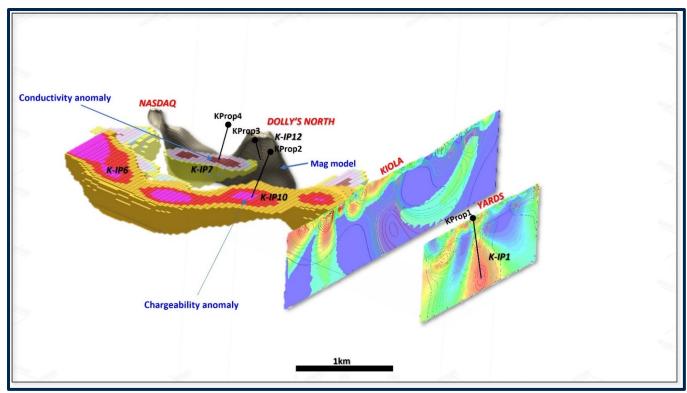


# High impact copper-gold drilling from new 3D Model at Kiola, NSW

## **Highlights**

- 3D MIMDAS geophysical model for Kiola provides exciting new copper-gold drill targets
- 2,500m drilling program approved with timing subject to COVID-19 constraints in NSW
- Potential for multiple intrusive centres confirmed from the integration of geochemical and geological data within an area of highly anomalous copper-gold and historic workings
- No previous deep drilling with strong indications of copper-gold mineralisation at surface
- Kiola lies within the highly ranked Molong Belt which hosts both Alkane Resources' Boda copper-gold discovery and Newcrest's world class Cadia-Ridgeway deposits

To view the video of the 3D model with commentary from Emmerson Managing Director Rob Bills please visit our website.



**Picture 1:** 3D and 2D MIMDAS Geophysical Model and inversions stretching over 5km from the mineralised Nasdaq skarn in the north to the Yards prospect located under cover in the south. Proposed Emmerson drill hole traces (KProp1 to KProp4). Noting the red zones indicate a mantle of chargeable and conductive bodies centered on the Dolly's North magnetic, monzodiorite body (brown).





**Image 1:** Right Hand Creek Mine (see location in figure 2). Typical landform with little outcrop except around the numerous old shafts and workings. Noting no deep drill testing within the 15km<sup>2</sup> Kiola Geochemical Zone.



**Image 2:** High grade copper (malachite and azurite) mine dump samples from the Right Hand Creek Mine. Noting the geophysical (chargeable and conductive) anomalies in the 3D model suggest a source for this surface mineralisation lies at depth.

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### Managing Director, Rob Bills commented:

"Phase 1 of our planned 2,500m drilling program is aimed at testing a selection of chargeable, conductive and magnetic targets within the ~15km² Kiola Geochemical Zone (KGZ), noting that there has been no deeper drilling within these zones to test for the source of the gold and copper mineralisation

Emmerson, in combination with our geophysical consultants, have produced a compelling 3D model at our Kiola project in NSW (Picture 1). This new model suggests a connection between the surface mineralisation within the Kiola Geochemical Zone (KGZ) (image 1 & 2) and a porphyry copper-gold system(s) at depth.

This 3D model comprises of a central core, (a monzodiorite intrusion at Dolly's North = brown colour in picture 1), mantled by large and highly chargeable and conductive anomalies (red in picture 1). Although the outcrop within the project area is sparse, these subsurface, strongly chargeable zones are continuous over 5km from the Nasdaq skarn in the north to the Yards prospect in the south. Age dates from a small outcrop of monzodiorite at Dolly's North is comparable to other large copper-gold porphyry deposits in the Macquarie Arc, such as the Newcrest's, Cadia-Ridgeway cluster of deposits some 100km to the north."

### Mitre Geophysics Principal Geophysicist Kate Hine commented:

"The Kiola 3D model has generated some compelling drill targets which will be tested in phase 1 and assist in further refinement of the model. The Kiola MIMDAS geophysical survey produced some very strong anomalies that benefited from specialist inversion modelling. The integration of the magnetotelluric (MT) and induced polarisation(IP) data is aimed at producing the best possible understanding of the subsurface. The 3D MT model required the data to be set to specialist MT experts in Germany for high power computations."

## Kiola Project (Figure 1) – Positive indications from geochemistry, geology and geophysics

In 2017 Emmerson and its strategic alliance partner, Kenex Limited (now Duke Exploration Limited), deployed **machine learning data analytics technology** across the Macquarie Arc to improve the success rate of discovery. This approach offered greater insight into the critical formational factors for porphyry gold-copper mineralisation in the Macquarie Arc and provided a ranked portfolio of potential opportunities. Consequently, Emmerson now has a strategic, early mover landholding position. Since then, Emmerson has undertaken systematic exploration across its NSW projects utilising traditional exploration methods and new research from the University of Tasmania Arc Linkage project.

Emmerson's Kiola project is one of the **highest ranked**, **early-stage gold-copper projects** in the portfolio and is centred on the 15km<sup>2</sup> Kiola Geochemical Zone (KGZ). It encompasses favourable Ordovician age rocks that display anomalously high gold and copper geochemistry plus historic workings. Recent work has confirmed that the KGZ contains many of the attributes of world class porphyry gold-copper mineralisation and is divided into a northern area centred on the Nasdaq skarn and a southern area around the South Pole, Kiola and Right Hand Creek mine (Figure 2).

Emmerson's multifaceted field program has included soil and rock chip geochemistry, with rock chip samples returning up to 19.6g/t gold and 2.16% copper (ASX: 12 March 2020). It has also utilised aspects of the ARC Linkage project such as "green rock alteration" and age dating to refine the subsurface 3D model and provide vectors to the core of the copper and gold mineralisation. This has provided the framework for linking the surface geology and mineralisation within the 15km² KGZ to a unifying model at depth.

This large geophysical survey which also incorporates the reinterpretation of an existing VTEM survey (Versatile Time Domain Electromagnetic), was a significant investment which has produced some very exciting results. In that the copper and gold prospects at the surface are now interpretated as part of a much larger, potentially mineralised system that stretches over 5km from the Nasdaq skarn in the north to the Yards prospect in the south.

This first phase of drilling will consist of four holes for a minimum 2,500 metres and is aimed at testing a variety of targets, with a commencement date ideally later this year but subject to securing a drill rig within the constraints of the COVID requirements.

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This science based, systematic exploration underpins the first phase of drilling which has been lodged as part of a submission for 50% funding of the direct drilling costs to the NSW Government, New Frontiers Cooperative Drilling grant. A decision on whether this submission was successful will be known in the next few months.

## **Drill Target K-IP1 – Yards copper prospect**

Shallow historic drilling in this area has intersected copper and gold (6m at 0.2g/t gold from 36m and 24m at 0.16% copper from 16m in a shallow reverse circulation drill hole: KRC014, ASX 27 August 2020) (Figure 3).

This drill hole (KProp1) will test a large, very strong, depth extensive chargeable and conductive zone (Figure 3) that includes a VTEM anomaly at the surface. Whilst the proposed depth is 850m, the hole may be extended based on intersecting favourable geology and mineralisation. Keeping in mind that these porphyry copper-gold systems can be mined economically well below 1 km from the surface – providing they are of the appropriate scale and grade.

### Drill Target K-IP10 - Target detected in area of no previous drilling

This is a new target that has seen no previous drilling and has very limited surface outcrop. It consists of a depth extensive, very large chargeable anomaly, that sits ~500m SW of the Dolly's North magnetic anomaly (Figure 5C) and adjacent to a deeper 3D magnetic model.

The planned depth of drill hole KProp2 is 500m and aims to test sulphides peripheral to the interpreted magnetic, monzodiorite (Picture 1 and Figure 4).

#### Drill Targets K-IP12 and K-IP7 – Seeking Copper Sulphides Linked to Dolly's North Intrusive Complex

Both of these drill holes aim to test well defined conductivity and chargeability anomalies adjacent to the Dolly's North intrusive complex. Drill holes KProp3 and KProp4 have proposed depths of 350m and 500m respectively and are aimed to test for the presence of sulphides lateral and within the 3D isosurface of the Dolly's magnetic anomaly (Picture 1, Figure 5 and Figure 6).

#### For further information, please contact:

**Rob Bills** 

Managing Director and CEO
E: rbills@emmersonresources.com.au

T: +61 8 9381 7838

Media enquiries

Michael Vaughan, Fivemark Partners E: michael.vaughan@fivemark.com.au

T: +61 422 602 720

This release has been authorised by the Board of Emmerson Resources Limited.

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#### **About Emmerson Resources, Tennant Creek and New South Wales**

Emmerson is exploring across four early-stage gold-copper projects in NSW, identified (with our strategic alliance partner Kenex/Duke Exploration ASX:DEX) from the application of 2D and 3D predictive targeting models – aimed at increasing the probability of discovery. Duke can earn up to 10% (to pre BFS) of any project generated providing certain success milestones are met.

The highly prospective Macquarie Arc in NSW hosts >80Moz gold and >13Mt copper 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 underexplored due to historical impediments, including overlying cover (farmlands and younger rocks) and a lack of effective historic exploration.

Emmerson has a commanding land position and is exploring the Tennant Creek Mineral Field (TCMF), one of Australia's highest-grade gold and copper fields that has produced over 5.5Moz of gold and 470,000t of copper from deposits including Warrego, White Devil, Orlando, Gecko, Chariot, and Golden Forty. These high-grade deposits are highly valuable exploration targets, and to date, Emmerson's discoveries include high-grade gold at Edna Beryl and Mauretania, plus copper-gold at Goanna and Monitor. These discoveries were found utilising new technology and concepts and are the first discoveries in the TCMF for over two decades.

A recent rush of new tenement applications by major and junior explorers in both NSW and Tennant Creek highlight the prospectivity of these regions for copper and gold, and Emmerson's strategic land holding.

#### Regulatory Information

The Company does not suggest that economic mineralisation is contained in the untested areas, the information contained relating to historical drilling records have been compiled, reviewed and verified as best as the Company was able. As outlined in this announcement the Company is planning further drilling programs to understand the geology, structure and potential of the untested areas. The Company cautions investors against using this announcement solely as a basis for investment decisions without regard for this disclaimer.

#### Competency Statement

The information in this release 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 her information in the form and context in which it appears.

#### **Forward-Looking Statements**

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Emmerson Resources Limited's planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "expect," "intend," "may", "potential," "should," and similar expressions are forward-looking statements. Although Emmerson believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that further exploration will result in the estimation of a Mineral Resource.

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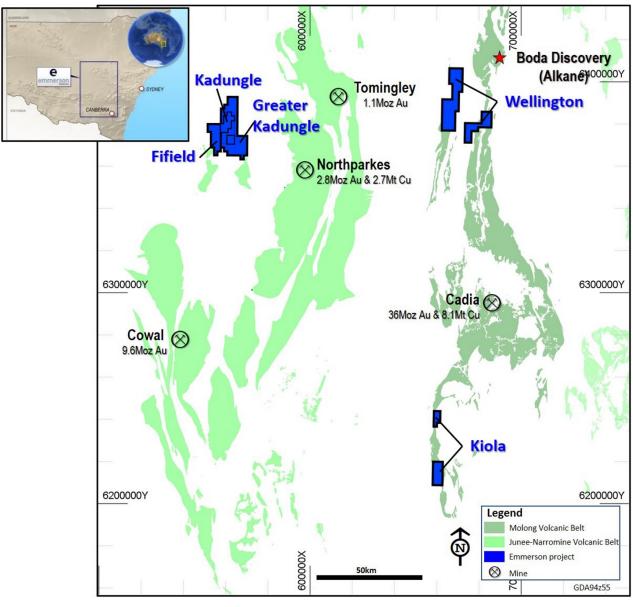


Figure 1. Location of Emmerson's NSW Projects (Lachlan Resources).

The background is from the regional magnetic image representing the Molong and Junee-Narromine Volcanic Belts of the Macquarie Arc.

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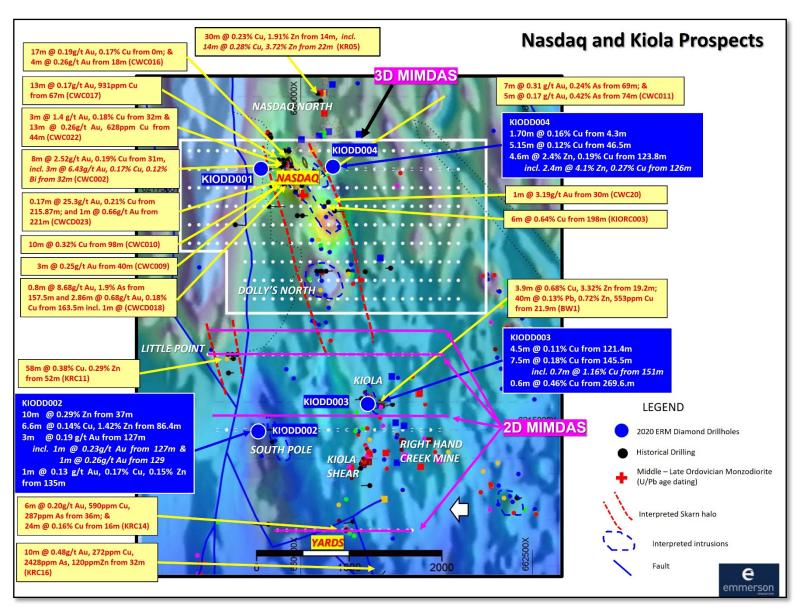


Figure 2: Plan view of the Kiola Geochemical Zone (KGZ) showing historic drill results at the Nasdaq skarn, and the southern South Pole, Kiola, Right Hand Creek Mine (ASX 27 August 2020). Note the background image is the Reduced to Pole Magnetics, with blue colour outlining interpreted Ordovician age intrusions.

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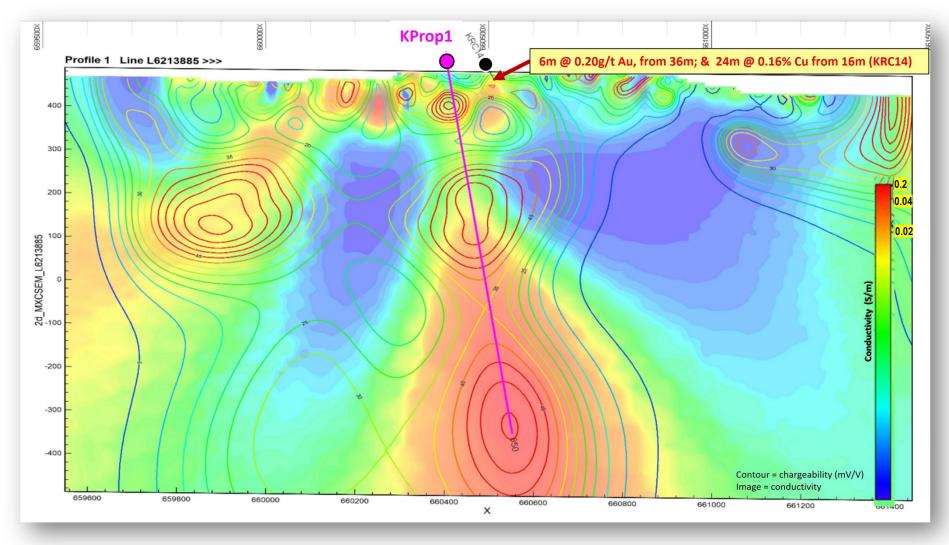


Figure 3: Yards Prospect showing 2D cross section and target K-IP1. Drill hole KProp1 will test the strong, depth extensive chargeable anomalies coincident with large conductive anomaly.

Note shallow historic drill hole KRC14 intersected 6m at 0.2g/t gold from 36m and 24m at 0.16% copper from 16m (ASX 27 August 2020).

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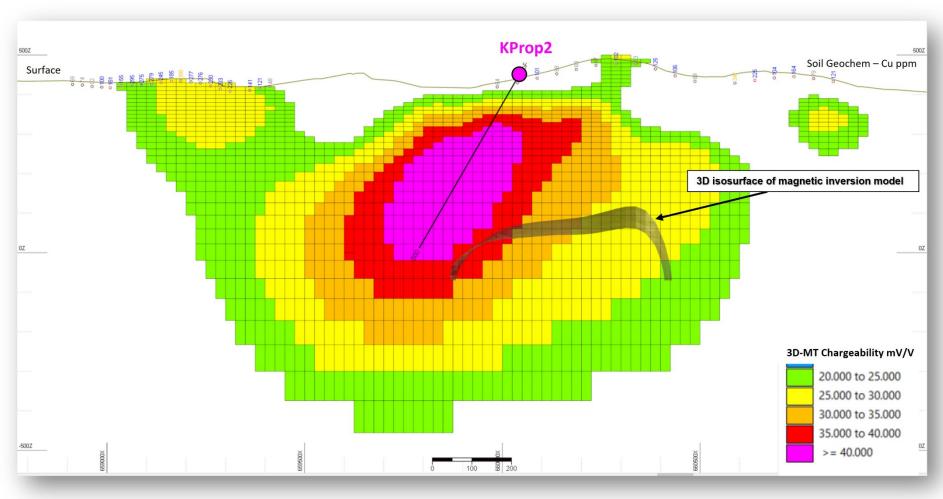
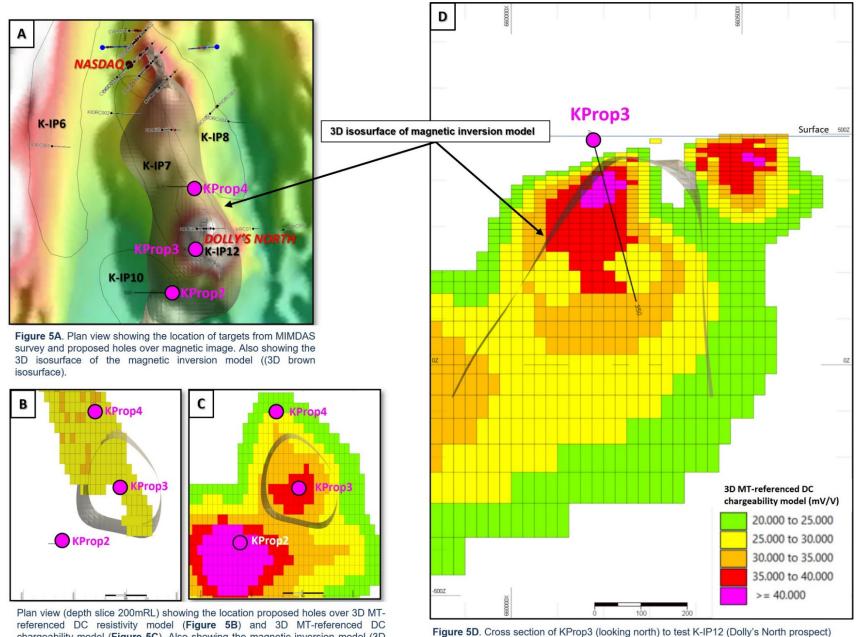


Figure 4: 2D cross section showing target K-IP10. Drill hole KProp2 will test the very strong chargeable anomaly sitting peripheral to an interpreted magnetic body (3D brown isosurface).

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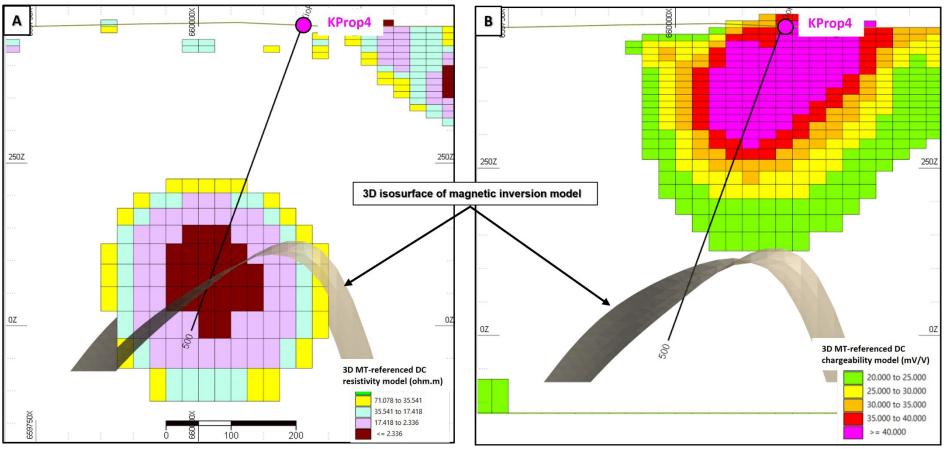
with strong coincident chargeability and magnetic anomaly near surface and conductivity at

depth. Also showing the magnetic inversion model (3D brown isosurface).

chargeability model (Figure 5C). Also showing the magnetic inversion model (3D

brown isosurface)





**Figure 6:** 2D cross section showing target K-IP7. Drill hole KProp4 will test strong coincident conductivity and magnetic anomaly at depth (Figure 6A) and strong chargeability near surface (Figure 6B).

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