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**17 November 2017** 

# Drilling underway at Tennant Creek New survey focusses drilling at Kadungle in NSW

- New Induced Polarisation geophysical survey at Kadungle confirms potential for large shallow gold and deeper copper-gold mineralisation
- Geophysical IP anomalies on consecutive lines across ~1km corresponds with large zone
  of hydrothermal alteration and diatreme/breccia plus gold and copper in drill holes
- Further geophysical Gradient Array Induced Polarisation (GAIP) anomalies some 2km away correspond with distal epithermal gold veins
- Drilling of ~2,000m at Kadungle to test these new targets about to commence
- Next drilling campaign of ~2,500m at Tennant Creek to follow up previously intersected high grade copper underway

Emmerson Resources Limited ("Emmerson" ASX: ERM) is pleased to announce the results of a highly successful geophysical survey at Kadungle, one of its most advanced projects in NSW. Drilling on this project will commence shortly, as will drilling at its Tennant Creek project in the NT. Kadungle is funded from a recent, highly successful ~\$2m capital raising by Emmerson aimed at fast tracking exploration in NSW (figure 1). Tennant Creek is funded by our partner, Evolution Mining as part of a \$15m earn-in and JV where Emmerson is the manager and operator.

## **New South Wales Projects**

A recently completed IP geophysical survey and alteration mapping at the Mt Leadley prospect within the Kadungle project confirms the potential for shallow gold and deeper copper-gold mineralisation. Pleasingly the IP anomalies are apparent across five consecutive lines, over 1km and within a previously identified zone of magnetite destruction (Figs 2, 3 & 4). This is the first systematic exploration on this project and although there has been previous but limited drilling, this recent work extends the shallow gold and deeper copper-gold potential, particularly as most of the anomalies remain untested.

Some of the historic drilling intersected shallow epithermal gold-silver with best assays of 12m at 7.7g/t gold (drill hole KDD002) and 37m at 0.23% copper including 6m at 1.1% copper (KDD013). Interestingly this deeper copper intercept sits on the margin of a deep IP/resistivity (IP) anomaly, with the main part of the anomaly untested. Alteration mapping (with an ASD) indicates a classic porphyry copper-gold zonation pattern within the

+1km zone of magnetite destruction. This alteration consists of shallow quartz-pyrite-hematite (+/-kaolinite) grading to sericite-quartz and deeper chlorite (+/-epidote)-hematite-K-feldspar. The crystallinity of the white mica increases with depth, marking increasing temperature toward the likely causative, metal rich intrusion(s).

A Gradient Array Induced Polarisation (GAIP) survey at the Mount Leadley-Trig prospect, some 2km north of the Mt Leadley prospects has also confirmed possible extensions to the recently mapped epithermal gold veins. The GAIP shows two distinct but offset chargeability and resistive zones over ~1km of strike. This likely marks a NNE trending fault/vein system, below a silicified rhyolite cap. Recent rock chip sampling at Trig returned highly anomalous gold geochemistry with up to 1.27 g/t Au (Figure 5).

Good progress continues across the other four NSW projects where ground reconnaissance and sampling is underway, following the flying of detailed aeromagnetic surveys to assist in identifying areas of interest. These large projects were generated in prospective metal endowed corridors from proprietary predictive 2D and 3D targeting models back in 2015 – these models aim to increase the probability of discovering both epithermal gold and porphyry copper-gold deposits. This counter cyclic ground acquisition in NSW now places Emmerson in a strong position given the recent uptake of surrounding tenements by other companies.

## **Tennant Creek Project – Northern Territory**

The next ~2,500m drill campaign at Tennant Creek is now underway and will focus on extending the previously discovered, high grade copper and gold at the Gecko-Goanna project. A deep co-funded drill hole by Emmerson/Evolution and the NT Geological survey intersected 7m at 5.98% copper including 3m at 10.4% copper from 123m down the hole (ASX:19/08/15). A further zone of 3m at 4.75% copper including 1m at 10.6% copper from 162m remains open in all directions and will be tested by 8 RC drill holes. In addition, a down plunge diamond hole at Goanna will test for deeper extensions beneath the previously intersected, high grade copper and gold (figure 6).

Emmerson's Managing Director, Mr Rob Bills commented: "The recent systematic exploration over the Kadungle project has produced further indications of a large shallow epithermal gold and deeper porphyry copper-gold system. Pleasingly the scale of the alteration and mineralisation over ~2km has been confirmed by the recent geophysical surveys and significantly, the better geophysical targets remain untested. Drilling will commence in late November and is focussed on establishing the extent and grade of both shallow epithermal gold and deeper porphyry copper-gold.

This project is part of a much larger strategy by Emmerson and strategic alliance partner, Kenex Limited to select highly prospective gold and copper-gold areas utilising a predictive, probability based targeting approach – aimed at increasing the likelihood of discovering major new gold and copper-gold deposits. Thus these early encouraging results from Kadungle reflect well on not only the adjacent Fifield tenement, but also the other four large project areas at Wellington, Temora/Sebastopol, Kiola and Parkes.

Note Emmerson can earn up to 80% of the Kadungle project from Aurelia Metals by spending \$0.5m over a five year period. Kenex can earn up to a 10% interest in these NSW tenements (excluding Kadungle) upon achieving certain predetermined milestones.

In Tennant Creek, drilling has commenced on the highly prospective Gecko-Goanna copper-gold project. Goanna was discovered by Emmerson in 2011 but up until recently, was not a priority in the earn-in and JV with Evolution Mining. The high grade copper intersected in the more recent drill hole GODD032 plus the multiple high grade copper and gold intersections at Goanna suggest there is good potential to extend the high grade mineralisation outside of the current resource.

#### **About Emmerson Resources**

Emmerson is a leading gold and copper gold explorer with projects in the Northern Territory and New South Wales and is led by a board and management group of experienced Australian mining executives including former MIM and WMC mining executive Andrew McIlwain (non-executive chairman), and former senior BHP Billiton and WMC executive Rob Bills (Managing Director and CEO).

The Northern Territory projects are centred around the Tennant Creek Mineral Field (TCMF), which is one of Australia's highest grade gold and copper fields producing >5.5 Mozs of gold and >470,000 tonnes of copper from a variety of deposits including Gecko, Orlando, Warrego, White Devil, Chariot and Golden Forty, all of which are within Emmerson Resources (ASX: ERM) exploration and joint venture portfolio. Emmerson's track record of discovery includes copper and gold mineralisation at Goanna, Monitor, Mauretania and more recently, the discovery of very high grade gold at Edna Beryl - the first discoveries in the TCMF for over a decade.

Emmerson holds 2,800km<sup>2</sup> of ground in the TCMF, owns the only gold mill in the region and is in the process of monetising a pipeline of small high grade exploration targets via a Tribute Agreement with a specialised small mines company. The first of these small mines will be at Edna Beryl, with production to commence in 2017.

Exploration in the TCMF is funded via a Farm-in agreement with Evolution Mining Limited (EVN), where EVN is sole funding exploration expenditure of \$15 million by 31 December 2017 to earn a 65% interest (Stage 1 Farm-in). EVN then has a further option to sole fund a further \$10 million over two years to earn an additional 10% (Stage 2 Farm-in). Emmerson is the operator and manager during the Stage 1 Farm-in.

Emmerson has recently commenced exploration on new gold-copper projects in NSW, identified (with our strategic alliance partner Kenex Limited) from the application of "big multiple independent datasets" – aimed at increasing the probability of discovery through enhanced predictive capability (particularly important in covered terrains). The highly prospective Macquarie Arc hosts >80Mozs gold and >13Mt copper but with these resources heavily weighted to areas of outcrop or limited cover. Emmerson's five exploration projects contain many attributes of the known deposits within the Macquarie Arc but remain under explored due to historical impediments, including overlying cover (plus farm lands) and a lack of exploration focus. Kadungle is an option (and potential JV) with Aurelia Metals covering 43km² adjacent to Emmerson's Fifield project.

#### About Kenex

Kenex is a Wellington and West Australian based company which was established in 2002 to provide GIS and exploration services and advice for the exploration and mining industries in Australia and New Zealand. Over the last 10 years, Kenex has broadened their international experience through involvement with projects and clients in the Middle East, Africa, Scandinavia, Asia-Pacific and Latin America. Kenex is a group of highly motivated research professionals who have more than 85 years of combined experience and knowledge in exploration and mining, locally (New Zealand/Australia) and abroad, including the Solomon Islands, Africa, Papua New Guinea, Asia and Latin America. Kenex also has growing expertise in the marine minerals sector.

Kenex specialises in predictive modelling for minerals (2D and 3D) where it is at the forefront of providing these services to businesses to generate targets with the greatest geological potential in relation to the mineral system being evaluated. This delivers to our client's outcomes which can be used for a variety of purposes including regional evaluation of a mineral belt, identification of opportunities for acquisition, the tools for effective exploration work programme planning and in the case of predictive 3D modelling, drill hole targeting.

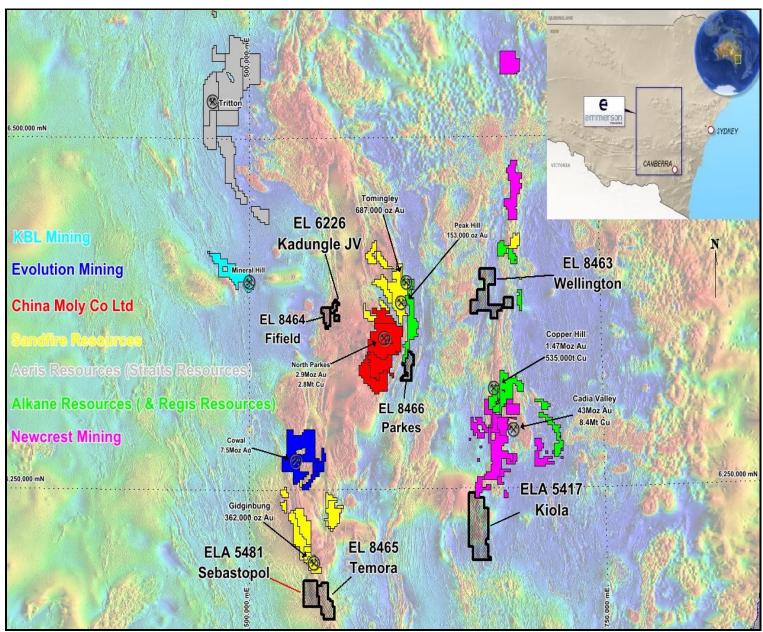
### About Aurelia (ASX: AMI)

Aurelia Metals Limited is an Australian gold, silver, lead and zinc mining and exploration company. The Company operates the wholly-owned Hera gold and base metal mine, in Central West New South Wales and has a key development opportunity in the Nymagee Copper, lead, zinc project, some 5 km north of Hera. In FY17, the Company produced 45,679 ounces of gold and 32,308 tonnes of lead-zinc concentrate.

#### **Competency Statement**

The information in this report which relates to Tennant Creek Exploration Results is based on information compiled by Mr Steve Russell BSc, Applied Geology (Hons), MAIG, MSEG. Mr Russell is a Member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 edition and the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Russell is a full time employee of the Company and consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this report which relates to NSW Projects Exploration Results is based on information compiled by Dr Ana Liza Cuison, MAIG, MSEG. Dr Cuison is a Member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2004 edition and the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Cuison is a full time employee of the Company and consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.



**Figure 1:** Location of Emmerson Resources NSW Projects (bold black outlines) plus major explorers and deposits within the Macquarie Arc (muted red colour=magnetic signature of the Macquarie Arc).

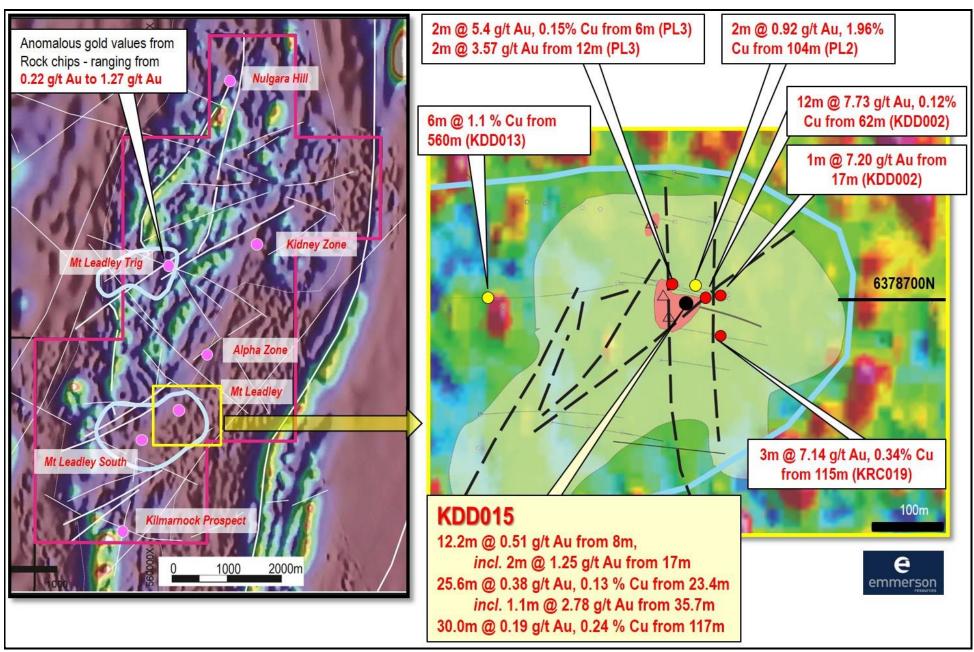
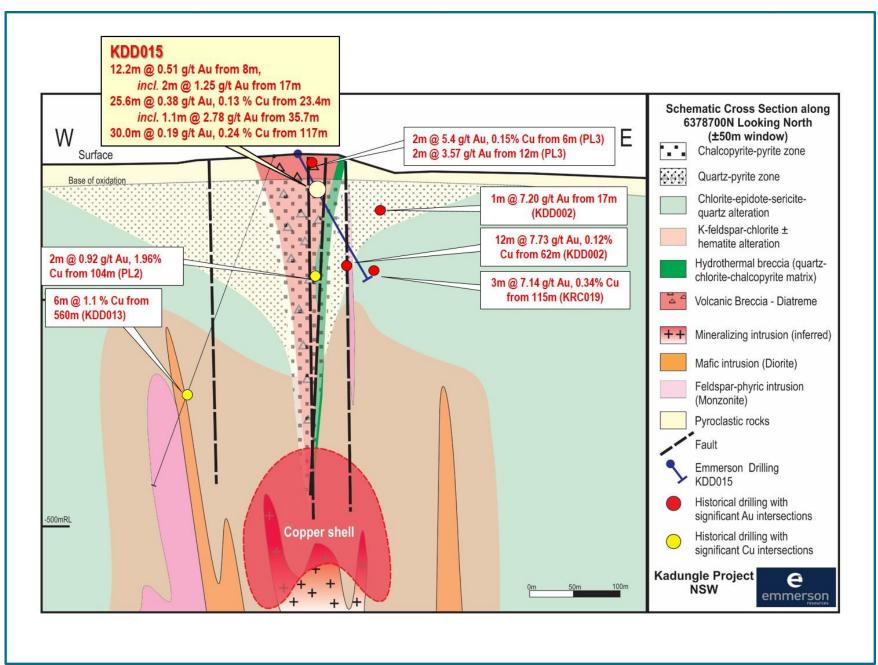
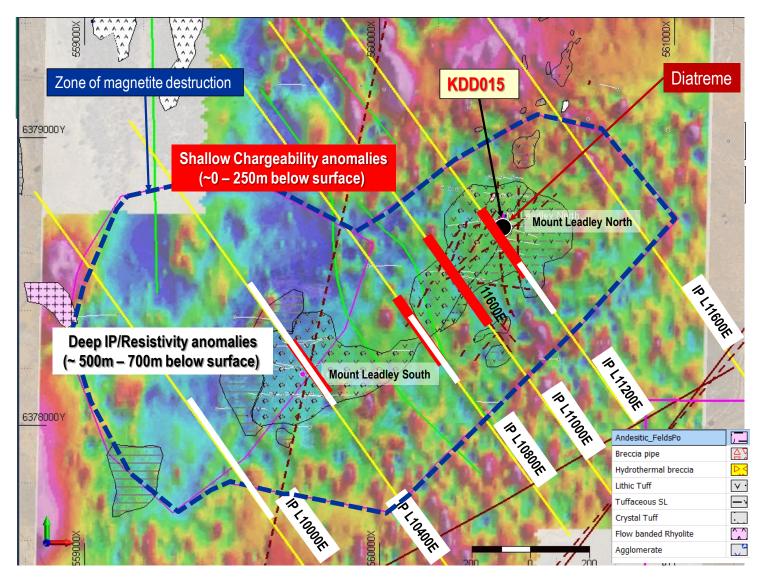


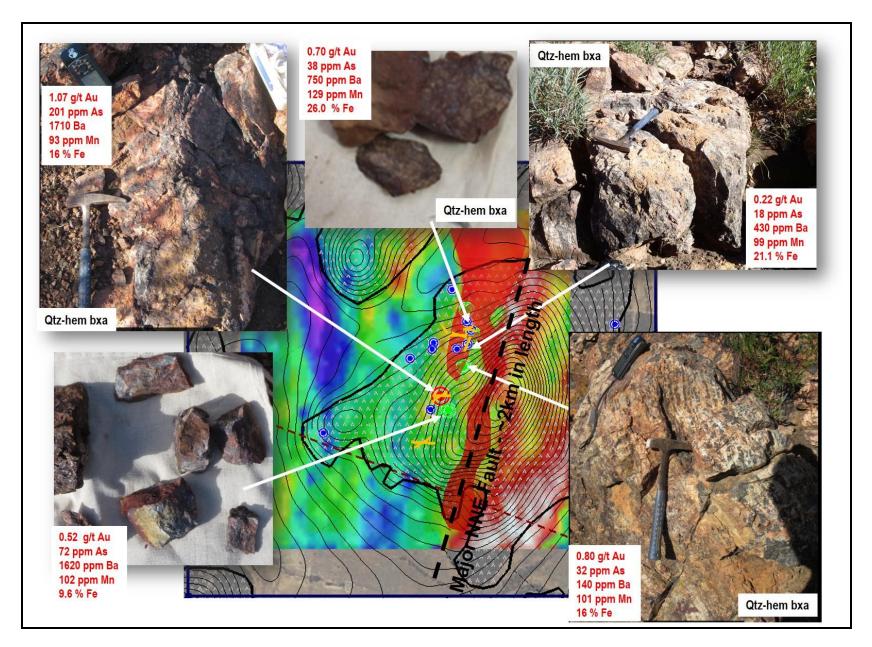
Figure 2: Plan of the Mt Leadley Prospect within the Kadungle Tenement. Note ERM drill hole drill hole KDD015 plus historic intersections. Background is the 1VD of the recent aeromagnetics with blue correlating to possible zones of magnetite destruction associated with the hydrothermal alteration.



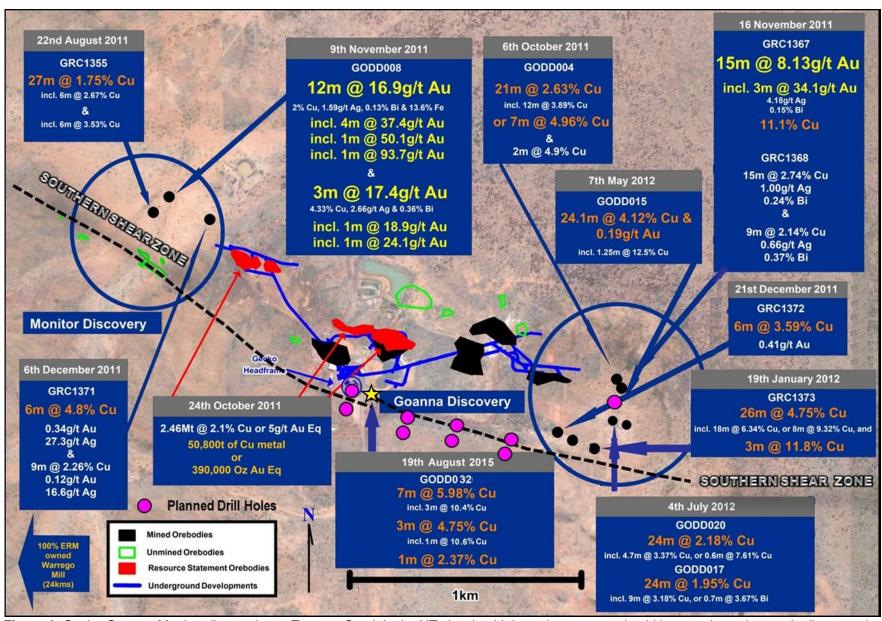
**Figure 3:** Cross section of the interpreted geology from the recent drill hole (KDD015). Note the extensive chalcopyrite-pyrite and quartz-pyrite zones plus hydrothermal breccia at the margin of the volcanic breccia/diatreme. For reference, the red dots are historic intersections projected onto this section.



**Figure 4:** Mt Leadley geophysical IP survey (yellow lines). Note IP anomalies (red and white bars) projected to the surface within the zone of magnetite destruction, alteration and breccia/diatreme(also see figure 3).



**Figure 5:** Plan view of the Trig epithermal gold prospect showing the linear GAIP chargeability anomaly (solid red) and corresponding resistivity (white/red background) marking a major NNE trending fault. Note contours correspond to the topography which consists of silicified rhyolite and photographs of highly gold anomalous epithermal veins in outcrop.



**Figure 6**: Gecko-Goanna-Monitor discoveries at Tennant Creek in the NT showing high grade copper and gold intersections plus newly discovered southern shear zone. Planned drilling shown as pink circles.