ASX RELEASE | 5 August 2022 **| ASX:C1X**

COSMOS

Multiple high-priority, late-time bedrock VTEM conductors identified at Byro East Ni-Cu-PGE Project

Ground field checks and electromagnetic (EM) source plate modelling underway, drilling to commence in October 2022

Highlights:

- **Preliminary data has been received from recently completed VTEM Airborne Electromagnetic survey (AEM) over the Byro East Ni-Cu-PGE project in the West Yilgarn nickel province in WA.**
- **A total of 31 mid-to-late-time, high-priority bedrock EM conductors were identified.**
- **The survey utilised the UTS Geophysics VTEM MAX™ time-domain AEM system, flying a total of 2,395-line-km and covering 602km^2 of gneissic-mafic-ultramafic terrane prospective for magmatic nickel-copper-PGE sulphide-related mineralisation.**
- **The survey targeted Julimar and Nova-Bollinger style Ni-Cu-PGE sulphide mineralisation forming electrically conductive targets.**
- **Several Priority-1 AEM anomalies coincident with pipe-like gravity highs, magnetic highs and Ni-Cr-Cu mafic litho-geochemistry anomalies in soils have been identified and will be targeted for immediate follow-up field work.**
- **Ground field checks and preliminary EM source plate modelling is underway.**
- **Final VTEM survey data results to be announced in four weeks once final levelled data are received from UTS.**
- **Drilling of AEM targets anticipated to commence in October, pending final plate modelling, Heritage clearances and statutory approvals.**



Figure 1 –VTEM MAX AEM survey system in operation, image courtesy of UTS (Geotech).

Cosmos Exploration (ASX: C1X) ("Cosmos" or "the Company") advises that it has identified multiple high priority bedrock Airborne Electromagnetic (AEM) conductors at its 100%-owned **Byro East Ni-Cu-PGE Project** in Western Australia after receiving highly encouraging preliminary data results from a recently completed VTEM AEM survey.

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 exploring and targeting sulphide-rich Ni-Cu-PGE deposits.

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

"*The preliminary results from this AEM survey have exceeded our expectations, defining multiple high-priority targets having coincident geochemical and gravity anomaly signatures which we are excited to progress to the next stage. We undoubtedly have some first-class Ni-Cu-PGE sulphide drill targets to test in an under-explored terrain of WA that forms a high-grade gneissic belt with known ultramafic related source rocks in a similar setting to the Chalice Gonville discovery to the south-west.*

"Ground truthing and follow-up exploration is underway, along with modelling of the AEM targets to generate source bodies as EM conductor plates for drill-hole planning for a landmark drilling campaign scheduled to kick off in October this year."

Airborne Electromagnetic survey (AEM)

A 2,395-line kilometre AEM survey utilising the UTS (Geotech) VTEM Max^{TM} system has now been completed over the central project tenure covering an area of 602km^2. The VTEM survey targeted sulphide-rich Ni-Cu-PGE-related mineralisation over priority target areas identified from the recently acquired ground gravity, regional surface geochemistry and airborne magnetic datasets (Figures 2 and 3).

Flight lines were spaced at 400m and in-filled over priority target areas to 200m and 100m over priority bedrock conductors.

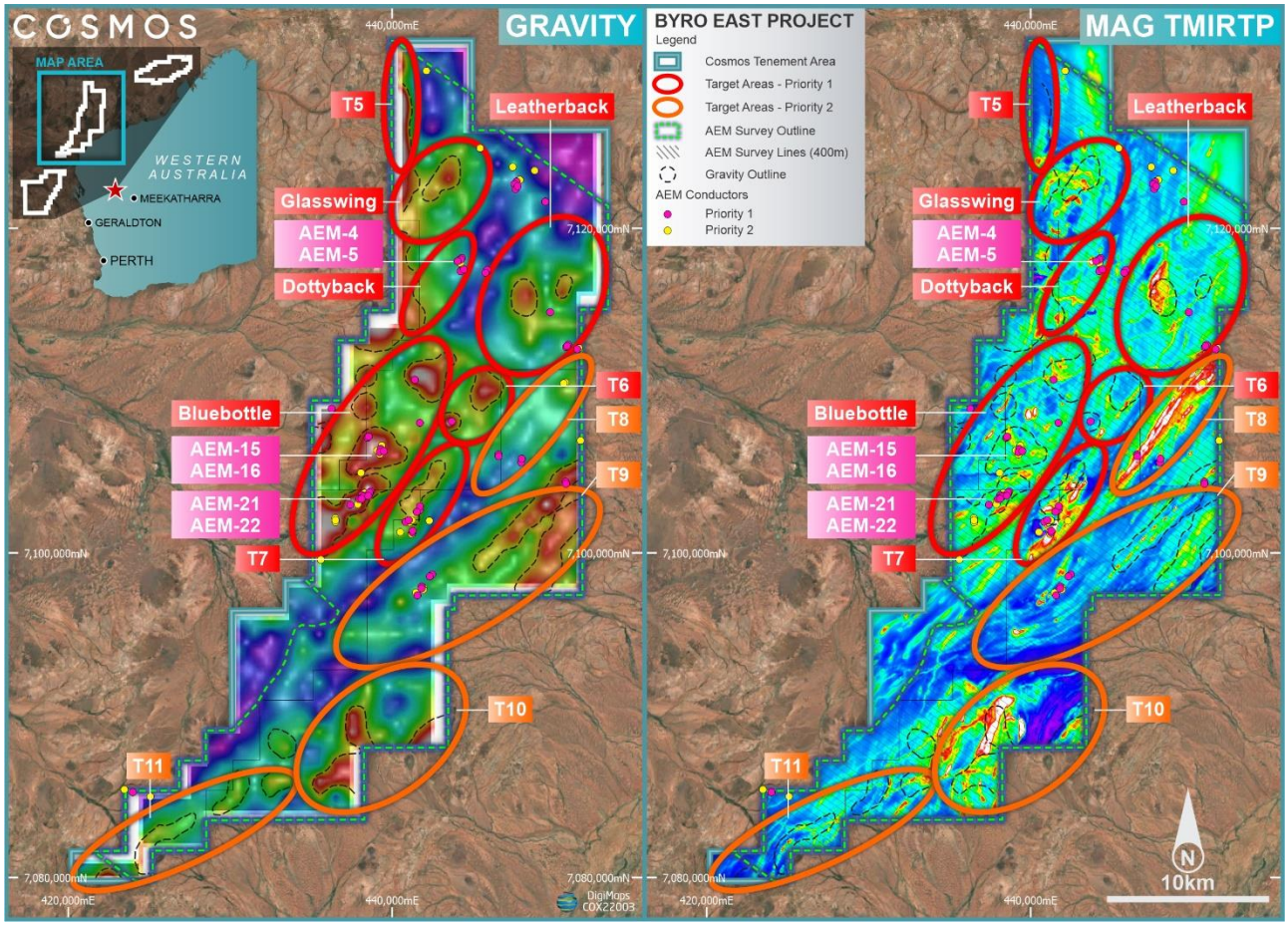


Figure 2 – Locations of Priority 1 and 2 AEM conductor target areas, priority regional target areas over gravity (left) and magnetic (right) anomaly images. Note: EM conductive depth slices are not displayed in this announcement as final levelled data is required which is expected to be received from UTS in ~4 weeks.

These VTEM survey results have been highly encouraging, with 31 late-time bedrock conductors (Priority 1) identified in preliminary VTEM survey data and 32 early-to-mid-time (Priority 2) conductors identified (Figures 2 & 3). Bedrock conductors are of particular interest as these may represent direct detection of sulphide minerals associated with target Ni-Cu-PGE mineralisation.

Numerous Priority 1 anomalies coincide with oval to oblate-shaped gravity highs in the central and western parts of the survey area. Cosmos believes these gravity highs likely represent more significant accumulations of denser mafic-ultramafic host lithologies that have been incorporated into the Archean gneissic country rock, increasing the exploration potential for magmatic sulphide related mineralisation in these areas.

In areas of outcrop, several gravity highs show positive responses in mafic-ultramafic Ni-Cu-Cr soil geochemistry, strengthening the exploration concept that the gravity highs relate to increases in mafic composition within the country rock. This correlation will help elevate the ranking of AEM anomalies proximal to gravity highs where the surface geochemistry has been ineffective in transported covered terranes at the Bluebottle and T7 prospects (Figure 3).

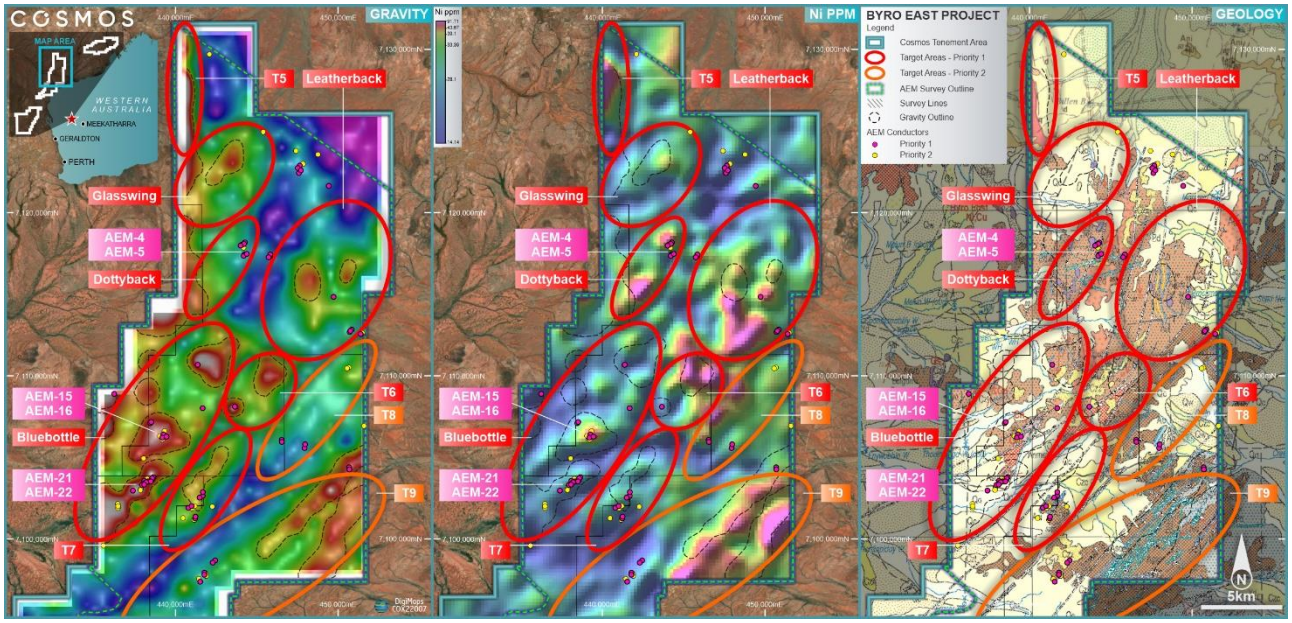


Figure 3 – Locations of Priority 1 and 2 AEM target areas over gravity (left), Ni gridded image (middle), and GSWA 1:250,000 scale outcrop geology map (right) which shows abundant transported regolith covered areas in cream-yellow.

Two of the six standout late-time bedrock AEM anomalies are AEM-4 and AEM-5, which are located at the Dottyback prospect. These anomalies coincide with mafic Ni-Cr soil geochemistry and occur across multiple 100m flight lines (Figures 3 & 4).

This area was initially identified in April 2022 as being a significant area of interest in which soil sampling confirmed mafic lithologies coincident with a pipe-like, magnetic "bull's eye" feature (see Company ASX announcement on 4 April 2022)

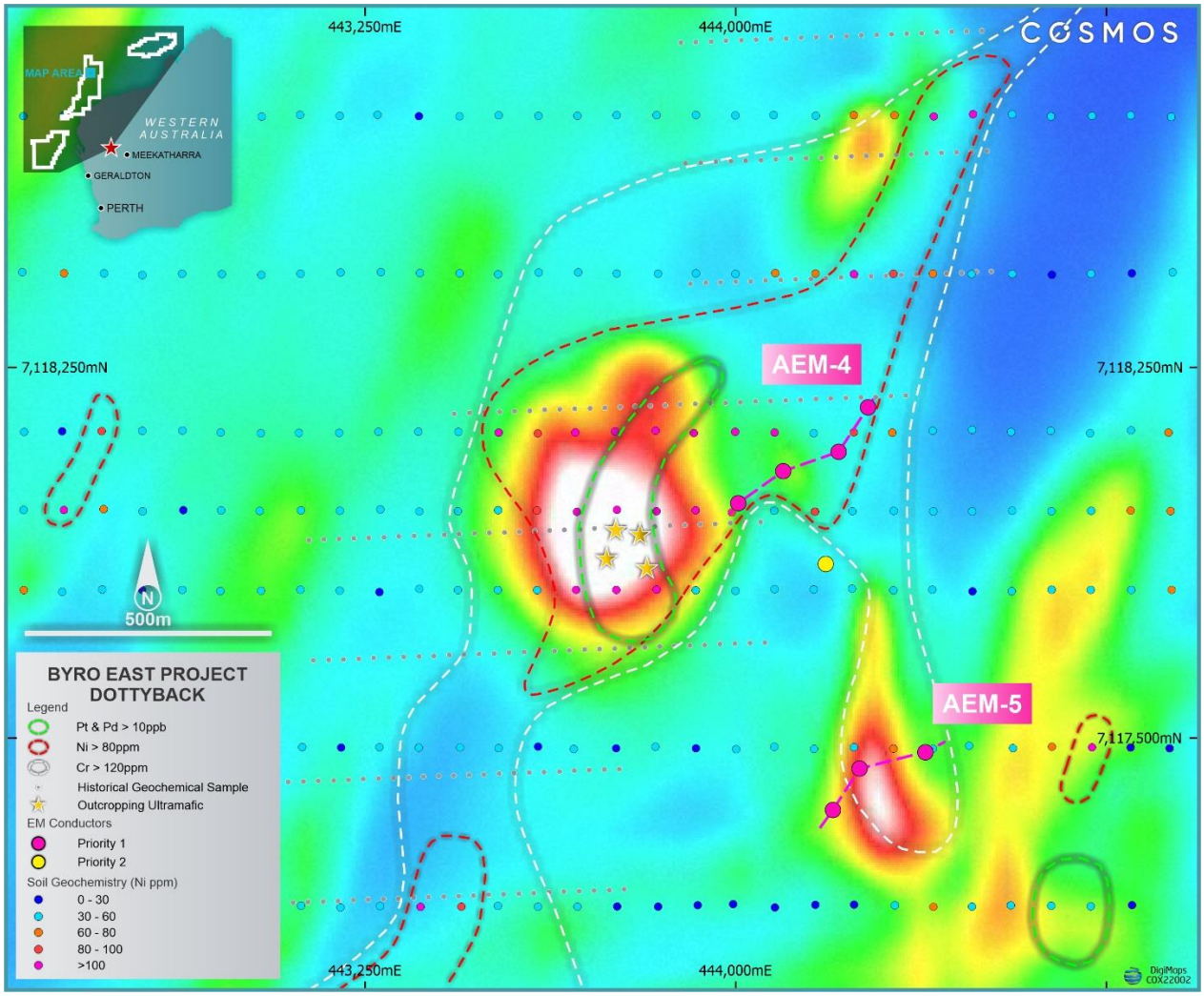


Figure 4 – Dottyback AEM-4 and AEM-5 target anomaly areas with surface Ni geochemistry outlines over magnetic image (tmirtp) highlighting a coincident bull's eye magnetic anomaly.

Next Steps

On-ground field checks are currently underway along with preliminary AEM anomaly source plate modelling to assess the geometry, depth and conductance of the sources of high priority AEM anomaly target areas.

Once this initial work has been completed, the AEM anomalies will be ranked and prioritised for drill testing, anticipated to commence in October this year, pending statutory government and Heritage approvals.

Background – Byro East Project

Byro East is a greenfields mineral exploration project and one of the most extensive under-explored land-holdings 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^2 prospective for intrusion-related Ni-Cu-Co-Au-PGE mineralisation (Figure 5).

The discovery of the Gonneville (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 [1].

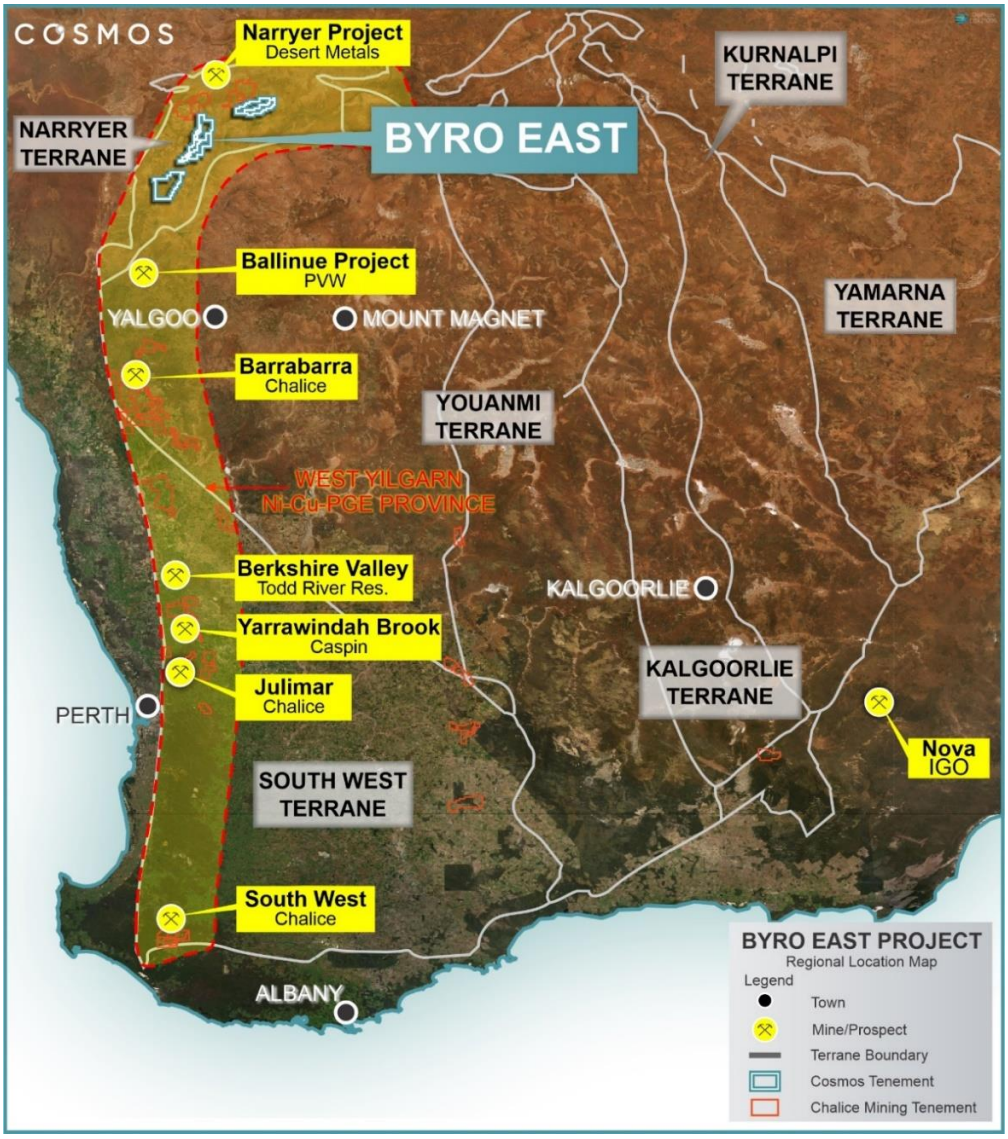


Figure 5: West Yilgarn Ni-Cu-PGE province.

[1] Refer to Chalice Mining Ltd (ASX: CHN) announcement 9 November 2021

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

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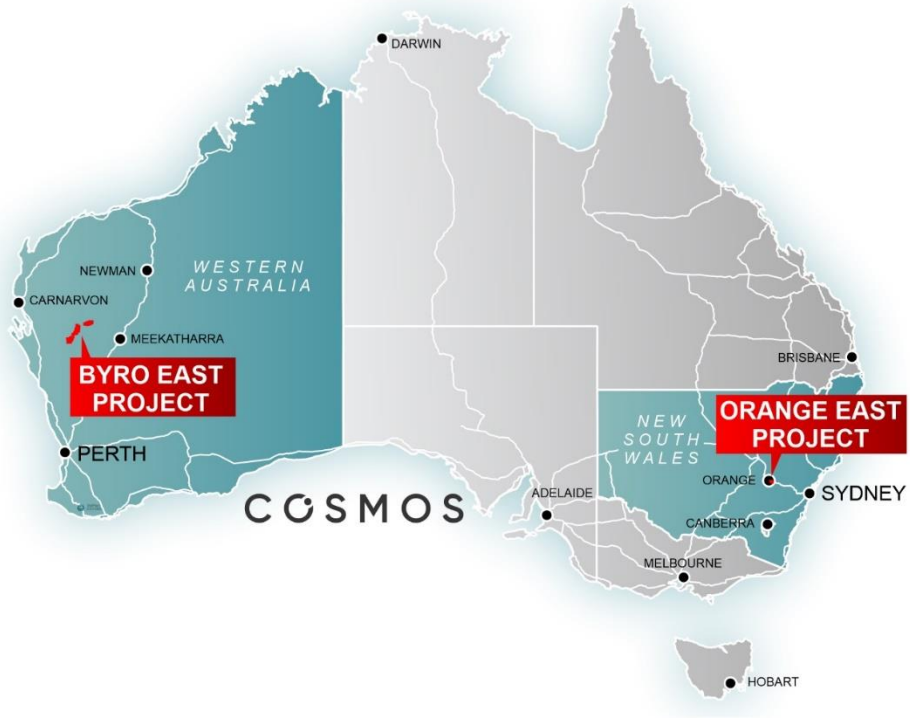
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About Cosmos Exploration

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.



Project Location Map

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.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The VTEM Max survey (Versatile Time Domain Electro Magnetic) was flown by UTS Geophysics Pty Ltd. Heliborne magnetic and electromagnetic data was acquired with VTEM Max transmitter frequency of 25Hz, loop diameter 34.6m and mean terrain clearance height of 35m. Line spacing was 400m with 200m & 100m infill over priority areas.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	N/A – No Drilling Undertaken

Criteria	JORC Code explanation	
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	N/A – No Drilling Undertaken
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	N/A – No Drilling Undertaken
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	N/A – No Drilling Undertaken
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	N/A – No Drilling Undertaken
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	N/A – No Drilling Undertaken
	The total length and percentage of the relevant intersections logged.	N/A – No Drilling Undertaken
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	N/A – No Drilling Undertaken

Criteria	JORC Code explanation	
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	N/A – No Drilling Undertaken
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	N/A – No Drilling Undertaken
	Quality control procedures adopted for all subsampling stages to maximise representivity of samples.	N/A – No Drilling Undertaken
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	N/A – No Drilling Undertaken
	Whether sample sizes are appropriate to the grain size of the material being sampled.	N/A – No Drilling Undertaken
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	VTEMTM Max system specification: Transmitter • Transmitter loop diameter: 34.6 m • Effective Transmitter loop area: 3761 m2 • Number of turns: 4 • Transmitter base frequency: 25 Hz • Peak current: 172.4 A • Pulse width: 7.36 ms • Wave form shape: trapezoid • Peak dipole moment: 648,394 nIA • Average transmitter-receiver loop terrain clearance: 35 metres Receiver X Coil diameter: 0.32 m • Number of turns: 245 • Effective coil area: 19.69 m2 Y Coil diameter: 0.32 m • Number of turns: 245 • Effective coil area: 19.69 m2 Z-Coil diameter: 1.2 m • Number of turns: 100

Criteria	JORC Code explanation	
		• Effective coil area: 113.04 m2 The magnetic sensor utilized for the survey was Geometrics optically pumped cesium vapour magnetic field sensor mounted 10 metres below the helicopter. The sensitivity of the magnetic sensor is 0.02 nano Tesla (nT) at a sampling interval of 0.1 seconds.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All data relating to AEM conductors in this report have been produced and reviewed by geophysical consultants, Resource Potentials.
	The use of twinned holes	
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	
	Discuss any adjustment to assay data.	
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	The navigation system used was a UTS PC104 based navigation system utilizing a NovAtelWAAS (Wide Area Augmentation System) enabled GPS receiver, UTS navigate software, a full screen display with controls in front of the pilot to direct the flight and a NovAtel GPS antenna mounted on the helicopter tail (Figure 6). As many as 11 GPS and twoWAAS satellites may be monitored at any one time. The positional accuracy or circular error probability (CEP) is 1.8 m, with WAAS active, it is 1.0 m. The co-ordinates of the block were set-up prior to the survey and the information was fed into the airborne navigation system. .
	Specification of the grid system used.	WGS84 UTM Zone 50S

Criteria	JORC Code explanation	
	Quality and adequacy of topographic control.	
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Line spacing was 400m with 200m & 100m infill over priority areas.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	N/A – No Resource estimation was completed
	Whether sample compositing has been applied.	N/A
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Flight lines were orientated on an Azimuth of 125-305 degrees SE-NW, mostly perpendicular to interpreted geology
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	N/A – No Drilling Undertaken
Sample security	The measures taken to ensure sample security.	All data was collected under strict security measure by UTS Geophysics Pty Ltd and monitored by Resource Potentials

Criteria	JORC Code explanation	
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Data audits and processing reviews were undertaken daily by UTS geophysics and verified by geophysical consultants, Resource Potentials. Data was interpreted by Resource Potentials to be of high quality.
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The project is located approximately 300 km southeast of the township of Carnarvon in the Gascoyne region. The project comprises five granted exploration licences held by RareX Ltd("ELs") and two ungranted Exploration Licences ("ELAs") held by Cosmos Exploration Ltd. RareX has given exclusive rights for Cosmos to undertake all approved exploration on tenure held by RareX at the Byro East Project. - E09/2386 - E09/2387 - E09/2408 - E09/2409 - E09/2443 - ELA09/2525 - ELA092527 Aboriginal Heritage Access Agreements are in place for - E09/2386 - E09/2408 - E09/2409
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	All tenements are in good standing with three tenements having an existing Aboriginal Heritage Access Agreements in place. No Mining Agreement has been negotiated.

Criteria	JORC Code explanation	
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Byro East Project has been explored for Ni-Cu and gold mineralisation since the discovery of outcropping Ni-Cu gossans in 1970. The project area has been subject to sporadic and fragmented exploration in the past by various explorers. Exploration work has concentrated on outcropping or sub-cropping areas and is predominantly restricted to rock chip, stream sediment or surface geochemical sampling. The only gridded soil survey completed prior to 2021, was completed by Jododex in 1972. A total of two reverse circulation drill holes and two ground EM surveys are known within the project area, in addition to surface geochemical sampling.
Geology	Deposit type, geological setting and style of mineralisation.	The Project is located in the Narryer Terrane which forms the north western corner of the Yilgarn Craton. Geology consists of high-grade metasedimentary rock predominately quartzo feldspathic gneisses and migmatites with amphibolite's quartzites, Banded Iron Formations (BIF), felsic volcanics and layered mafic- ultramafic intrusions. The mafic-ultramafic intrusive's vary from large well layered quartz gabbro to olivine cumulate; to lenses of amphibolite. The mafic/ultramafic lithologies that are the hosts to Ni-Cu-PGE sulphide mineralisation and have been the main targets for exploration. The Byro East project is considered prospective for accumulations of massive, matrix and disseminated Ni-Cu-PGE sulphides, both within the mafic-ultramafic complex and as remobilised bodies in the country rocks.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	N/A – No Drilling Undertaken

Criteria	JORC Code explanation	
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	Preliminary conductivity & resistivity depth slices have been omitted due to the poor quality. These images will be produced once final levelled data is received from UTS in approximately 4 weeks.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	No weighting has been applied.
	Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	No aggregated results are reported
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are reported.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	N/A – No Drilling results were reported

Criteria	JORC Code explanation	
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures in body of text.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All relevant exploration data is reported.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	All relevant exploration data is reported
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Cosmos Exploration is continuing exploration on several prospects, pending the results of the AEM survey further work may include Heritage survey, drilling and additional soil sampling