%	-	100%
Derriwong	EL 8669	NSW	100%	(100%)	-
Ootha	ELA 6549/6563	NSW	-	100%	100%
Cargelligo	EL 8968	NSW	100%	-	100%
Rast	EL 9336	NSW	100%	-	100%
Nyora	ELA 6586	NSW	-	100%	100%
Gundagai	EL 8955	NSW	100%	-	100%

There are no Farm-in or Farm-out Arrangements held by Australian Gold and Copper Ltd

**Projects Overview**

AGC’s diversified portfolio located in the Central Lachlan Fold Belt of NSW includes the Moorefield-Ootha projects exploring for multi-million ounce gold copper deposits, the Cargelligo and Rast 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.

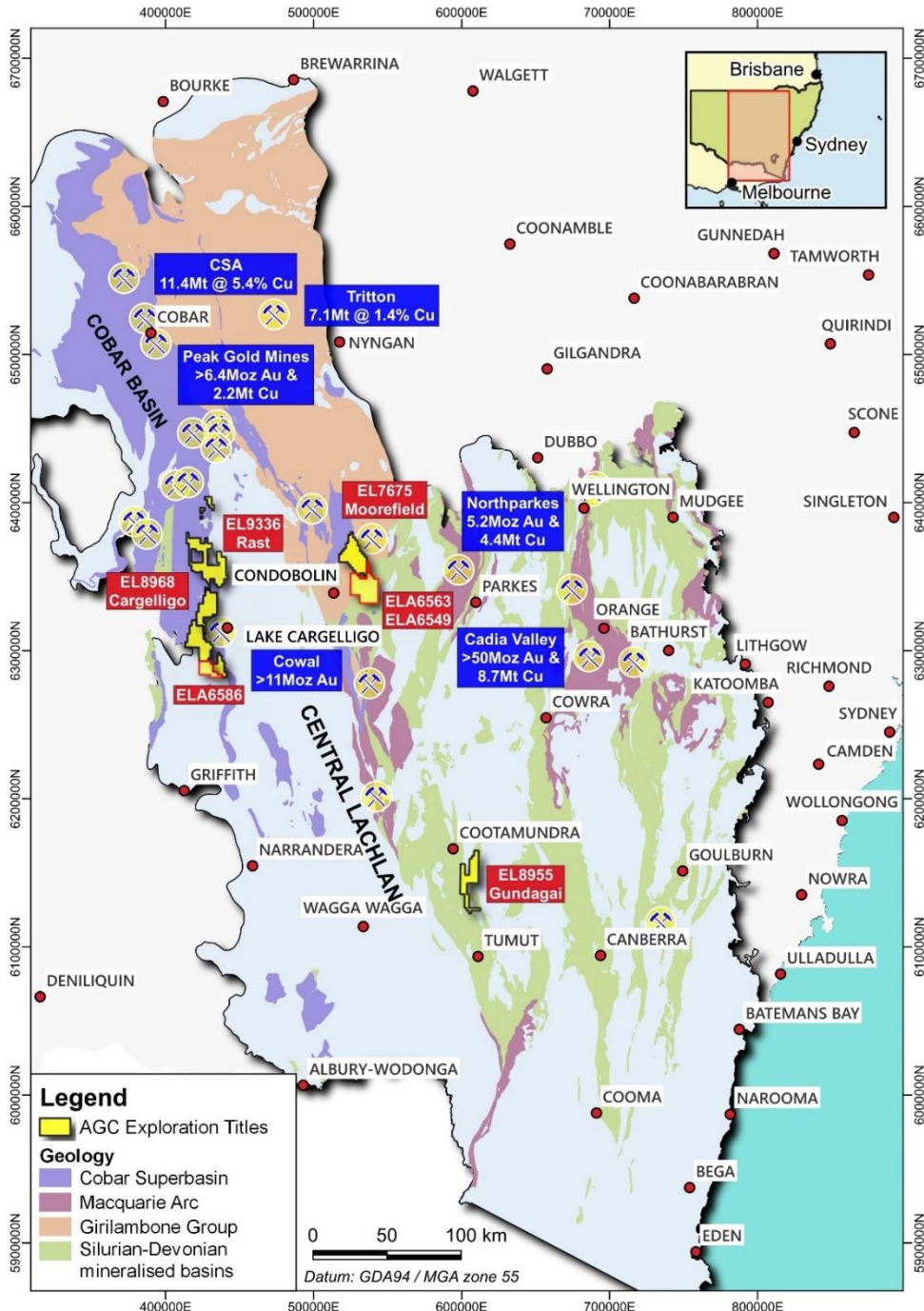


Figure 6: Location of AGC’s Projects in relation to major mines and deposits within the Lachlan Fold Belt., see p100 AGC ASX prospectus lodged 18th November 2020.



## REFERENCES

AGC ASX Prospectus lodged 18 November 2020  
AGC ASX 5 July 2022 *Boxdale Delivers Further Near Surface Gold*

### **ASX December Quarter Market Sensitive Announcements**

AGC ASX 16 Nov 2022 *New project area features 10km long copper target*  
AGC ASX 15 Dec 2022 *New rare earth element-copper-gold project*

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

ENDS

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### **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.*

### **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 forward-looking 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”.*

**Previously Reported Information**

*The information in this report that references previously reported exploration results is extracted from the announcements referenced and 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](http://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.*