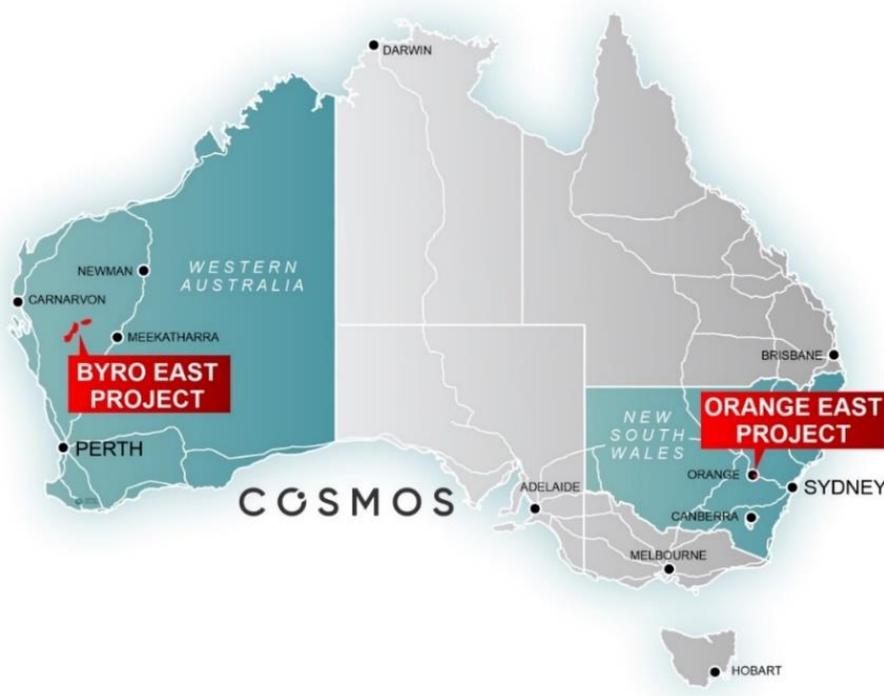


## Multiple high-priority drill targets identified at Byro East Ni-Cu-PGE Project, WA

*AEM anomalies coincident with gravity and magnetic highs and anomalous pathfinders in soils*

### Highlights:

- Highly encouraging results received from final levelled VTEM data from the Airborne Electromagnetic (AEM) survey over the Byro East Project earlier this year.
- Multiple high-priority late-time bedrock AEM conductors identified.
- From the AEM data, 43 VTEM target areas have been identified with 14 being priority-1 targets and AEM-4 & AEM-5 identified as standout drill targets following on-ground field checks which confirmed the presence of outcropping ultramafic rocks in close proximity.
- Several of these Priority-1 AEM anomalies coincide with oblate-shaped gravity highs, magnetic highs, and Ni-Cr-Cu mafic litho-geochemical anomalies in soils, elevating the potential the conductors are related to Ni-Cu-PGE sulphides.
- Ground field checks have been completed with mafic rocks identified in the vicinity of most EM Priority 1 and 2 target sites. Grab samples of mafic lithologies have been collected and will be submitted for whole rock analysis and petrography for further classification.
- The survey utilised the UTS Geophysics VTEM MAXTM time-domain AEM system, flying a total of 2,395-line-km and covering 602km<sup>2</sup> of gneissic-metasedimentary-mafic-ultramafic terrane prospective for magmatic nickel-copper-PGE sulphide-related mineralisation, targeting Julimar and Nova-Bollinger style Ni-Cu-PGE sulphide mineralisation.



*Cosmos Project Location Map*

**Cosmos Exploration (ASX: C1X) (“Cosmos” or “the Company”)** advises that it has received the final levelled VTEM data from airborne geophysical surveys flown earlier this year, highlighting multiple high-priority bedrock Airborne Electromagnetic (AEM) conductors at its 100%-owned **Byro East Ni-Cu-PGE Project** in Western Australia.

The Company now has tenement-wide AEM coverage across the central Byro East Project area, with the AEM dataset proving to be an essential tool for targeting sulphide-rich Ni-Cu-PGE deposits.

**Cosmos Exploration Executive Chairman, Jeremy Robinson, said:**

*“We now have clearly-defined targets to aim a drill rig at and we look forward to testing them in the new year. This puts us in an excellent position to search for major nickel-copper-PGE discoveries in a frontier province and, hopefully, to see the huge value creation that can flow from exploration success.”*

#### **Airborne Electromagnetic survey (AEM)<sup>1</sup>**

Cosmos has received final levelled AEM survey data, highlighting a total of 43 VTEM target areas which have been prioritised based on their EM characteristics, including 14 priority-1, 13 priority-2 and 16 priority-3 target areas.

The priority-1 VTEM targets represent significant isolated conductor anomalies interpreted to be related to conductive sources in bedrock, which could represent accumulations of sulphides enriched in Ni-Cu-PGE metals. Priority-2 and Priority-3 VTEM target areas are still classified to represent isolated bedrock conductors but require additional support in other datasets to substantiate drill testing.

Figure 1 is an RGB late-time EM decay dB/dt Z image of merged channels Ch42-38-36, where hot colours indicate anomalous zones of elevated electrical conductance. Conductor anomalies identified in later VTEM time decay channel data (Ch36-42) are generally related to stronger and deeper electrical sources within the bedrock. Priority bedrock conductors in these data appear as discrete “orange hot spots” and palaeochannels blue-white in colour.

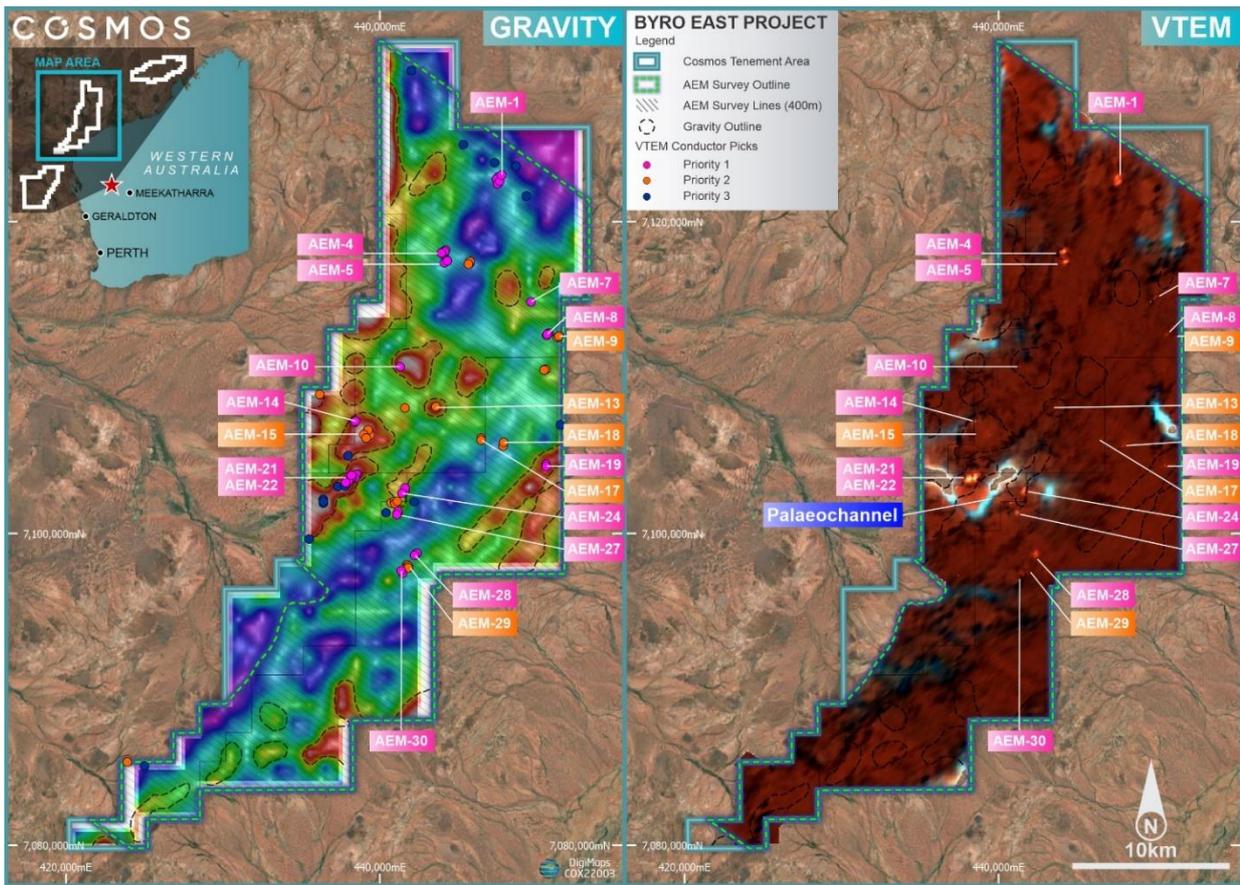
It is highly encouraging to see many conductive anomalies in these data as discrete anomalies. Discrete anomalies are the type of features observed in imaging conductive sulphides deposits; however, these discrete features could also represent other very highly conductive sources such as graphite. It is likely that the only way to determine the source of these anomalies is to drill test. EM conductors that have extended linear trends are commonly associated with conductive stratigraphy (e.g., graphitic shales).

Several of the conductor anomalies, particularly AEM-10, 14, 20 & 22, are coincident with oblate-shaped gravity highs and mafic Ni-Cr-Cu soil geochemistry<sup>2</sup>, which could indicate more significant accumulations of mafic rocks that have been incorporated into the surrounding gneissic country rocks, increasing the importance of these targets when ranking for drill testing (Fig 1 & 2).

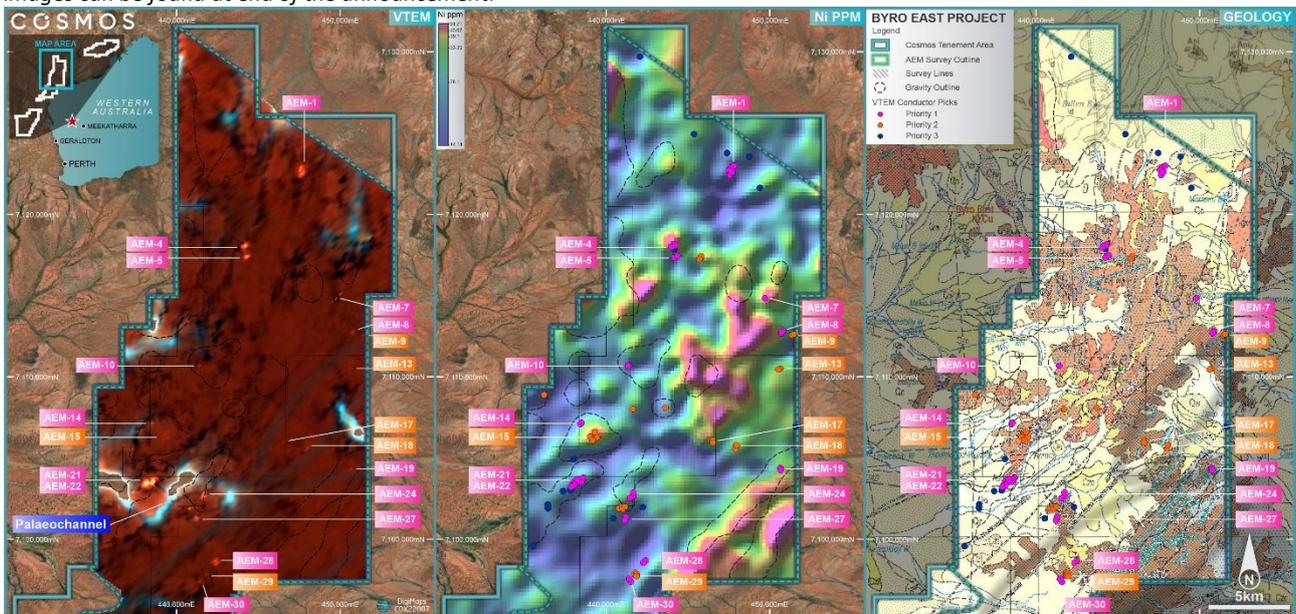
---

<sup>1</sup> Refer to Company ASX announcement “Preliminary VTEM Results at Byro East” on 5 Aug 2022

<sup>2</sup> Refer to ASX announcement “Strong Coincident Ni-Cu-PGE Anomaly identified at Dottyback” on 4 April 2022



**Figure 1** – Locations of Priority 1, 2 & 3 VTEM conductor picks (clusters) over Gravity (left) and RGB late-time EM decay dB/dt Z image of merged channels Ch42-38-36 (right). Priority 1 & 2 bedrock conductors appear in the VTEM decay image as discrete “orange hot spots”. Palaeochannels appear as blue-white coloured areas. More information on the interpretation of RGB decay images can be found at end of the announcement.



**Figure 2** – Locations of Priority 1 and 2 AEM target areas over RGB late-time EM decay dB/dt Z image of merged channels Ch42-38-36 (left), Ni gridded image (middle), and GSWA 1:250,000 scale outcrop geology map (right) which shows transported regolith as cream-coloured areas. Note: the transported regolith commonly correlates with a subdued geochemical response likely suggesting the soil geochemistry is ineffective in these transported areas rather than the absence of any underlying mafic rocks.

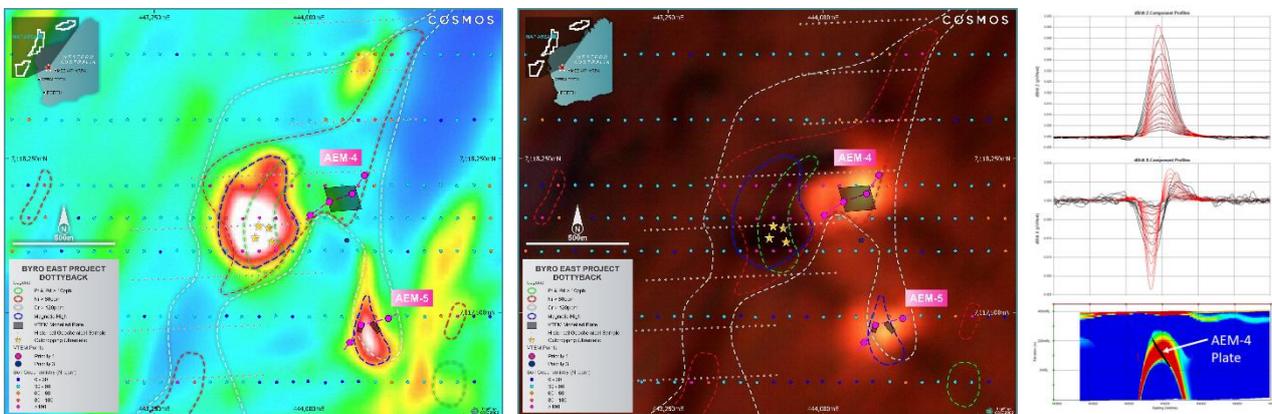
EM conductor plate modelling has been completed for four high-priority VTEM target areas, AEM-4, AEM-5, AEM-21 and AEM-22, to better understand the source bodies' depth, geometry and conductance, with additional modelling of other high-priority VTEM target areas ongoing.

AEM-4 (Fig 3) is characterised by discrete and highly conductive VTEM anomaly clusters trending NE-SW for a combined strike length of 350 m. A single steeply NE dipping EM conductor plate was modelled for AEM-4 with dimensions 120m x 380m, a conductance of 250S, and the top of the plate at ~36m below ground level.

The plate occurs to the east of outcropping ultramafics within the broader Ni-Cu-Cr soil geochemical signature<sup>3</sup> overlying gneissic granite. The ultramafics are interpreted to dip easterly under the gneissic granite towards the modelled depth position of AEM-4 & AEM-5 conductors.

VTEM target area AEM-5 (Fig 3) is more complex and a highly conductive VTEM anomaly with clusters trending NE-SW for a combined strike length of 250m and modelled using two steeply SW dipping EM conductor plates.

The western plate has dimensions 50mx 100m, a conductance of 500S, and the top of the plate at ~34m below ground level. The eastern plate was modelled with dimensions 58m x 165m, a conductance of 400S and with the top of the plate at 38m below ground level. The VTEM target area is located proximal to an N-S trending magnetic unit, possibly imaging a BIF however, it is still considered a drill target given the mafic Cr signature and the close proximity (<1km) to outcropping ultramafic. Both AEM-4 & AEM 5 represent a high-priority target for drill testing or ground-based EM surveys to better define the source geometry and electrical conductance.



**Figure 3** – Locations of AEM-4 & AEM-5 conductor picks (clusters), plate modelling, soil geochemistry over tmirtp magnetics (left), Merged RGB Ch42-38-36 late-time EM decay dB/dt Z image (middle) and AEM-4 modelling dB/dt Z component (top right), dB/dt X component with double peak (middle right) and CDI with modelled plate (bottom right).

<sup>3</sup> Refer to ASX announcement “Strong Coincident Ni-Cu-PGE Anomaly identified at Dottyback” on 4 April 2022

All Priority 1 & 2 anomalies have been field checked and, except AEM-7, do not relate to cultural artefacts such as metal tanks or fences. Field grab samples of mafic rocks in the vicinity of the AEM conductors have been collected for whole rock analysis and petrography for further classification to help distinguish from altered dolerites.

The additional geochemical and petrography results, in addition to relationships of the conductor with gravity highs (potentially representing a more significant accumulation of mafic host rocks), magnetic highs (possibly imaging serpentinised host ultramafics units) and ternary RGB radiometric lows (potentially imaging mafic host rocks), will assist in the drill ranking and drill order of targets.

### Next Steps

Due to unforeseen delays in receiving the final levelled data, the window to complete further work for drilling has closed due to the onset of summer from December to March. During summer, temperatures frequently rise above 40°C at the Byro East Project, resulting in a shut-down over this period for the safety of personnel.

Plate modelling will continue in the short term, and on-ground activities are expected to resume in March with heritage surveys being undertaken in anticipation of the maiden drilling campaign in Q2 2023 (subject to statutory government approvals).

As announced recently, Cosmos will start the first of two drill campaigns in Orange NSW at the end of Jan/start of February 2023, drill testing the Quintons Prospect for orogenic gold approximately 10km along strike from the +2Moz McPhillamys Gold Deposit owned by Regis Resources.

### Interpretation of RGB Ternary Decay Image

In any ternary RGB decay image, red indicates the later EM decay channel related to stronger and deeper conductors, blue indicates the earlier decay channel related to weaker and shallower sources, and green is in the middle. White areas are related to overlapping anomaly patterns between all three channels, and black areas suggest electrically resistive zones.

Therefore, a conductor trend that transitions from blue on one side to red on the other side indicates a dipping conductor source, where red is on the down dip side. Broad conductor anomalies with dendritic patterns that are blue on the outside and become red or white in the centre suggest paleochannel conductors where the deepest parts of the paleochannel are detected in the later EM decay channels.

### Byro East VTEM Survey – Background

The helicopter-borne EM survey completed by Cosmos over the Byro Project during June-July 2022 utilised UTS Geophysics' Versatile Time-Domain Electromagnetic (VTEM) MAXTM system, comprising 2,395 line-kms of TDEM and magnetic data flown along NW-SE orientated survey lines using a maximum line spacing of 400m<sup>4</sup>.

Additional in-fill survey lines were acquired using 200m and 100m line spacings over high priority AEM anomalies coinciding with, or proximal to, gravity anomaly highs and/or strong lithochemical anomalies.

---

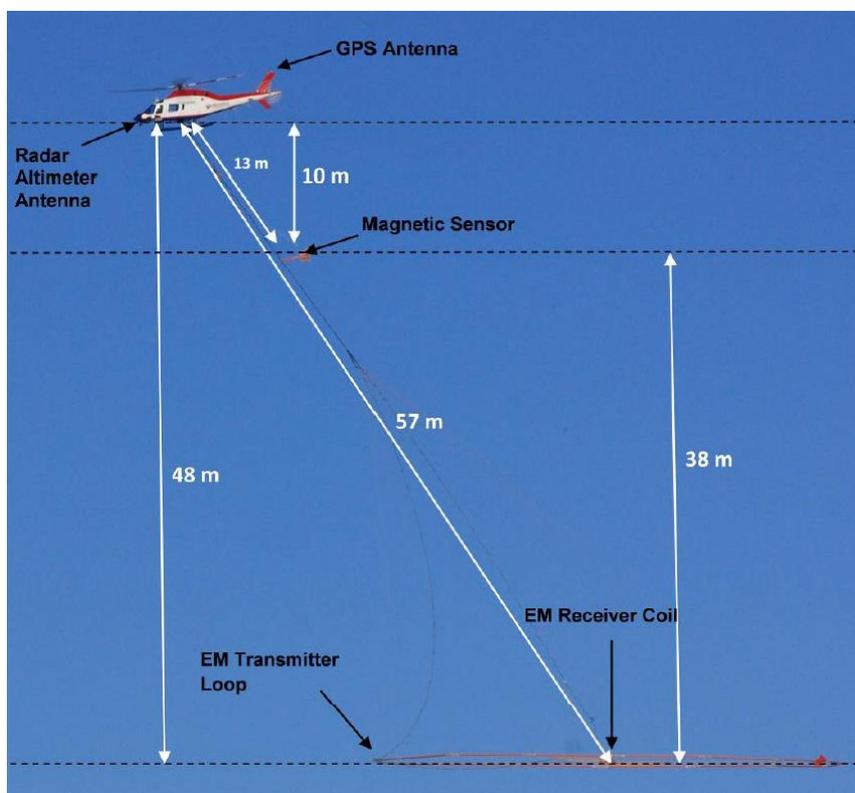
<sup>4</sup> Refer to Company ASX announcement "Preliminary VTEM Results at Byro East" on 5 Aug 2022

**Background – VTEM Survey Method**

Geotech Ltd’s (Geotech) helicopter-borne versatile time-domain electromagnetic (VTEM) survey system uses a circular electromagnetic (EM) transmitter loop (Tx) slung below a helicopter to produce a large primary EM field.

This primary EM field induces an electrical current in electrically conductive bodies in the ground and on land surface, such as graphitic shales, massive sulphide mineral deposits (especially those containing pyrrhotite), conductive regolith features and manmade metallic structures, which create secondary EM fields that can be measured by the EM receiver (Rx) coils oriented in co-planar (Z) and co-axial (X) configurations, which measure the dB/dt EM decay response.

Correction filters are applied by Geotech to the X Rx component data to convert the inflection point of sinusoidal “cross-over” anomalies to single peaks and compensate for opposing flight line directions between adjacent survey lines. The EM Rx coils are located inside of the Tx loop frame and measure the secondary EM fields coming from the ground, which are binned into a series of EM decay time windows, or channels, over an approximate 13ms decay “off time” recording period. EM anomalies from strong conductors in the ground, such as nickel sulphide deposits, take a longer time to decay, whereas weaker conductors, such as shallow regolith cover, generally decay in a shorter time. Therefore, a “late time” EM anomaly suggests a strong and possibly deep bedrock conductor source, and an “early time” anomaly indicates a weak and potentially shallow conductor source in the regolith. For large and dipping EM conductors, EM anomalies from the deeper parts of the conductive body will take a longer time to decay compared to the shallower parts of the conductor, and therefore the relative dip directions of bedrock conductor sources can be determined from asymmetric EM anomaly patterns.



**Figure 4 – VTEM Plus survey system schematic showing relative locations of eh towed Tx and Rx coils, and magnetic sensor**

**Background – Byro East Project**

Byro East is a greenfields mineral exploration project and one of the most extensive under-explored landholdings not held by Chalice Mining Ltd (Chalice) (ASX: CHN) within the West Yilgarn high grade gneiss Ni-Cu-PGE province, comprising a substantial land holding of over >1,600km<sup>2</sup> prospective for intrusion-related Ni-Cu-Co-Au-PGE mineralisation (Figure 5).

The discovery of the Gonnevile (Julimar) PGE-Ni-Cu-Co-Au deposit by Chalice in March 2020 has demonstrated that the western margin of the Yilgarn craton is highly prospective for intrusion-related Ni-Cu-PGE deposits that can host large >10 Moz (Pt+Pd+Au) Tier-1 deposits<sup>5</sup>.



Figure 5: West Yilgarn Ni-Cu-PGE province.

**This announcement has been authorised by the Board of Cosmos Exploration Limited.**

<sup>5</sup> Refer to Chalice Mining Ltd (ASX: CHN) announcement 9 November 2021

**For further information please contact:**

**Jeremy Robinson**  
**Executive Chairman**  
**Cosmos Exploration Limited**  
[jeremy@cosmosx.com.au](mailto:jeremy@cosmosx.com.au)

Media Inquiries:  
Nicholas Read – Read Corporate  
M: 0419 929 046

**About Cosmos Exploration**

**Cosmos Exploration (ASX: C1X)** is an ASX listed and Australian focussed Nickel-Copper-PGE and Gold-Copper explorer focussed on making world class discoveries at both its highly prospective Byro East Nickel-Copper-PGE Project located in Western Australia and Orange East Gold Project located in New South Wales.

Byro East (100% Cosmos) was identified by RareX prior to the Julimar Discovery and has potential for mafic-ultramafic intrusion related nickel-copper and PGE mineralisation.

Orange East (75% Cosmos) is an advanced exploration project located on the boundary between the Molong Arc and Hill End Trough within the Lachlan Fold Belt, a major mineral province, within a similar geological setting and along strike from the multi-million-ounce McPhillamys Gold Mine.

**Competent Person Statement**

This report's information related to Exploration Results is based on information and data compiled or reviewed by Mr Kristian Hendricksen. Mr Hendricksen is an employee and shareholder of Cosmos Exploration Limited (Cosmos) and is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM).

Mr Hendricksen has sufficient experience relevant to the style of mineralisation under consideration and to the activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Accordingly, Mr Hendricksen consents to the inclusion of the matters based on the information compiled by him, in the form and context it appears.

Information on historical results outlined in this announcement is contained in the Independent Geologist Report within Cosmos' Prospectus dated 20 September 2021, released in an ASX announcement on 29 November 2021.

The Company confirms that it is not aware of any new information or data that materially affects the information in the relevant ASX releases. The form and context of the announcement have not materially changed. This announcement has been authorised for release by the Board of Cosmos Exploration Ltd.