Australian Mines Limited
ABN 68 073 914 191

Level 34, 1 Eagle Street
Brisbane, Queensland 4000
+61 7 3184 9184
info@australianmines.com.au

australianmines.com.au

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Geophysical survey identifies porphyry copper-gold target at Flemington Project, New South Wales

Highlights

- Induced polarisation (IP) chargeability anomaly recorded at Flemington
- Chargeability anomaly potentially represents copper-gold mineralisation
- Flemington Project located within Lachlan Transverse Zone; home to some of New South Wales' largest producing copper and gold mines
- Flemington Project shares similar geological and geophysical characteristics with known copper-gold deposits
- Field reconnaissance program of the IP anomaly in progress
- Drilling of chargeability anomaly at Flemington commencing from July 2021

Australian Mines Limited ("Australian Mines" or "the Company") (Australia ASX: AUZ; USA OTCQB: AMSLF; Frankfurt Stock Exchange: MJH) is pleased to report that a recent Induced Polarisation (IP) geophysical survey over its 100%-owned Flemington Project in New South Wales has returned a distinct chargeability anomaly in the north-east of the survey area (see Figures 1 to 4 of this report).

Modelling of this anomaly (labelled as Target 1 in the maps and images accompanying this report) suggests that the source extends from near surface to depth and may represent potential sulphide mineralisation.

Australian Mines' Flemington Project is situated in the Lachlan Transverse Zone of New South Wales (see Figure 2 of this report).

The Lachlan Transverse Zone hosts some of New South Wales' largest producing copper and gold mines including Newcrest's Cadia Mine[1] and the Northparkes mine[2].

[1] https://www.newcrest.com/our-assets/cadia
[2] http://www.northparkes.com/

Australian Mines' initial exploration activities across its Flemington project area were centred around its cobalt-scandium-nickel Mineral Resource[3] associated with the project's ultramafic sequence. As a result, the Company's Flemington Project is one of the most advanced cobalt-scandium-nickel projects in New South Wales.

Whilst work related to the expansion of the project's cobalt-scandium-nickel resource is continuing, a review of the Flemington Project in 2020[4] highlighted that, in addition to its impressive cobalt-scandium-nickel potential, Australian Mines' Flemington Project also hosts a number of monzodiorite intrusive complexes, being a similar geological setting that hosts many of the nearby copper/gold mines[5] (see Tables A and B in the body of this report).

Induced Polarisation, or IP, surveys are noted for their efficacy in highlighting potential mineralisation as well as any alteration envelopes surrounding copper-gold deposits across the Lachlan Transverse Zone. As such, IP remains one of the preferred geophysical methods by companies operating across the Lachlan Transverse Zone and was successfully used to delineate initial targets in several of these mining projects, including Cadia East (see Table B of this report).

Australian Mines, therefore, considers the IP anomaly recently recorded within its Flemington Project to be highly significant, particularly given that this anomaly is situated within a quartz-hornblende monzonite (being same host rocks as Northparkes and Cadia East) that intruded during the Ordovician geological period (being the same timing as the mineralisation at Northparkes and Cadia East).

The Company has commenced a field reconnaissance program of the IP anomaly at Flemington with the intention of undertaking a reverse circulation (RC) drill program over this emerging copper-gold target zone from next month.

Further details of the proposed RC drill program will be released prior to its commencement.

[3] 2.5 million tonnes at 0.103% cobalt and 403ppm scandium in the Measured category and 0.2 million tonnes at 0.076% cobalt and 408ppm scandium in the Indicated category. The Company is not aware of any new information or data that materially affects the information included in the market announcement released by the Company on 31 October 2017 in respect of the Flemington Project and all material assumptions and technical parameters underpinning the Mineral Resource estimates in that announcement continue to apply and have not materially changed.

[4] Australian Mines Limited, New copper-gold porphyry targets and potential extensions to cobalt-scandium-nickel mineralisation identified at Flemington Project, New South Wales, released 23 June 2020

[5] Australian Mines Limited, New copper-gold porphyry targets and potential extensions to cobalt-scandium-nickel mineralisation identified at Flemington Project, New South Wales, released 23 June 2020

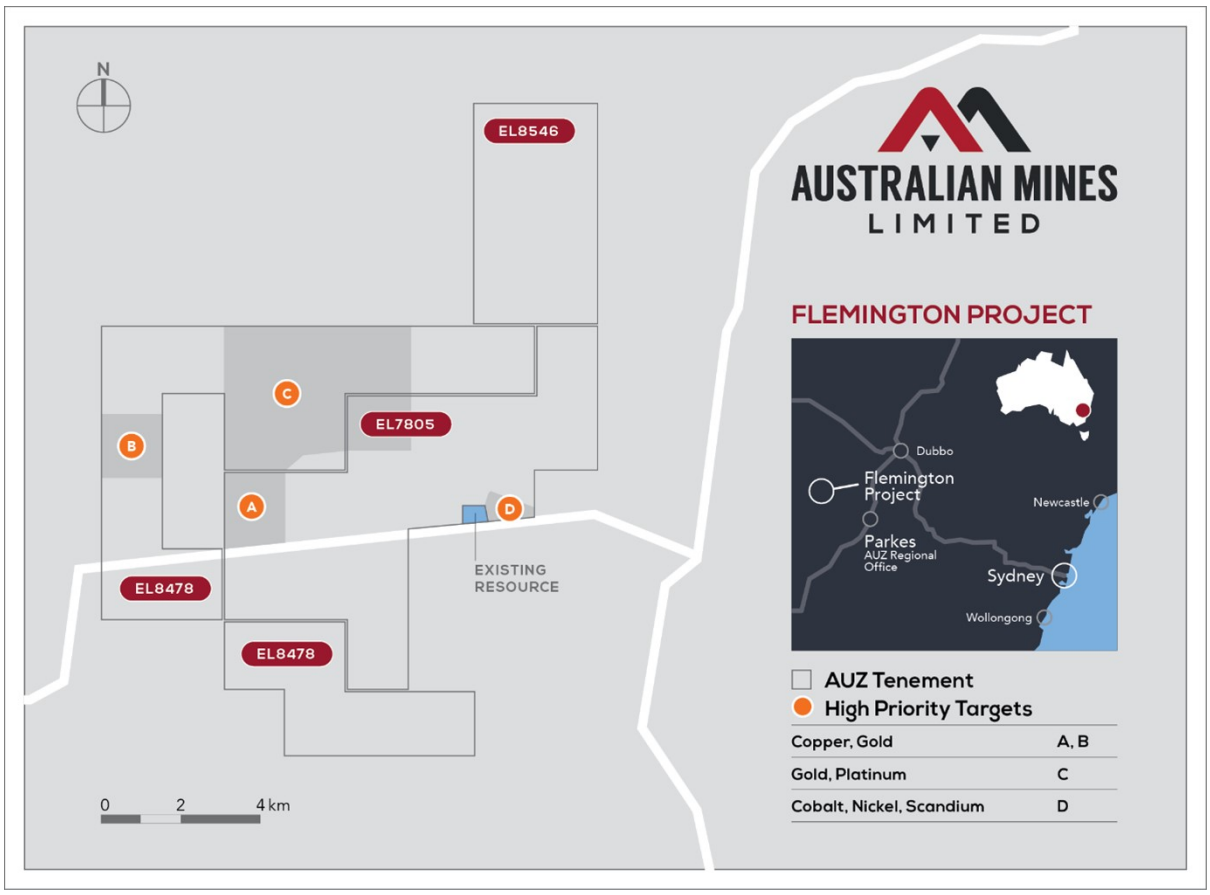

Figure 1: Australian Mines' 100%-owned Flemington Project is located approximately 370 kilometres west of Sydney in New South Wales, Australia. An independent review, which included utilising machine learning, identified four prospective target areas within the Company's Flemington Project (labelled targets A, B, C and D in this figure) that warrant follow-up exploration. Copper-gold target (Target A) was the subject of the Induced Polarisation, or IP, covered by this report, which identified Target 1 within the Target A area. Given the highly encouraging results returned from the IP survey over Target A, Australian Mines is proposing to undertake a similar IP survey of the Target B (copper-gold target) towards the end of the current calendar year.

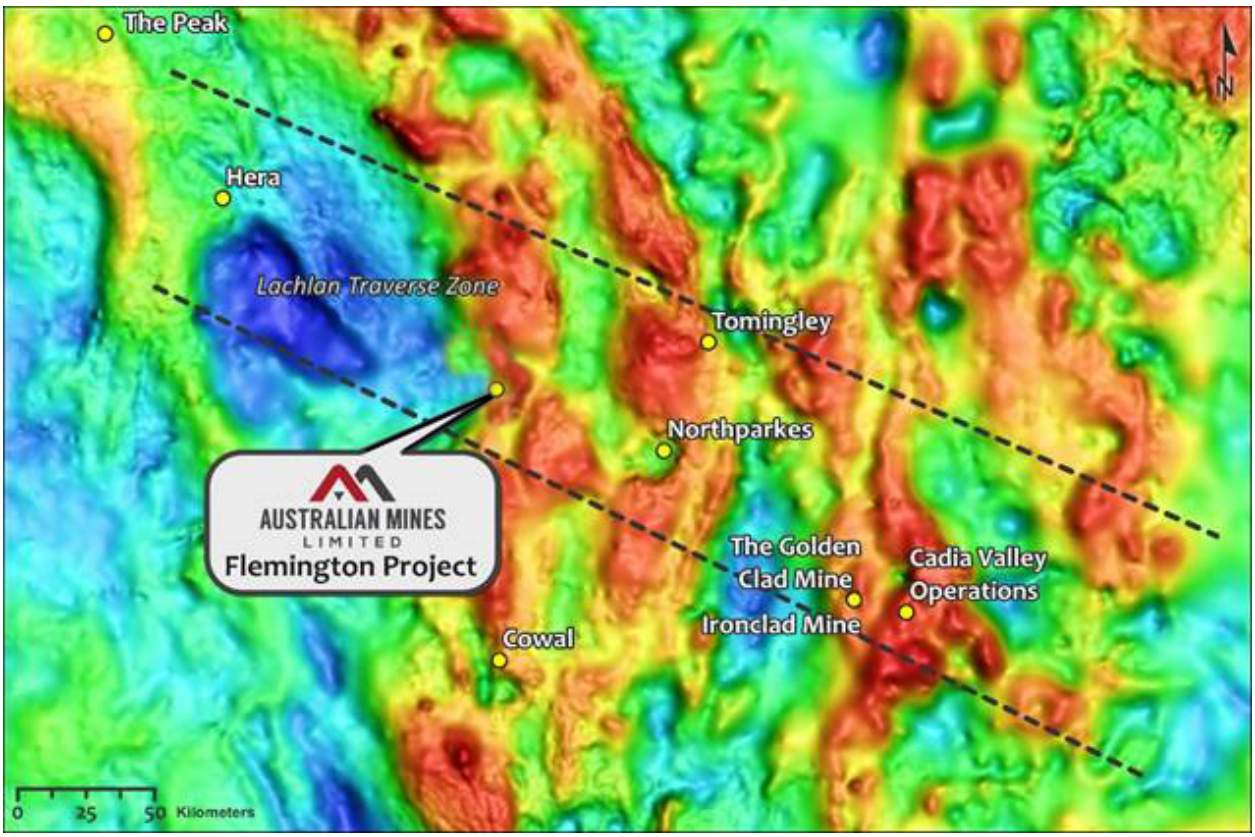

Figure 2: Australian Mines' Flemington Project is located within the Lachlan Transverse Zone (as bounded by the black dashed lines in this figure), which hosts some of New South Wales' largest producing copper and gold mines including Newcrest's Cadia Mine and the Northparkes mine.

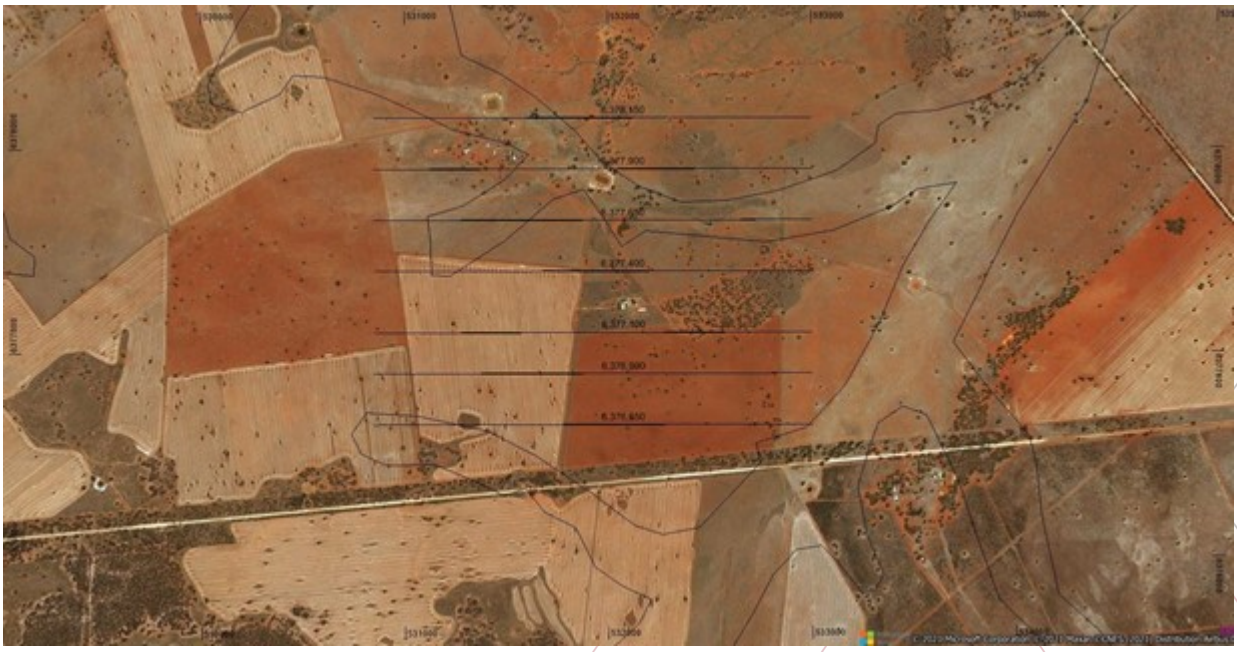

Figure 3: Survey lines of Australian Mines' Induced Polarisation (IP) survey overlain on aerial photo with outline of main drainage channels shown.

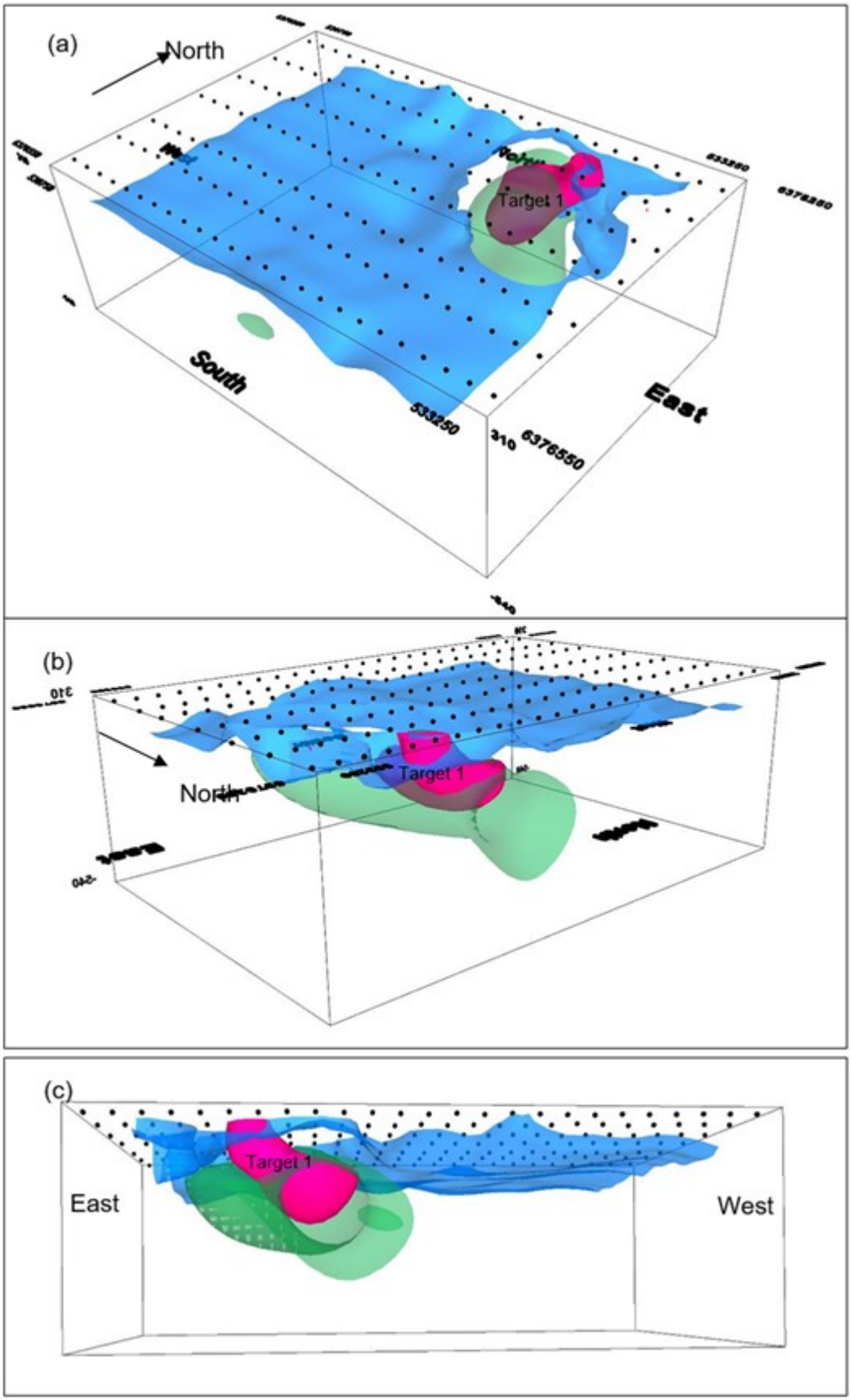

Figure 4: Perspective views of iso-shells created from the Flemington Induced Polarisation (IP) 3D inversion models. Chargeability shell (14 mV/V) shown in pink. Low resistivity (100 Ωm) surface layer shown in blue and higher resistivity (2000 Ohm.m) zone in green. Views are from (a) the south-east, (b) the north-east, and (c) from the north and below surface.

Table A: Age and intrusion rock types at various Lachlan Transverse Zone porphyries[6]

Name	Age	Rock Type
Northparkes	Mid-Late Ordovician	Monzonite, volcanic conglomerate, distinctly shoshonitic
Ridgeway	Late Ordovician	Monzodiorite, monzonite, volcaniclastics
Cadia	Late Ordovician	Shoshonitic intrusions, monzonites
Cadia Extended	Late Ordovician	Monzonite
Endeavour 41 West	Mid-Late Ordovician	Monzonite, diorite, volcaniclastics
Cowal	Ordovician	Shoshonitic volcanics, intruded by diorites and granodiorites

Table B: A summary of important geophysical methods used on projects in the Lachlan Orogen[7]

Company	Deposit	Critical Methods Used
Alkane Resources	Northern Molong Porphyry Project (Boda Prospect)	Induced Polarisation
Newcrest Mining	Cadia East Mine	Magnetics, Induced Polarisation
CMOC-Northparkes Mines	Northparkes Mine	Magnetics, Induced Polarisation
Regis Resources	McPhillamys Project	Induced Polarisation

[6] Apex Geoscience Australia Pty Ltd, Flemington Project Area Porphyry-Style Potential, dated 7 May 2020 (internal report commissioned by Australian Mines Limited)
[7] Apex Geoscience Australia Pty Ltd, Flemington Project Area Porphyry-Style Potential, dated 7 May 2020 (internal report commissioned by Australian Mines Limited)

ENDS

If you have any queries specific to this announcement, please contact David Loch, Investor Relations Manager, at Australian Mines on +61 456 799 967 or dloch@australianmines.com.au

This ASX announcement has been approved and authorised for release by Benjamin Bell, Chief Executive and Managing Director, of Australian Mines Limited.

Benjamin Bell
Chief Executive and Managing Director
Australian Mines Limited

info@australianmines.com.au
www.australianmines.com.au

Australian Mines Limited is a member of IRMA, the Initiative for Responsible Mining Assurance. This means we are participating in, and supporting, credible independent third-party verification and certification against a comprehensive best-practice standard that addresses the range of environmental and social issues related to industrial-scale mines.

Additionally, Australian Mines Limited supports the vision of a world where the mining industry respects the human rights and aspirations of affected communities, provides safe, healthy and supportive workplaces, minimizes harm to the environment, and leaves positive legacies.

Appendix 1: JORC Code, 2012 Edition

Table 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *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 (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems.* • *Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	The Induced Polarisation (IP) geophysical technique used at Australian Mines' Flemington Project is deemed appropriate for the exploration of disseminated sulphide mineralisation, such as porphyry copper-gold mineralisation that occurs across the Lachlan Fold Belt within which the Flemington Project resides. The IP survey used the pole-dipole array with 100 metres Rx (GDD Rx-32 IP) dipoles measured to N=16. There were seven east-west lines completed, recording a length of 2,400 metres. Line spacing was variably 200 metres, 250 metres or 300 metres. Equipment used included a GDD TxII 5Kva Transmitter (Tx) and GDD Rx-32 IP Receiver (Rx).
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Not applicable (as no drilling was undertaken as part of this exploration program).

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.*	Not applicable (as no drilling was undertaken as part of this exploration program).
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	Not applicable (as no drilling was undertaken as part of this exploration program).
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.*	Not applicable (as no drilling was undertaken as part of this exploration program).

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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	The IP survey method is commonly used to determine the location of disseminated sulphide minerals in porphyry systems. Raw IP data supplied by Fender Geophysics was imported into TQIPdb, an IP data quality control and processing software package. Individual chargeability decays from each station were inspected and any noisy decays, bad repeat readings, or readings with very low primary voltage were flagged in the database. Any readings flagged for low quality are not used at any subsequent stage of the processing. Digital elevation model (DEM) used to estimate the local surface topography was the SRTM 30m DTM. The area is relatively flat so topographic errors are not significant. The topographic information is used in the 3D and 2D inversions.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	The validated data was exported from TQIPdb for subsequent plotting and inversion processing. The chargeability was calculated using an integration window of 590ms to 1,540ms. Shuttle Radar Topography Mission (SRTM) elevation data downloaded from the USGS Earth Explorer portal was utilised for the topography.
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.*	The survey area is located approximately 13km north-west of Fifield, central NSW. All data and maps are in Map Grid of Australia zone 55, GDA94. The original IP database are also in MGA55 coordinates.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* *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.* • *Whether sample compositing has been applied.*	The IP survey was carried out with a 100 metre receiver dipole size measured to n=16. All seven survey lines were oriented grid east to west. The line length was 2,400 metres and line spacing was variably 200 metres, 250 metres or 300 metres. The IP geophysical results being presented are not sufficient to determine mineral resources.

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.*	The IP survey was oriented east–west (lithological trends are unknown).
Sample security	• *The measures taken to ensure sample security.*	All data was reviewed for quality and accuracy and stored daily by Fender Geophysics. IP survey data was acquired by Fender Geophysics. Mitre Geophysics provide data analysis and interpretation services, which was then reported to the Company's representatives.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	All data was quality assured by Fender Geophysics, and again by Mitre Geophysics. No material issues with data quality arose during the survey.

Table 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.*	The Flemington Project, located within 400 kilometres of Sydney (New South Wales, Australia), comprises Exploration Licence numbers (EL) 7805 and 8478. EL 7805, being the tenement within which the IP survey was conducted, is a granted tenement, held 100% by Australian Mines via a wholly owned Australian Mines subsidiary. There are no historical sites, wilderness, national park or environmental settings apparent which may affect either the security of the Flemington Project tenure or provide any impediment to Australian Mines operating in the area.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Australian Mines is not in possession of any third party or historic datasets that may be directly relevant to the results described in the report.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The geology within the IP survey area is recorded by the NSW Geological Survey as a quartz-hornblende monzonite. Hornblende monzonites often form the outermost zone of the Alaskan-style mafic intrusive complexes in this region. The geological complexes are known to have been intruded during the Ordovician (same as the host rocks at Northparkes, Cadia, etc, and geochemically similar). The monzonite with EL7805 is, therefore, prospective for porphyry-style copper-gold mineralisation akin to the mineralisation / deposits described in Tables 1 and Table 2 included in the body of this report.

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*
		Not applicable (as no drilling was undertaken as part of this exploration program).

	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.	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated. No exploration results are reported for this study. 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').*	Not applicable (as no drilling was undertaken as part of this exploration program).
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 (eg 'down hole length, true width not known').*	Not applicable (as no drilling was undertaken as part of this exploration program).

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.*	Appropriate maps and sections of IP results are included in the body of this report.
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.*	The reported results reflect a full range of exploration data and information available to Australian Mines as at the time of this report.
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.*	Other exploration data collected by the Company is not considered as material to this report at this stage.
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).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Further work is likely to include a follow up drill program comprising 4 reverse circulation (RC) holes totalling approximately 1,200 metres. Subject to normal statutory State Government approvals, follow up drill testing is anticipated to commence from July 2021. The specifications of any future drill program, including the location and targeted depth of these holes, will be announced by Australian Mines prior to the commencement of drilling.

Appendix 2: Competent Persons' Statements

The Mineral Resource for the Flemington Project's Exploration Results is based on information compiled by Benjamin Bell who is a member of the Australian Institute of Geoscientists. Mr Bell is a full-time employee and Managing Director of Australian Mines. Mr Bell has sufficient experience that is relevant to the styles of mineralisation and types 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 Bell consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Appendix 3: Forward Looking Statements

This announcement contains forward looking statements. Forward looking statements can generally be identified by the use of forward looking words such as, ‘expect’, ‘anticipate’, ‘likely’, ‘intend’, ‘should’, ‘could’, ‘may’, ‘predict’, ‘plan’, ‘propose’, ‘will’, ‘believe’, ‘forecast’, ‘estimate’, ‘target’ ‘outlook’, ‘guidance’, ‘potential’ and other similar expressions within the meaning of securities laws of applicable jurisdictions.

Any forward-looking statement is included as a general guide only and speak only as of the date of this document. No reliance can be placed for any purpose whatsoever on the information contained in this document or its completeness. No representation or warranty, express or implied, is made as to the accuracy, likelihood or achievement or reasonableness of any forecasts, prospects, returns or statements in relation to future matters contained in this document. Australian Mines does not undertake to update or revised forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this announcement, except where required by applicable law and stock exchange listing requirements.

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