

30 July 2018

# **Quarterly Activities Report**

Period ended 30 June 2018

# HIGHLIGHTS

## Sconi Cobalt-Nickel-Scandium Project

- Bankable Feasibility Study progressing through final optimisation stages
- Optimisation of demonstration plant's flow chart has reduced full circuit running times in addition to improved cobalt, nickel and scandium recovery
  - This results in the same sized processing plant being able to produce 23% more cobalt and nickel sulphate product per year without any corresponding increase in the processing plant's capital expenditure (capex)
- Project finance negotiations ongoing as international banking and financial institutions position to fund Sconi Project
- 50,000 metre Mineral Resource expansion drilling program commenced<sup>1</sup>, targeting additional tonnage and high-grade cobalt and nickel zones outside the existing Mineral Resource<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Australian Mines Limited, Resource expansion drilling commenced at Sconi Project, released 27 June 2018 <sup>2</sup> The Mineral Resource Estimate for the Sconi Cobalt-Nickel-Scandium Project is reported under JORC 2012 Guidelines and was reported by Australian Mines Limited on 31 March 2017. The global Mineral Resource for Sconi, as announced on 31 March 2017 is: Measured 17Mt @ 0.80% Ni, 0.07% Co, Indicated 48Mt @ 0.58% Ni, 0.07% Co, Inferred, 24Mt @ 0.41% Ni, 0.06% Co. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 March 2017 announcement by Australian Mines



# **Demonstration-size Processing Plant**

- 40 kilograms of battery-grade nickel sulphate (NiSO<sub>4</sub>) and 4 kilograms of battery-grade cobalt sulphate (CoSO<sub>4</sub>) produced for off-take partner, SK Innovation<sup>3</sup>
- Cobalt and nickel sulphate crystallisation achieved >98% purity for cobalt and >99% purity for nickel, exceeding SK Innovation specifications
- The first time Australian mined and processed cobalt and nickel sulphate is to be used in battery manufacturing process without further refinement<sup>2</sup> and without utilising a third-party commercial lab for any part of the process<sup>4</sup>

# Flemington Cobalt-Scandium-Nickel Project

• Significant Mineral Resource<sup>5</sup> expansion drilling program planned at Flemington targeting regional scale prospectivity

# **Corporate**

- Australian Mines' Western Australian gold and base metal exploration assets to be transferred to subsidiary Norwest Gold, which is planned to undergo an IPO to raise \$6.6 million and ASX listing by the end of October 2018
- Experienced resources executive, Charles Schaus, appointed as CEO of the new company and will lead the IPO process

<sup>&</sup>lt;sup>3</sup> Australian Mines Limited, AUZ export Australia's largest sample of Co & Ni sulphate, released 2 July 2018

<sup>&</sup>lt;sup>4</sup> Statement independently verified by Apex Geoscience (Australia) Pty Ltd

<sup>&</sup>lt;sup>5</sup> The Mineral Resource Estimate for the Flemington Cobalt-Scandium-Nickel Project is reported under JORC 2012 Guidelines and was reported by Australian Mines Limited on 31 October 2017. The Mineral Resource for Flemington, as announced on 31 October 2017 is: Measured 2.5Mt @ 0.103% Co & 403ppm Sc, Indicated 0.2Mt @ 0.076% Co & 408ppm Sc. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 October 2017 announcement by Australian Mines



Australian Mines Managing Director, Benjamin Bell commented, "Australian Mines' focus in the June quarter has remained on completing the optimisation process for the Bankable Feasibility Study on the Company's Sconi Cobalt-Nickel-Scandium Project in Queensland, while in parallel progressing our already advanced project financing negotiations to the next level of certainty with multiple international financial institutions interested in funding the development.

"We maintain a close and collaborative working relationship with our off-take partner SK Innovation around key project development milestones scheduled for the second half of 2018. Representatives from SK Innovation have visited the Sconi Project in Queensland and our demonstration plant in Perth, from which we recently set a new national benchmark with the largest sample<sup>6</sup> of battery-grade cobalt and nickel sulphate ever exported from Australia.

"In regard to our work on capital and operating costs for the Sconi Project, we are continuing to carry out benchmarking reviews and are confident we have good visibility on costs, which is assisted by the fact Australian Mines is using existing technology and has been conducting extensive metallurgical testing at our demonstration plant. We are also conducting this economic modelling using conservative cobalt pricing, that is below the current spot market for the commodity and arguably represents the conservative long-term price forecast for these commodities.

"Adding to Sconi's development potential is its attractive cobalt-to-nickel ratio, which is higher than almost all other cobalt-nickel projects in Australia, and it remains the only Australian project of its type to have already secured an off-take agreement<sup>7</sup> for 100% of its future cobalt and nickel production ahead of a development decision.

"Following the discovery in the June quarter that the preferred location of the full-size processing plant at Sconi, as identified in the Pre-Feasibility Study conducted by Metallica Minerals, coincided with high-grade nickel-cobalt mineralisation, we made the decision to delay the scheduled release of the BFS to September to allow further evaluation of a suitable alternative site for the plant. The change in timing was taken with careful consideration, however delivering long-term value is crucial given we contemplate this operation spanning multiple decades in regional Queensland.

"We are also committed to identifying additional mineralisation at Sconi, with the announcement in the period that we have commenced a 50,000-metre Reverse Circulation (RC) drill program across the prospective geology.

<sup>&</sup>lt;sup>6</sup> Australian Mines Limited, Australian Mines to set benchmark with largest sample of battery-grade cobalt and nickel sulphate ever exported from Australia, released 2 July 2018

<sup>&</sup>lt;sup>7</sup> Australian Mines Limited, Australian Mines reaffirms binding off-take agreement term sheet for Sconi Project, Queensland, released 6 March 2018



"This close-spaced RC program has been designed to lift the overall tonnage of the Project's existing Mineral Resource<sup>8</sup> and to confirm high-grade zones of cobalt and nickel mineralisation identified within the overall deposit, which would allow us to further optimise our proposed production from Sconi to capitalise on buoyant commodity price trends."

**Australian Mines Limited** ("Australian Mines" or "the Company") (Australia ASX: *AUZ*; USA OTCQB: *AMSLF*; Frankfurt Stock Exchange: *MJH*) has continued to advance its flagship Sconi Cobalt-Nickel-Scandium Project in northern Queensland during the June quarter toward major development milestones planned for the second half of 2018.

Sconi remains the only cobalt project in Australia with a 100% off-take agreement already secured for future production through the previously announced binding term sheet agreement<sup>9</sup> with Korean-headquartered industrial conglomerate SK Innovation, committing the parties to the sale and purchase of up to 12,000 tonnes of cobalt sulphate per year and up to 60,000 tonnes of nickel sulphate per year (following an initial production ramp-up) for a contract period of seven years, with an additional six-year extension option, at SK Innovation's election<sup>10</sup>.

The close and on-going engagement between SK Innovation and Australian Mines is providing a rare opportunity to streamline the operation's proposed processing flowsheets and has ensured the cobalt sulphate and nickel sulphate end-products are delivered to SK Innovation's specifications. This on-going dialogue will also allow the Company to further fine-tune the project's economics ahead of the construction of a full-scale processing plant, subject to a final investment decision and appropriate funding being secured.

Project financing negotiations for Sconi have continued throughout the quarter, with Australian Mines actively engaged in discussions with a range of global financial institutions<sup>11</sup>.

<sup>&</sup>lt;sup>8</sup> The Mineral Resource Estimate for the Sconi Cobalt-Nickel-Scandium Project is reported under JORC 2012 Guidelines and was reported by Australian Mines Limited on 31 March 2017. The global Mineral Resource for Sconi, as announced on 31 March 2017 is: Measured 17Mt @ 0.80% Ni, 0.07% Co, Indicated 48Mt @ 0.58% Ni, 0.07% Co, Inferred, 24Mt @ 0.41% Ni, 0.06% Co. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 March 2017 announcement by Australian Mines

<sup>&</sup>lt;sup>9</sup> Australian Mines Limited, AUZ partners with SK Innovation to develop Sconi Project, released 19 February 2018 <sup>10</sup> Australian Mines Limited, Australian Mines reaffirms binding off-take agreement term sheet for Sconi Project, Queensland, released 6 March 2018

<sup>&</sup>lt;sup>11</sup> Australian Mines will make further announcements pertaining to its funding discussions as, and when, they reach an appropriate stage. Presently, most of these negotiations are at a due diligence phase



# Sconi Cobalt-Nickel-Scandium Project

During the reporting period, Australian Mines' review of the sterilisation drilling<sup>12</sup> completed across the proposed processing infrastructure sites at Sconi, as part of the Company's Bankable Feasibility Study (BFS), has indicated that high grade cobalt and nickel mineralisation extends across the sites proposed for the processing plant and haul roads, requiring further evaluation of development options<sup>13</sup>.

The sterilisation drilling, undertaken by Metallica Minerals Limited in the lead-up to the project's Pre-Feasibility Study<sup>14</sup> (PFS), identified a preferred site for the processing plant at Sconi. This location appears primarily designed to optimise scandium production from the ore body and did not comprehensively sterilise the cobalt and nickel prospectivity of the proposed mining and processing area.

Since acquiring a 100%-interest in the Sconi Project from Metallica Minerals in 2017<sup>15</sup>, and having signed a binding off-take agreement for the cobalt and nickel production, Australian Mines has been focused on optimising the Sconi BFS for production of those commodities to maximise economic returns from the Project<sup>16</sup>.

This finding by Australian Mines' Studies Team that the previous sterilisation drilling intersected similar grades to those included in the project's current Mineral Resource<sup>17</sup> indicates that the overall footprint of cobalt and nickel mineralisation at Sconi may be significantly larger than previously indicated.

As a result, Australian Mines, in collaboration with lead engineering firm Ausenco<sup>18</sup>, has reevaluated the location and layout of the full-scale cobalt-nickel-scandium processing plant, and associated non-processing infrastructure to ensure the final site design enables maximum operational efficiency in tandem with optimising the Sconi Project's Life-of-Mine.

<sup>&</sup>lt;sup>12</sup> Sterilisation drilling is undertaken during the pre-development phase of all mining and mineral resource programs to ensure there is no mineralisation within / beneath the sites earmarked for buildings, roads, power lines, pipelines, waste piles, tailings disposal areas and the like. The objective of a sterilisation drilling program is, therefore, to confirm the ground being tested is barren of mineralisation. Intersecting economic, or potentially economic grade mineralisation via a sterilisation drill program represents a (positive) issue for a resource company because although it means that a company needs to identify an alternative site on which to build the project's infrastructure, it similarly means that the deposit or ore body is potentially larger than that company had initially expected.

<sup>&</sup>lt;sup>13</sup> Australian Mines Limited, Preliminary findings indicate additional mineralisation, released 22 June 2018

<sup>&</sup>lt;sup>14</sup> Australian Mines Limited, Technical Reports, released 31 March 2017

<sup>&</sup>lt;sup>15</sup> Australian Mines, AUZ becomes 100% owner of Sconi Project, released 8 December 2018

<sup>&</sup>lt;sup>16</sup> Whilst the Sconi Bankable Feasibility Study (BFS) is being optimised for cobalt and nickel production, the proposed plant is still expected to produce a similar volume of scandium as that outlined in the Pre-Feasibility Study (PFS).

<sup>&</sup>lt;sup>17</sup> The Mineral Resource Estimate for the Sconi Cobalt-Nickel-Scandium Project is reported under JORC 2012 Guidelines and was reported by Australian Mines Limited on 31 March 2017. The global Mineral Resource for Sconi, as announced on 31 March 2017 is: Measured 17Mt @ 0.80% Ni, 0.07% Co, Indicated 48Mt @ 0.58% Ni, 0.07% Co, Inferred, 24Mt @ 0.41% Ni, 0.06% Co. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 March 2017 announcement by Australian Mines.

<sup>18</sup> https://www.ausenco.com/



Project financing negotiations continued during the reporting period, with the ongoing assistance of London-based natural resources advisory firm, Medea Natural Resources Limited<sup>19</sup>. Medea is undertaking on-going financial modelling and working with specialist mine planning consultants Orelogy to optimise the mine plans and pit designs to suit the requirements of the nickel and cobalt off-take providers, while maximising the economic returns from a future operation at Sconi.

Medea is also assisting Australian Mines with further product off-take negotiations around the scandium oxide that will be produced as a by-product from the Sconi processing plant once in operation and is not currently committed under the SK Innovation cobalt and nickel off-take agreement.



**Figure 1:** Australian Mines' Mineral Resource expansion drilling has now commenced at its 100%-owned Sconi Project in northern Queensland.

<sup>&</sup>lt;sup>19</sup> Further information on Medea Natural Resources Limited can be found at: www.medea-nr.com



During the June quarter, Australian Mines also commenced its Resources extension drilling campaign<sup>20</sup> at the Sconi Project, with initial drilling activity focused within the historic Greenvale nickel mine site area. The Company is currently operating two reverse circulation (RC) rigs to expedite the large-scale drilling program expected to continue at Sconi until late October.

The program will include up to 50,000 metres of drilling targeting Resource extensions split across the three major deposits making up the Sconi project, with drilling on the Kokomo and Lucknow deposits to follow the initial campaign at Greenvale. No assay results were available at the time of this report.

The design of this resource extension drill program will seek to increase the project's current Measured and Indicated Mineral Resource such that any increase in this resource can potentially be converted into an Ore Reserve. As a result of this targeted drilling program, a new revised Mineral Resource statement for the Sconi project is expected to be released in April 2019, pending results.

The close-spaced RC program has also been designed to lift the overall tonnage of the Project's existing Mineral Resource<sup>21</sup>, and to confirm high-grade zones of cobalt and nickel mineralisation identified within the overall deposit, which would allow Australian Mines to further optimise its proposed production from Sconi.

The detailed planning for this program has been completed in the context of the BFS optimisation process and will further explore the potential of the regional-scale areas of prospective geology beyond the existing Resource footprint at Sconi, where modelling completed to date by the Company's technical team indicates that less than half of the prospective cobalt and nickel-bearing geology has been drill tested at a spacing that allows it to be incorporated in current Mineral Resource<sup>22</sup> estimates.

<sup>&</sup>lt;sup>20</sup> Australian Mines Limited, Resources expansion drilling commenced at Sconi Project, released 27 June 2018 <sup>21</sup> The Mineral Resource Estimate for the Sconi Cobalt-Nickel-Scandium Project is reported under JORC 2012 Guidelines and was reported by Australian Mines Limited on 31 March 2017. The global Mineral Resource for Sconi, as announced on 31 March 2017 is: Measured 17Mt @ 0.80% Ni, 0.07% Co, Indicated 48Mt @ 0.58% Ni, 0.07% Co, Inferred, 24Mt @ 0.41% Ni, 0.06% Co. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 March 2017 announcement by Australian Mines.

<sup>&</sup>lt;sup>22</sup>See Australian Mines Limited's announcement to the ASX dated 31 March 2017 for further details on the Sconi Project. The Mineral Resource Estimate for the Sconi Cobalt-Nickel-Scandium Project is reported under JORC 2012 Guidelines and was reported by Australian Mines Limited on 31 March 2017. The global Mineral Resource for Sconi, as announced on 31 March 2017 is: Measured 17Mt @ 0.80% Ni, 0.07% Co, Indicated 48Mt @ 0.58% Ni, 0.07% Co, Inferred, 24Mt @ 0.41% Ni, 0.06% Co. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 March 2017 announcement by Australian Mines.





Figure 2: Overview of the tenements at Australian Mines' 100%-owned Sconi tenement package





**Figure 3:** The *Greenvale deposit* - one of three deposits that comprise Australian Mines' Sconi Project. Areas of the proposed Mineral Resource expansion drilling are shaded in red.

Outline of the current Mineral Resource is shaded in blue.

The Greenvale mine complex contains multiple zones of cobalt and nickel mineralisation within Australian Mines' 100%-owned granted Mining Lease. The majority of these cobalt and nickel zones have only been sparsely drill tested and mineralisation remains open to extensional drilling.

Australian Mines believes higher grade ore may still be available to add to the existing Mineral Resource, with the zones being targeted with this program showing strong potential.





**Figure 4:** The *Lucknow deposit* - another of the deposits that comprise Australian Mines' Sconi Project. Areas of the proposed Mineral Resource expansion drilling are shaded in red. Outline of the current Mineral Resource is shaded in blue.

Australian Mines believes the *Lucknow deposit* has potential to add significantly to the existing Mineral Resource. The exploration program designed for the Company's Lucknow tenements covers an area which is almost three times larger than the current identified resource area.





**Figure 5:** The *Kokomo deposit* – the third of the deposits that comprise Australian Mines' Sconi Project. Areas of the proposed Mineral Resource expansion drilling are shaded in red.

Outline of the current Mineral Resource is shaded in blue.

The Kokomo deposit is located to the north of the Greenvale deposit, where high-grade cobalt, nickel and scandium mineralisation has been demonstrated from previous testing. The deposit has a 2.5-kilometre-long extension of the same host rock sequence to the north and the drill program will be concentrated along this potential strike length with the aim of extending the current resource area.



# **Demonstration-size Processing Plant**

The demonstration-size processing plant in Perth, Western Australia was commissioned earlier this year, and its continuous process testing on Sconi ore has facilitated Australian Mines to successfully refine the plant's design and operation. These refinements have resulted in significant improvements in both the recovery rates of the cobalt, nickel and scandium from the ore as well reducing the residence time of the ore within the circuit.

The ore within the autoclave now has a residence time of less than 45 minutes and this, in turn, has allowed the Company to successfully reduce the time it takes to run a full circuit from 65 hours to 50 hours.

The demonstration-size plant uses a replica processing flow-sheet to that contemplated for the full-scale operation to be built at the Sconi Project site in Queensland

This processing test work has not only given the Company a unique, pre-construction opportunity to optimise the full-scale plant for maximum recoveries from the Sconi deposits, it will be utilised to process future ore samples from the highly analogous mineralisation identified at the Company's Flemington Cobalt-Scandium-Nickel Project in New South Wales.



# Block-Flow Diagram

**Figure 6:** Australian Mines' commercial processing plant benefits from using a conventional, industry standard processing flowsheet and construction design.



Earlier this month, Australian Mines produced and delivered 40 kilograms of nickel sulphate (NiSO<sub>4</sub>) and 4 kilograms of cobalt sulphate (CoSO<sub>4</sub>) the Company's off-take partner, SK Innovation<sup>23</sup>. These deliveries set a new benchmark for the largest known shipment of battery-grade cobalt and nickel sulphates from Australian mined and processed ore, and were produced from Australian Mines' High-Pressure Acid Leach (HPAL) and solvent extraction (SX) demonstration-size processing<sup>24</sup> plant.

The production of samples utilised an industry standard processing flow-sheet and overseen by the Company's Chief Operating Officer, Tim Maclean<sup>25</sup>, who is a highly experienced processing plant operator. This is the first time that battery-grade samples of these commodities have been produced without the use of third-party commercial laboratories for any part of the process.



**Figure 7:** Crystalliser at the Company's demonstration-size processing plant, which was commissioned in conjunction with Simulus Group's laboratories.

<sup>&</sup>lt;sup>23</sup> Australian Mines Limited, Australian Mines to set benchmark with largest sample of battery-grade cobalt and nickel sulphate ever exported from Australia, released 2 July 2018

<sup>&</sup>lt;sup>24</sup> Australian Mines Limited, Construction commenced of processing plant, released 15 May 2017

<sup>&</sup>lt;sup>25</sup> Australian Mines Limited, Experienced processing plant builder appointed COO, released 24 July 2017



Importantly, Australian Mines has achieved over 98% purity for CoSO<sub>4</sub> and 99% purity for NiSO<sub>4</sub> samples through the final crystallisation process at the demonstration plant, which exceeds SK Innovation's specification for materials to be used directly in its manufacturing process for electric vehicle (EV) batteries, with the material requiring no additional processing or refinement ahead of its application in this process, being another first for an Australian resources company.

The demonstration plant is expected to continue to operate for the next 2 years and produce additional battery-grade material to supply SK Innovation's EV battery manufacturing plants from ore to be sourced from the Sconi Cobalt-Nickel-Scandium Project in northern Queensland. Delivery of additional, and larger shipments of both battery-grade nickel sulphate and cobalt sulphate material to SK Innovation is expected during the period October to November 2018.





**Figure 8:** In total, Australian Mines produced 40 kilograms of battery-grade nickel sulphate (and 4 kilograms of cobalt sulphate) in the June quarter.

**Figure 9:** Cobalt and nickel sulphate samples produced from Australian Mines' demonstration plant in Perth.



# Flemington Cobalt-Scandium-Nickel Project

Australian Mines' Flemington Cobalt-Scandium-Nickel Project is located within 400 kilometres of Sydney, New South Wales and represents a potential second development opportunity for the Company.

Through the reporting period, Australian Mines' exploration team has been revising the resource expansion drilling program for this project to ensure that it covers a significant percentage of the prospective Tout Complex - being the host geology of both the Flemington and adjoining Sunrise deposits.

This new expanded target area follows the geophysical anomaly that extends westwards from the neighbouring Sunrise Project under development by Clean TeQ Holdings (ASX: CLQ) and links with Australian Mines' current Mineral Resource<sup>26</sup>.

Preparation for this drilling is presently being finalised as it is the Company's intention to commence this program immediately after the current Sconi resource expansion drilling has been completed.

The Company remains optimistic about significantly increasing the Mineral Resource inventory at the Flemington Project given that only 1% of the interpreted prospective host geology within the project area has been thoroughly evaluated to date, and that modelling of the cobalt credentials of the Flemington Project (including cobalt grade, host geology and potential mineral resource tonnage) has confirmed these characteristics as being consistent with those of the neighbouring Sunrise Project.

Australian Mines is in the process of establishing a regional office in the nearby town of Parkes to act as a base for the company's Community Engagement Officer as well as the field operations at the Flemington Project. This regional office will also be a base for the further evaluation of the Thackaringa Cobalt Project, located further west near Broken Hill in New South Wales. The Company will provide more information regarding this regional office over the course of the coming months.

<sup>&</sup>lt;sup>26</sup> The Mineral Resource Estimate for the Flemington Cobalt-Scandium-Nickel Project is reported under JORC 2012 Guidelines and was reported by Australian Mines Limited on 31 October 2017. The Mineral Resource for Flemington, as announced on 31 October 2017 is: Measured 2.5Mt @ 0.103% Co & 403ppm Sc, Indicated 0.2Mt @ 0.076% Co & 408ppm Sc. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 October 2017 announcement by Australian Mines





**Figure 10:** Map showing Australian Mines' proposed expanded exploration drilling program that is designed to test a larger extent of the prospective Tout Complex (outlined in yellow in this image).

# Thackaringa Cobalt Project

Australian Mines' 100%-owned Thackaringa Project is a pure cobalt exploration play that immediately adjoins Cobalt Blue Holdings' (ASX: COB) Pyrite Hill / Railway / Big Hill Project in a prospective region near Broken Hill in New South Wales.

During the reporting period, Australian Mines continued its on-ground exploration program across the Thackaringa Project, which included completing a tightly-spaced soil sampling program across the entire project area. This field program subsequently identified multiple potential cobalt targets that warrant immediate follow-up exploration<sup>27</sup>.

One such target is the cluster of conductive anomalies defined by fixed loop EM surveys within *Target Area A* in the north of the project area, where at least one of the bodies has been independently confirmed as a *Priority One* target<sup>28</sup> (Figure 11). This classification is due to the anomaly having a similar surface geochemical signature and geophysical response as that observed across areas of known mineralisation in neighbouring tenements.

<sup>&</sup>lt;sup>27</sup> Australian Mines Limited, Large-scale cobalt-in-soil anomalies at Thackaringa. Released 29 May 2018

<sup>&</sup>lt;sup>28</sup> Australian Mines Limited, High-priority conductors detected at Thackaringa Project, released 7 March 2018



With results from the soil and surface sampling program completed<sup>29</sup> and a number of highpriority targets identified, Australian Mines anticipates to undertake its maiden drill program at Thackaringa during the second half of 2018<sup>30</sup> to test the corresponding geophysical and geochemical anomalies. Full details of this drill program will be released prior to the commencement of drilling.



### THACKARINGA PROJECT Tenement MAP

**Figure 11:** Australian Mines' Thackaringa project in central New South Wales, Australia showing the location of priority target areas within *Target Area A* where a close-spaced geochemical sampling program by the Company identified zones of highly elevated cobalt levels.

<sup>&</sup>lt;sup>29</sup> Australian Mines Limited, Large-scale cobalt-in-soil anomalies at Thackaringa. Released 29 May 2018

<sup>&</sup>lt;sup>30</sup> subject to landholder approval



# **Portfolio Consolidation**

Australian Mines recently announced<sup>31</sup> that it planned to undertake an Initial Public Offering (IPO) and Australian Securities Exchange (ASX) listing of its non-core gold and base metal exploration assets via a dedicated Western Australian-focused exploration company.

The Australian Mines' executive team considers the IPO will help unlock the underlying value of the Company's non-core, but highly prospective gold and copper exploration assets in Western Australia, both for existing shareholders, via their holding in Australian Mines and for new investors seeking exposure to these commodities. This transaction will allow Australian Mines to maintain its focus on developing its battery minerals projects in Queensland and New South Wales.

The Marymia and Arunta West projects, which have been actively explored and evaluated by Australian Mines, will be combined with the Warriedar and Bali assets of Norwest Gold Pty Ltd ("Norwest"), a subsidiary of Australian Mines Limited.

Norwest is planning to list via an IPO on the ASX, with the transaction scheduled to be completed by the end of October 2018.

The Company has secured seed funding of \$1 million with the funds dedicated to the advancement of the IPO. Furthermore, a cornerstone agreement has been signed with experienced sophisticated investors who have committed to invest \$4 million in the IPO.

Australian Mines will seek to raise a total of \$6.6 million in the IPO, with priority entitlement of up to \$2.6 million to be given to existing Australian Mines shareholders.

Mr Charles Schaus, who is a highly experienced resources executive has been appointed as Chief Executive Officer (CEO) of Norwest and will lead the IPO process. Mr Schaus is an experienced company director and geologist with significant corporate and technical experience in the metals and mining industry. He brings more than 35 years of leadership and technical experience and will play a pivotal role in driving the future strategy of Norwest.

<sup>&</sup>lt;sup>31</sup> Australian Mines Limited, Australian Mines' subsidiary secures \$5 million funding commitment to progress IPO of its highly prospective WA gold and base metal portfolio, released 26 July 2018



# **Corporate Activity**

## Scandium Research Partnership

Australian Mines remains committed to maximising revenue and shareholder value from the Company's Sconi Project through the commercialisation of the high-purity scandium oxide, which is scheduled to be produced alongside the project's cobalt sulphate and nickel sulphate output.

During the reporting period, the Company confirmed it had entered into a partnership with United Kingdom-based technology company Metalysis<sup>32</sup>, to support their continued research and development program around a solid-state process to produce a low-cost yet superior aluminium – scandium alloy for potential use by the automotive and aerospace industries.

The innovative solid-state process<sup>33</sup>, originally invented by the University of Cambridge (UK) before being commercialised by Metalysis, has already demonstrated an ability to produce an aluminium - scandium master alloy containing 15 times the amount of scandium compared to conventional industry processes.

The ability for Australian Mines to produce a scandium-rich master alloy via Metalysis' solidstate process that contains up to 30% scandium metal (compared to the industry's current 2% scandium metal), could result in up to a 93% reduction in the amount of scandium master alloy required to produce the final aluminium – scandium metal requested by end-users.

Although the total amount of the scandium in the final alloy is not reduced using this method, the significant reduction in the cost of producing this product means that the contract price offered by Australian Mines for these light-weight aluminium products is potentially materially lower than most other specialty metals currently available on the market.

\*\*\*ENDS\*\*\*

 <sup>&</sup>lt;sup>32</sup> Australian Mines Limited, AUZ enters research partnership to develop scandium alloy, released 12 June 2018
<sup>33</sup> Fray, Farthing and Chen. Direct electrochemical reduction of titanium dioxide to titanium in molten calcium chloride. Nature volume 407, pages 361–364 (21 September 2000)



## For further information:

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## **Appendix 1: Competent Persons' Statements**

#### Sconi Cobalt-Nickel-Scandium Project

The Mineral Resource for the Sconi Cobalt-Nickel-Scandium Project contained within this document is reported under JORC 2012 Guidelines. This Mineral Resource was first reported by Australian Mines on 31 March 2017. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 March 2017 announcement by Australian Mines.

Information in this report that relates to Sconi Cobalt-Nickel-Scandium Project Project's Exploration Results is based on information compiled by Mr Mick Elias, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Elias is a director of Australian Mines Limited. Mr Elias has sufficient experience relevant to this 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 Elias consents to the inclusion in this report of the matters based on his information in the form and context in which is appears.

#### Flemington Cobalt-Scandium-Nickel Project

The Mineral Resource for the Flemington Cobalt-Scandium-Nickel Project contained within this document is reported under JORC 2012 Guidelines. This Mineral Resource was first reported by Australian Mines Limited on 31 October 2017. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 October 2017 announcement by Australian Mines.

Information in this report that relates to Flemington Cobalt-Scandium-Nickel Project's Exploration Results is based on information compiled by Mr Mick Elias, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Elias is a director of Australian Mines Limited. Mr Elias has sufficient experience relevant to this 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 Elias consents to the inclusion in this report of the matters based on his information in the form and context in which is appears.

#### **Thackaringa Cobalt Project**

The information in this report that relates to the Thackaringa Cobalt Project 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 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.



#### Marymia Gold and Copper Project

Information in this report that relates to Marymia Gold and Copper Project Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Charles Schaus who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Schaus is a full-time employee of Norwest Gold Pty Ltd, being a subsidiary of Australian Mines Limited. Mr Schaus 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 Schaus consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### Arunta West Copper-Gold Project

Information in this report that relates to Arunta West Copper-Gold Project Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Charles Schaus who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Schaus is a full-time employee of Norwest Gold Pty Ltd, being a subsidiary of Australian Mines Limited. Mr Schaus 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 Schaus consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### Warriedar Gold Project

Information in this report that relates to Warriedar Gold Project Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Charles Schaus who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Schaus is a full-time employee of Norwest Gold Pty Ltd, being a subsidiary of Australian Mines Limited. Mr Schaus 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 Schaus consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### Ashburton (Bali) Copper Project

Information in this report that relates to Ashburton (Bali) Copper Project Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Charles Schaus who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Schaus is a full-time employee of Norwest Gold Pty Ltd, being a subsidiary of Australian Mines Limited. Mr Schaus 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 Schaus consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



#### **Marriotts Nickel Project**

The Mineral Resource for the Marriotts Nickel Project contained within this document is reported under JORC 2012 Guidelines. This Mineral Resource was first reported by Australian Mines Limited on 31 January 2018. There has been no Material Change or Re-estimation of the Mineral Resource since this 31 January 2018 announcement by Australian Mines.

The information in this report that relates to the Marriotts Nickel Project Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Mick Elias, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Elias is a director of Australian Mines Limited. Mr Elias has sufficient experience relevant to this 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 Elias consents to the inclusion in this report of the matters based on his information in the form and context in which is appears.



# Appendix 2: Tenement Information

# Mining tenements held at end of the quarter

Location	Project	Tenement	Status	Interest
AUSTRALIA				
Queensland	Sconi	ML 10366	Granted	100%
Queensland	Sconi	ML10342	Granted	100%
Queensland	Sconi	ML10324	Granted	100%
Queensland	Sconi	ML 10332	Granted	100%
Queensland	Sconi	ML 20549	Granted	100%
Queensland	Sconi	ML 10368	Granted	100%
Queensland	Sconi	MDL 515	Granted	100%
Queensland	Sconi	MDL 387	Granted	100%
Queensland	Sconi	EPM 25834	Granted	100%
Queensland	Sconi	EPM 25865	Granted	100%
Queensland	Sconi	EPM 25833	Granted	100%
Queensland	Sconi	EPM 26575	Granted	100%
Queensland	Sconi	EPM 26577	Granted	100%
Queensland	Sconi	EPM 26578	Granted	100%
Queensland	Sconi	EPM 26579	Granted	100%



Queensland	Sconi	EPM 26559	Granted	100%
New South Wales	Flemington	nington EL 7805 Granted		0% (a)
New South Wales	Flemington	EL 8546	Granted	0% (a)
New South Wales	th Wales Flemington EL 8478 Granted		Granted	100%
New South Wales	Flemington	MLA 538	Pending	0%
New South Wales	Flemington	ELA 5495	Pending	0%
New South Wales	Thackaringa	EL 8477	Granted	100%
Western Australia	Arunta West	E80/5031	Granted	100%
Western Australia	Arunta West	E80/5032	Granted	100%
Western Australia	Arunta West	E80/4820	Granted	51% (b)
Western Australia	Arunta West	E80/4986	Granted	51% (b)
Western Australia	Arunta West	E80/4987	Granted	51% (b)
Western Australia	Vestern Australia Marymia		Granted	80% (c)
Western Australia	Marymia	E52/2395	Granted	80% (c)
Western Australia	Warriedar	M59/0755	Granted	100%
Western Australia	Warriedar	E59/1692	Granted	100%
Western Australia	Warriedar	E59/1723	Granted	100%
Western Australia	Warriedar	E59/1966	Granted	100%



Western Australia	Warriedar	P59/2070	Granted	100%
Western Australia	Warriedar	E50/1692	Granted	100%
Western Australia	Warriedar	E59/2080	Granted	100%
Western Australia	Warriedar	E59/2103	Granted	100%
Western Australia	Warriedar	E59/2104	Granted	100%
Western Australia	n Australia Warriedar		Granted	100%
Western Australia	Ashburton (Bali)	E08/2894	Granted	0% (d)
Western Australia	Western Australia Marriotts		Granted	100%

#### (a) Flemington Cobalt-Scandium-Nickel Project

Australian Mines announced on 10 October 2016 that the Company had entered into an Option Agreement with Jervois Mining Limited (JRV: ASX) to acquire 100% of the Flemington Cobalt-Scandium-Nickel Project.

Under the terms of this Agreement, Australian Mines has been granted a series of options to enable the Company to purchase 100% of the Flemington Project. All options payments to Jervois Mining have been paid by Australian Mines (and accepted by Jervois Mining).

The Company has a final payment of \$4 million due before September 2018 at which point Australian Mines will hold 100% interest in the Flemington tenements.

The Agreement with Jervois Mining includes a 1.5% gross sales royalty on all proceeds from the sale of products derived from the Flemington assets. The renewal of Flemington exploration licence 7805 is currently pending. The Company has received written advice from the New South Wales Department of Planning and Environment that this tenement will be renewed for a further 3 years by which time it is anticipated that Australian Mines' Mining Lease Application 538 (which covers 100% of exploration licence 7805) would be granted.



#### (b) Arunta West Copper- Gold Project

Under the Arunta West joint venture agreement, the Company has the right to farm into Jervois Mining Limited's (ASX: JRV) three exploration licences of E80/4820 (granted), E80/4896 (granted) and E80/4897 (granted), which cover a total area of approximately 345 square kilometres.

Australian Mines (via its wholly-owned subsidiary, Norwest Gold Pty Ltd) has successfully earned its initial 51% interest in these joint venture tenements and the Company informed Jervois Mining that it has elected to proceed with the Stage 2 Earn-in whereby Australian Mines will increase its interest in the Arunta West joint venture tenements to 80% by spending a further \$3.15 million on these tenements by 28 April 2020. Australian Mines is the operator and manager of the Arunta West Project.

#### (c) Marymia Gold and Copper Project

Australian Mines has successfully earned its 80% interest in the Marymia exploration tenements of E52/2394 and E52/2395. As per the Agreement, Australian Mines (via its wholly-owned subsidiary, Norwest Gold Pty Ltd) and Riedel Resources (ASX: RIE) will form a joint venture (80% AUZ – 20% RIE), with each company contributing financially to the cost of all future exploration programs (and the administrative costs associated with managing these tenements) in line with their percentage interest in the project. Australian Mines is the operator and manager of the Marymia Project.

#### (d) Ashburton (Bali) Copper Project

Australian Mines, through its wholly-owned subsidiary Norwest Gold Pty Ltd, has entered into an Option Agreement with TasEx Geological Services Pty Ltd to acquire 100% of the Ashburton (Bali) Copper Project in Western Australia, which comprises granted tenement E08/2894. Under the terms of this Agreement, Australian Mines has been granted an option to enable the Company to purchase 100% of the Ashburton (Bali) Copper Project for a total purchase price of \$175,000 plus applicable GST payable by 30 September 2018.



# Mining tenements acquired and disposed of during the quarter

Location	Project	Tenement	Status	Interest	Comments
-	-	-	-	-	-

# Beneficial percentage interests held in farm-in or farm-out agreements at end of the quarter

Location	Project	Agreement	Parties	Interest	Comments
Western Australia	Marymia	Heads of Agreement	Australian Mines and Riedel Resources	80%	Announced 30 April 2014 29 May 2015 30 April 2018
Western Australia	Arunta West	Joint Venture Agreement	Australian Mines and Jervois Mining	51%	Announced 23 May 2016 30 April 2018

# Beneficial percentage interests in farm-in or farm-out agreements acquired or disposed of during the quarter

Location	Project	Agreement	Parties	Interest	Comments
-	-	-	-	-	-