

#### ASX ANNOUNCEMENT

ASX: AUZ

**18 November 2014** 

# Conductive body detected below nickel oxide mineralisation at Marymia

Australian Mines Limited ("Australian Mines" or "the Company") is pleased to report that the Company's ongoing electromagnetic (EM) survey over the Marymia Project in Western Australia has successfully detected a strong late-time bedrock conductor towards the north of the project area.

Significantly, this newly identified conductive body lies directly beneath a thick layer of nickel oxide mineralisation previously intersected during scout drilling of this prospective nickel region.

Rotary air blast (RAB) drill hole NKB0724, which was completed as part of the scout drilling program returned 22 metres @ 0.58% nickel from 22 metres (including 4 metres @ 1.07% nickel from 28 metres)<sup>1</sup> immediately above this bedrock conductor.

Encouragingly, this drill hole ended in mineralisation (0.55% nickel) suggesting that the nickel oxide zone intersected by NKB0724 may be thicker than that reported by this drill hole.

The adjacent RAB hole NKB0723, being the only other hole drilled over this target area to date, similarly intersected nickel oxide mineralisation, returning 16 metres @ 0.67% nickel from 8 metres down hole<sup>1</sup>.

Neither of these drill holes reached fresh bedrock, which is interpreted to be about 100 metres below the surface.

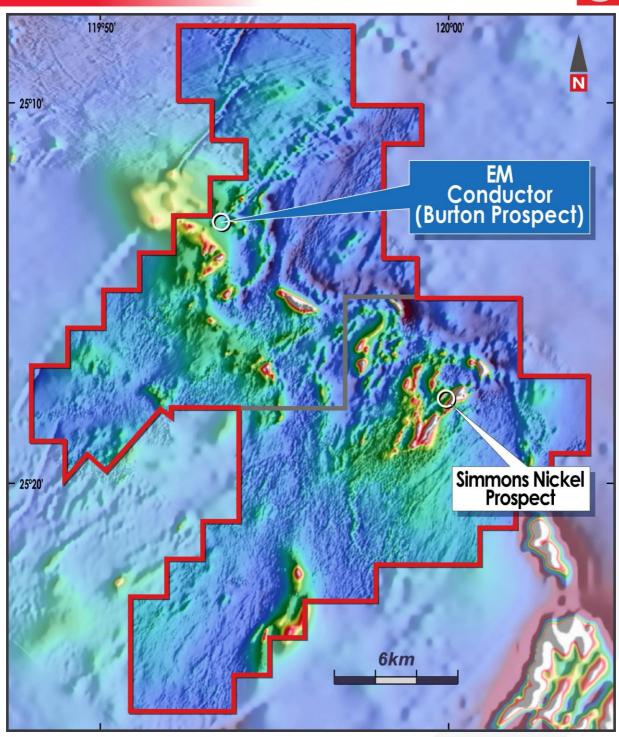
Modelling of the newly detected EM conductor at Marymia (now known as the **Burton prospect**) indicates that the top of this anomalous body occurs at a depth of 140 metres.

It is the Company's intention to drill test the 600-metre strike length conductor in February 2015.

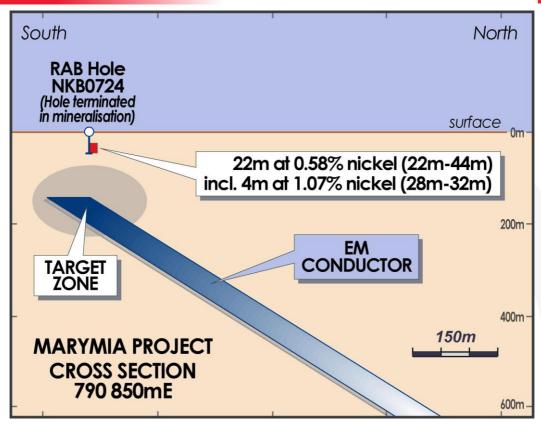
Australian Mines is also continuing its expanded EM survey at Marymia, which will include testing the northern extension of the Simmons prospect, where recent drilling by Australian Mines confirmed the presence of sulphides near the basal contact of a komatiitic unit.

It is anticipated that the current ground-based EM survey will be completed by mid-December with the results due by February 2015.

<sup>&</sup>lt;sup>1</sup> Riedel Resources Limited, Significant Gold and Nickel Results at Marymia Project, released 24 January 2013



**Figure 1:** Location of the newly detected conductive body (Burton prospect) superimposed over a coloured image of the high resolution aeromagnetic data.



**Figure 2:** Position of the modelled EM conductor (in blue) immediately below historic drill hole NKB0724. Rotary air blast drill hole NKB0724 intersected a thick layer of nickel oxide mineralisation (shaded red) close to surface. This drill hole terminated in nickel oxide mineralisation indicating that the layer of oxide mineralisation may be greater than that reported by this drill hole. Australian Mines proposes to drill test the target zone near the top of the modelled conductor (shaded grey) in February 2015.

**Australian Mines' Managing Director Benjamin Bell commented**: "Australian Mines is very pleased by our most recent exploration success at Marymia. The identification of a late-time conductor beneath a thick layer of nickel oxide mineralisation further strengthens our belief that Marymia has the potential to host significant Kambalda-style nickel sulphide mineralisation.

We look forward to providing further updates on our exploration activities as we finalise the EM survey in the coming weeks."

#### \*\*\*ENDS\*\*\*

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#### **About Australian Mines:**

Australian Mines (ASX: AUZ) is an Australian-listed resource company targeting nickel, copper and gold deposits. The company is currently acquiring an interest in the Marymia Project in Western Australia, which has demonstrated the potential to host gold and base metal mineralisation.

#### Marymia Nickel-Copper-Gold Project (Agreement to earn up to 80%)

Australian Mines signed a Heads of Agreement with Riedel Resources in April 2014 covering the Marymia nickel-copper-gold project, located 55 kilometres northeast and along strike of Sandfire Resources' world class DeGrussa Copper-Gold Mine.

In addition to targeting DeGrussa-style VMS copper-gold mineralisation, Australian Mines is also testing for nickel sulphide mineralisation across the Marymia Project as historic drilling of the oxide zone has returned encouraging results including 8m @ 1.05% Ni from 16m, 4m @ 1.07% Ni from 28m, and 13m @ 0.74% Ni from 28m. (AUZ release: 30 April 2014).

Under the terms of the Agreement announced on 30 April 2014, Australian Mines may acquire a 51% interest in the Marymia Project by spending \$1 million on exploration within an initial two-year period. Following the acquisition of the initial 51%, Australian Mines may elect to acquire an additional 29% interest (taking the total to 80%) in the project by spending a further \$2 million on exploration within a further 36-month period.



Australian Mines' Marymia Project is located approximately 850 kilometres north of Perth.



#### **Appendix 1: Exploration Drilling Results**

### Table 1: Burton Nickel Prospect - Rotary Air Blast (RAB) Drilling Program<sup>2</sup>

Hole ID	Depth (m)	North (MGA50)	East (MGA50)	RL	Dip	Azimuth	From (m)	To (m)	Width (m)	Nickel (%)	Comments
NKB0723	38	7207865	790682	592	60°	270°	8	24	16	0.67	RAB hole did not reach bedrock
NKB0724	44	7207895	790708	594	60°	270°	22	44	22	0.58	Hole terminated in nickel oxide mineralisation of 0.55% nickel RAB hole did not reach bedrock

<sup>&</sup>lt;sup>2</sup> Riedel Resources Limited, Significant Gold and Nickel Results at Marymia Project, released 24 January 2013



The historic drilling referenced in this report was

Rotary Air Blast (RAB).

#### Appendix 2: JORC Code, 2012 Edition

#### **Section 1: Sampling Techniques and Data**

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Criteria	JORC Code explanation	Commentary			
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used</li> </ul>	<ul> <li>Gem Geophysics commenced a ground-based moving loop electromagnetic survey over selected targets within the Marymia project area on behalf of Australian Mines in October 2014. This survey is still in progress.</li> <li>The line spacing for this survey was 200 metres. The along line station spacing for the initial survey was 100 metres. This station spacing tightened to 50 metres along 100 metre spaced lines for the in-fill surveys.</li> <li>At least two readings were acquired at each</li> </ul>			
	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (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.</li> </ul>	<ul> <li>Station in order to ensure data repeatability.</li> <li>Quality assurance and quality control (QA/QC) of the electromagnetic data was independently verified by Southern Geoscience Consultants in Perth.</li> <li>Assay results related to historic drilling were sourced from ASX announcements released by Riedel Resources Limited (ASX code: RIE) on 24 January 2013 and 12 September 2013.</li> <li>Australian Mines is unable to comment on the representivity and appropriate calibration of the analytical tools and analysis used during previous drill programs.</li> </ul>			

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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, facesampling bit or other type, whether core is

oriented and if so, by what method, etc.)

**Drilling** 

techniques

### 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.
- Australian Mines is unable to comment on the method of recording and assessing drill chips, and sample recoveries from historic drilling at Marymia.

Historic drill samples referenced in this report were taken at one metre intervals.

No records of sample recoveries were identified in previous reports and it is not possible to determine if a relationship exists between recovery and grade.

#### 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.

 Historic drill chips at Marymia were geologically logged at one metre intervals.

Drill chips were not logged to any geotechnical standard and the data is insufficient to support Mineral Resource estimation at this stage.

Logging of Rotary Air Blast drill chips is considered to be semi-quantitative given the nature of rock chip fragments and the inability to obtain detailed geological information.

#### 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 subsampling 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.

 Australian Mines is unable to comment on the manner in which historic drill chips were sampled, or the preparation techniques applied during collection.

Australian Mines is unable to comment on quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.

Australian Mines is unable to comment if field duplicates were collected, or whether sample sizes were appropriate to the grain size of the material being sampled.

#### 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 survey parameters and geophysical equipment used by Gem Geophysics for the electromagnetic survey at Marymia includes:

#### **Survey Parameters**

Survey direction: north-south

Station spacing: 200 metres (first-pass)

50 metres (in-fill lines)

#### Receiver

Receiver: SMARTem 24

dB/dt sensor: 3-component B-field magnetometer

Component: X,Y,Z

#### **Transmitter**

Transmitter: Zonge ZT-3 (modified)
Transmitter loop: 200 metres (first pass)

Transmitter frequency: 1 Hertz Transmitter current: 28 Amps

At least two readings were acquired at each station in order to ensure data repeatability.

The moving loop system is fully calibrated and daily tests were carried out to ensure data quality.

## 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.
- All primary analytical data acquired by Gem Geophysics during the electromagnetic survey were recorded digitally and sent in electronic format to Southern Geoscience Consultants in Perth for independent quality control and evaluation.

### 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 data points of Gem Geophysics' electromagnetic survey were located using standard GPS positioning.

The expected accuracy is +/- 5 metres for easting and northings and 10 metres for elevation coordinates. Elevation values were in AHD.

The grid system used is Map Grid of Australia (MGA) GDA94 Zone 50.

## 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 line spacing for the moving loop electromagnetic survey was 200 metres. The along line station spacing for the initial survey was 100 metres. This station spacing tightened to 50 metres for the in-fill survey lines.
- Rotary Air Blast holes NKB0723 and NKB0724 were drilled at an angle (or dip) of 60 degrees.

Historic drill data is not being used for estimating a Mineral Resource or modelling of grade at this stage in exploration.

No sample composting was applied to the historic drill samples.

#### 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.
- Australian Mines is targeting komatiite-hosted nickel sulphide mineralisation at this target area within the Marymia Project.

The orientation of the historic drilling was designed to intersect this komatiite unit at right angles in an attempt to minimise the risk of biased sampling.

The orientation of the drilling is deemed sufficient at this stage of exploration.

### Sample security

- The measures taken to ensure sample security.
- Australian Mines is unable to comment on the chain of custody for historic drill hole sampling.

### Audits or reviews

- The results of any audits or reviews of sampling techniques and data.
- Experienced geophysicists at Southern Geoscience Consultants in Perth independently reviewed all data acquired from the electromagnetic survey at Marymia.
- No independent audit of the historic drilling assays has been completed to date.



#### **Section 2: Reporting of Exploration Results**

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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 Marymia Project is located within the Western Australian exploration licences of E52/2394 and E52/2395.  On 30 April 2014, Australian Mines announced it had signed a Heads of Agreement with Riedel Resources Limited (ASX code: RIE) in relation to the Marymia Project.  Exploration licences E52/2394 and E52/2395 are within the Marymia and Ned's Creek Pastoral Leases and contained within the Native Title Claim boundaries of the <i>Gingirana</i> (WAD6002/03) and <i>Yugunga-Nya</i> (WAD6132/98) Traditional Owners.  Exploration activities on E52/2394 and E52/2395 are permitted under agreements dated; 7 October 2010 between Audax Resources Ltd (a subsidiary of Riedel Resources) and the Yamatji Marlpa Aboriginal Corporation as agent for the <i>Yugunga-Nya</i> people; and 23 October 2010 between Audax Resources and Gingirana Pty Ltd. Australian Mines is permitted to operate under these agreements as the company is joint venturing with Riedel Resources on this project.  Exploration licences E52/2394 and E52/2395 are in good standing with no impediments to exploration known to exist at the time of writing.		
Exploration done by other parties	•	Acknowledgment and appraisal of exploration by other parties.	•	Limited exploration and drilling programs have previously been undertaken across the Marymia Project by other companies.  A summary of the historic anomalous nickel intersections are outlined in the Prospectus released by Riedel Resources Limited on 23 November 2010.		
Geology	٠	Deposit type, geological setting and style of mineralisation.	•	Australian Mines are targeting three types of mineral deposits at Marymia;  (i) Kambalda-style komatiite-hosted nickel sulphide,  (ii) DeGrussa-style volcanogenic massive sulphide (VMS) copper-gold, and  (iii) Plutonic-style Archaean gold.		

The Marymia project overlies the Baumgarten Greenstone Belt, which is the interpreted northern extension of the Eastern Goldfields Province of the Yilgarn Craton. The geology of the Marymia project comprises an Archaean greenstone sequence of basalts and komatiitic ultramafic rocks.

### 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:
  - o easting and northing of the drill hole collar
  - elevation or RL (Reduced Level elevation above sea level in metres) of the drill hole collar
  - o 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.

· Refer to Appendix 1 of the accompanying report.

## 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.

 Any reported intersections of drilling results are based on a regular sample interval of one metre.

Where quoted, nickel intersections are based on a minimum threshold grade of 0.3% Ni.

No upper cuts are applied and a maximum internal dilution of three metres is used for any intersection calculations.

No metal equivalents have been used in this report.

#### 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').
- There is insufficient understanding of the geology at present to determine the true thickness of any reported drill intersections.

Any intersections included in this report are down hole lengths. The true widths of these intersections are not known.



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 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 accompanying document is considered to represent a balanced 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.	•	The electromagnetic survey referred to in this report is the first exploration activity conducted by Australian Mines across this target area.
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).	•	Further work may include a reverse circulation (RC) drill program to test the nature of the bedrock conductor identified at Marymia.
	•	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.		

#### **Competent Person's Statement**

Information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves 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 Limited. Mr Bell has sufficient experience that 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 Bell consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.