



19 DECEMBER 2022
ASX RELEASE

MINJINA DRILLING IDENTIFIES MULTIPLE ZONES OF BASE METAL MINERALISATION

HIGHLIGHTS

- Nine-hole, 1,627 m RC drilling program completed at Minjina within the Company's 100%-owned Yamarna Project
 - Drilling successfully intersected multiple zones of 'Mt Venn style' copper (Cu) and base metals (nickel-cobalt) mineralisation associated with massive and disseminated sulphides in holes MIRC004 and MIRC008
 - The presence of Mt Venn mineralisation at Minjina potentially extends the strike length of the shallow Mt Venn Cu-Ni-Co system from 1.5km to +2.4km to the North
 - pXRF data in hole MIRC003 confirmed a 49m-wide zone of Zn mineralisation from 41m downhole
 - MIRC003 was drilled ~80m east of historical hole 17MVR004 which intersected:
 - 12m @ 0.8% Zn, 3.3g/t Ag & 0.16% Pb from 48m, including 2m @ 2.13% Zn, 3.56g/t Ag & 0.39% Pb from 58m
 - The Zn mineralisation intersected in MIRC003 is inferred to 'overprint' the Mt-Venn style mineralisation in MIRC008, validating the Company's interpretation of a new deposit style in the Yamarna Project
 - Laboratory assay results expected early January with further downhole and surface geophysical surveys planned in preparation for a follow up drilling campaign in Q1 CY23
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Cosmo Metals Ltd ("Cosmo" or the "Company") (ASX: CMO) is pleased to announce that the first phase of RC drilling has been completed at the Minjina Prospect, approximately 900m north of Cosmo's Mt Venn copper-nickel-cobalt deposit within the Yamarna project, which is located ~150km east of Laverton in the Eastern Goldfields of Western Australia.

Cosmo's Managing Director, James Merrillees commented:

"The Cosmo team is excited by the results from the first phase of drilling at Minjina. The confirmation of a thickening zone of zinc mineralisation 80 metres from historical hole 17MVR004 is a vindication of the Company's targeting approach."

Although not all holes drilled intersected modelled conductors the ability to mobilise a DHEM crew while we were drilling allowed us to use these holes as 'platforms' leading directly to the discovery of blind Mt Venn-style massive sulphide in MIRC008, which is open."

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Shares on Issue: 50.5M
Market Cap: \$6.3M (at \$0.13)
Cash: \$2.1M (at Sep 30 2022)



We eagerly anticipate laboratory results to support the pXRF data, which will be used to develop our targeting model, and we look forward to getting back out in the field at Minjina with geophysical crews and drill rigs early in the New Year."

The nine-hole (1,627m) program successfully intersected broad zones of massive to semi massive sulphides with copper (Cu) and nickel (Ni)-cobalt (Co) mineralisation analogous to Mt Venn, in holes MIRC004 and MIRC008.

Hole MIRC003 intersected a broad (49m) wide zone of elevated Zn mineralisation from 41m downhole confirmed by portable X-ray fluorescence (pXRF) analysis*. Visual logging of MIRC003 by the Company's geologists did not identify sulphides in this zone except for a rare-trace red mineral interpreted to be sphalerite due to the elevated pXRF readings.

MIRC003 was designed to follow up the original historical intersection hole 17MVRC004 which included:

- 12m @ 0.8% Zn, 3.3g/t Ag & 0.16% Pb from 48m, *including*
 - 2m @ 2.13% Zn, 3.56g/t Ag & 0.39% Pb from 58m

*** pXRF Cautionary Statement**

pXRF data is used as an exploration tool and a guide only and should never be considered as a proxy or substitute for laboratory analysis. pXRF measurements recorded are for a single spot only and may not be representative of the entire interval being measured. Cosmo will update shareholders when laboratory analyses become available.

ANALYSIS AND DISCUSSION

Cosmo's November-December RC drill program comprised nine holes totalling 1,627m, however one hole (MIRC006) was abandoned short of the target depth due to difficult ground conditions and MIRC007, collared 10m west of MIRC006, was abandoned at 19m when the hole collapsed. Preliminary results from the program are summarised in Figure 1 and Table 1.

Overall, the program focussed on two target areas:

1. **Mt Venn style Cu-Ni-Co** (massive sulphide associated) mineralisation defined by two strong electromagnetic conductors identified by the Company's October 2022 ground geophysical program¹
2. **Zinc (Zn) – Lead (Pb) mineralisation** discovered in historical hole 17MVRC004 which intersected:
 - 12m @ 0.8% Zn, 3.3g/t Ag & 0.16% Pb from 48m, *including*
 - 2m @ 2.13% Zn, 3.56g/t Ag & 0.39% Pb from 58m

The Company now awaits laboratory assays with results from >500 samples expected to be received in early January.

1. Mt Venn style Cu-Ni-Co targets

The Company's systematic program of moving loop and downhole electromagnetic (MLEM & DHEM) surveying completed in several campaigns between August and November identified two strong, discrete,

¹ Refer CMO ASX Announcement 11/11/2022

late-time EM conductors at the Minjina Prospect, ~900m north of Mt Venn, and which were the initial focus of drilling in the recently completed RC program.

The first two holes of the program targeting these strong conductor 'plates' (MIRC001 & MIRC002) were drilled to the target depths, but failed to intersect geology or mineralisation that could explain the conductors, with MIRC002 intersecting an 11m-wide zone of elevated Zn (pXRF analysis) from 72m within a broad, 76m-wide zone of pyrrhotite-dominant sulphide mineralisation from 7m down hole.

The Company's geophysicists interpreted the lack of conductors at the target depths in MIRC001 and 002 to reflect the complexity of the mineralisation and interference caused by a deeper, strong conductive source which may represent a new target for future testing.

Cosmo was able to mobilise a DHEM crew to probe MIRC001 and 002 while the rig remained on site with survey data confirming the presence of strong off-hole conductors in each hole:

- a) Two off-hole conductors were modelled from the DHEM in MIRC001. A strong conductor ~70m to the south was tested by MIRC004, and another anomaly ~120m east of MIRC001 was tested by hole MIRC008 (refer Figure 1 & 2).

MIRC004 intersected a 55m-wide zone of highly magnetic, 'Mt Venn style' Cu mineralisation from 8-63m down hole with numerous individual pXRF analyses of over 1% Cu.

MIRC008 intersected a 17m-wide zone of 'Mt Venn style' massive and disseminated sulphide (pyrrhotite>>chalcopyrite) mineralisation from 172m downhole. pXRF analysis confirmed this zone is associated with copper, nickel, and cobalt mineralisation.

Mineralisation in both holes MIRC004 and MIRC008 is open and further drilling of the 300-400m long aeromagnetic anomaly is recommended to try and define the copper mineralisation at least over that extent.

MIRC008 was cased for DHEM and a survey crew will be on site in late January to identify further extents of the massive sulphides intersected in this hole.

- b) A strong (>7,000 Siemens) off-hole conductor modelled ~150m south of MIRC002 was tested by hole MIRC009, with two earlier holes, MIRC006 and MIRC007, abandoned short of the target depth.

MIRC009 failed to intersect conductive stratigraphy at the modelled depth, with the target remaining unexplained. MIRC009 was unable to be cased for DHEM and planned follow up at this target will include a focussed ground EM survey (Fixed Loop EM) after review of the laboratory analyses.

2. Zinc (Zn)- Lead (Pb) Mineralisation (as intersected in 17MVRC004)

Zinc mineralisation intersected in historical hole 17MVRC004 was followed up by a 'step out' hole, MIRC003, drilled ~80m to the east of the older hole (*refer figures 1 & 3*).

MIRC003 intersected a broad (49m-wide) zone of elevated Zn mineralisation identified by the pXRF from 41-90m down hole, with associated carbonate alteration. No sulphides were initially logged in MIRC003 although a red mineral identified in this interval is interpreted to be a red sphalerite (Zn-sulphide).

The Company interprets a shallow sub-horizontal easterly dip of the mineralisation between 17MVRC004 and MIRC003 with mineralisation open and potentially increasing in grade and widths to the east although this is to be confirmed by laboratory analyses.

Given the lack of pyrrhotite in the Pb-Zn system (and any conductors identified in the Company's ground EM surveys to date) potential follow up to target the extents and controls of the system before further drilling may include ground gravity (to map out denser, mineralised zones) and detailed magnetics (to better map geology and structure).

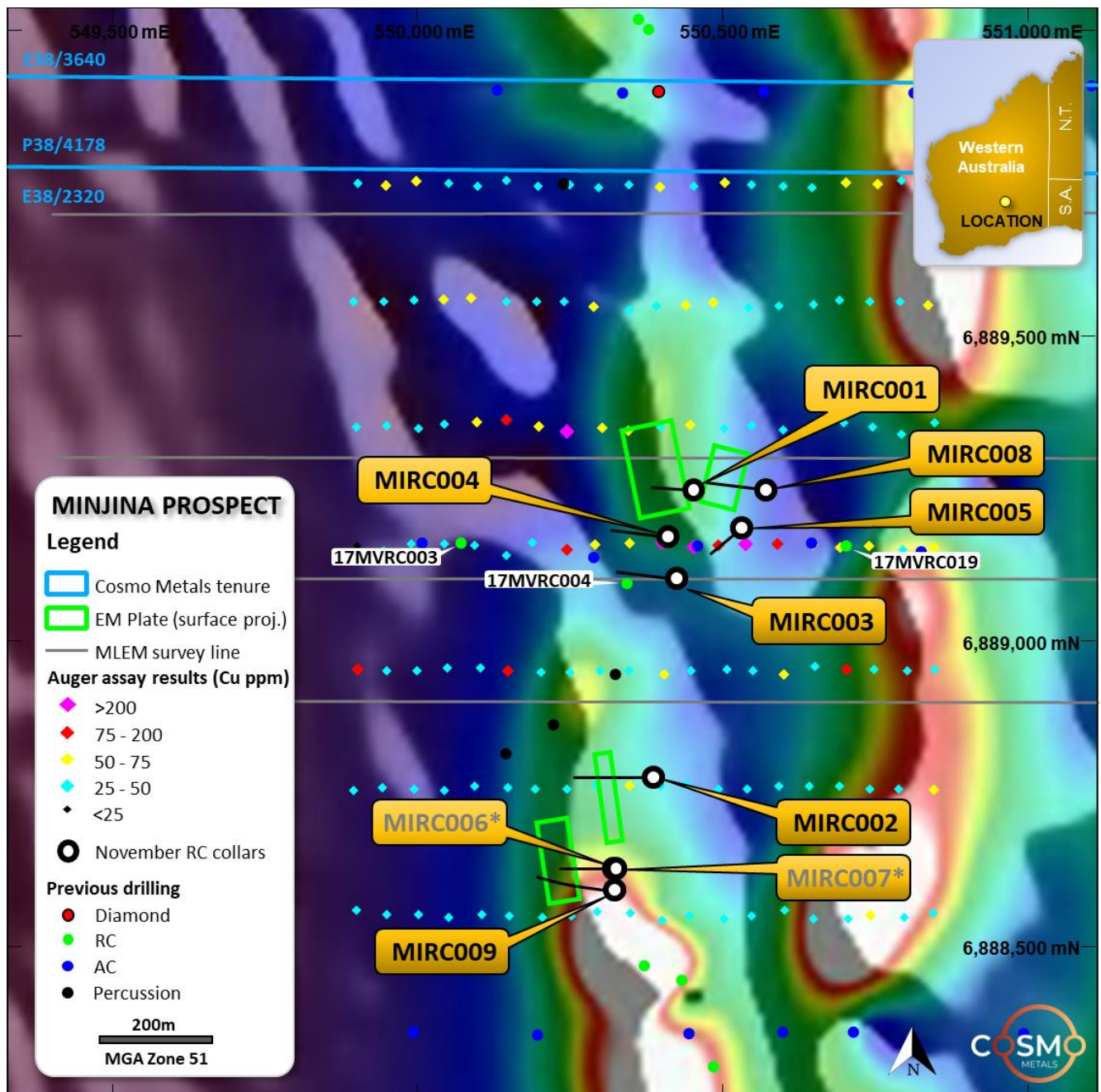


Figure 1: Cosmo Metals' Minjina Prospect, MLEM anomalies, surface Cu anomalism, historical and planned drilling on regional airborne magnetic imagery (RTP TMI).

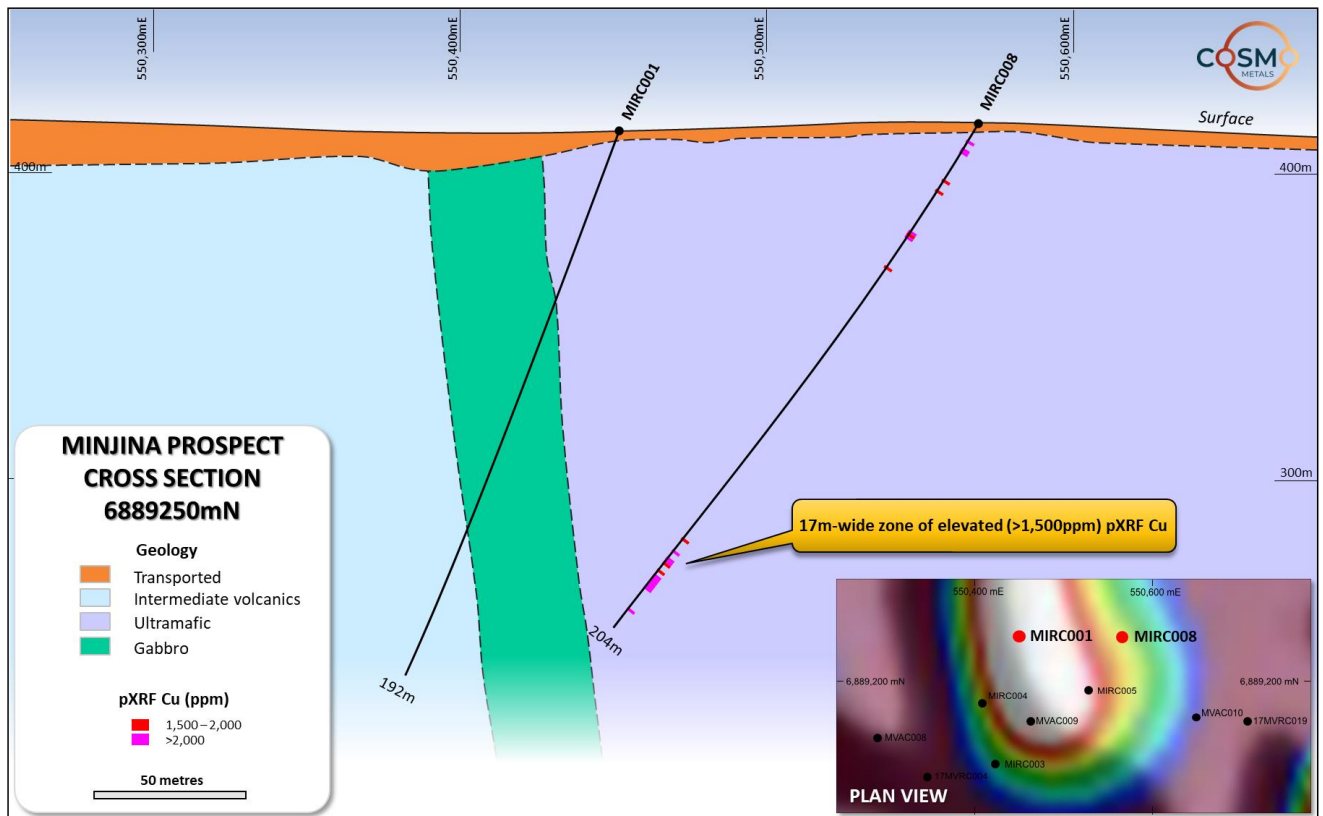


Figure 2: Section 6889250, view looking north of MIRC008 drilled on conductor with broad zone of (pXRF) Cu mineralisation. Inset plan view of drilling on magnetic image (RTP TMI). No significant mineralisation in MIRC0901 drilled on MLEM target with MIRC008 designed to test conductor identified from DHEM in MIRC001.

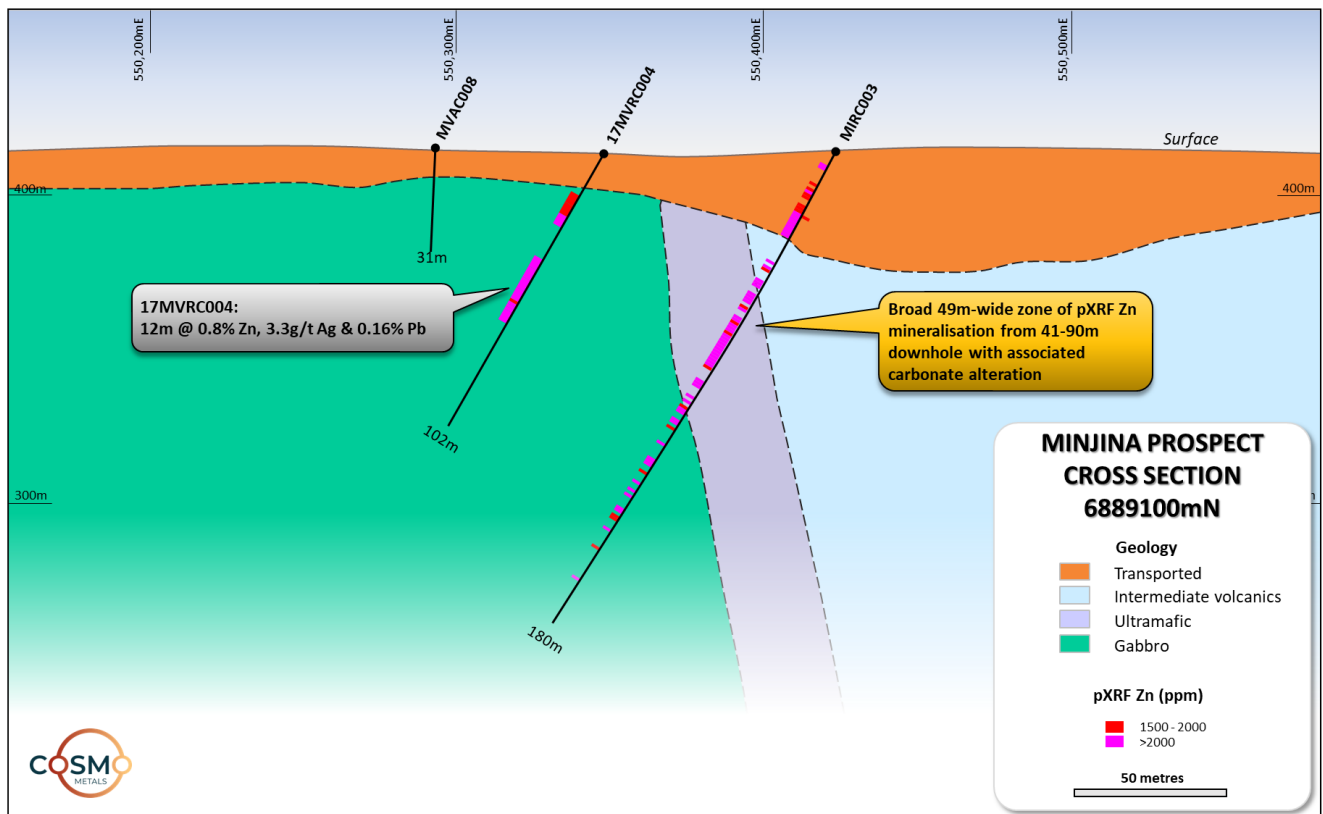


Figure 3: Section 6889100, MIRC003 testing downdip intersection from historical hole 17MVRC004.

TABLE 1: Cosmo Metals' Minjina RC Drilling November-December 2022.

HOLE ID	DEPTH (M)	TARGET	MINERALISATION	COMMENT
MIRC001	192	MLEM conductor	No significant intersection	No conductor intersected at target depth. DHEM defined an off-hole conductor targeted with hole MIRC008.
MIRC002	300	Modelled MLEM conductor	Intersected 11m with elevated Zn from 72m within a broad zone of sulphide mineralisation (po dominant) from 7-83m.	No conductor intersected at modelled depth. DHEM identified off hole conductor ~150m to the south tested with holes MIRC006, 007 and 009. It is expected that this hole is part of the same Zn mineralised system intersected in MIRC003
MIRC003	180	Drilled ~80m east of historical Zn mineralisation in 17MVRC004	Broad, 49m-wide zone of elevated Zn mineralisation (? red sphalerite) from 41-90m with associated carbonate alteration.	A shallow sub-horizontal E. dip of the mineralisation is inferred from 17MVRC004. Not correlated to Cu mineralisation
MIRC004	180	DHEM conductor ~80m south of MIRC001 and ~80m north of 17MVRC004	Intersected magnetic 'Mt Venn style' sulphide mineralisation (pyrrhotite>>chalcopyrite): from 8-63m with two separate zones of mineralisation identified.	Wide zone of (conductive) Mt Venn-style (po dominant) mineralisation.
MIRC005	132	Step out 120m to the east (azi 225°) from MIRC004 targeting Zn mineralisation in historical hole 17MVRC004	Elevated pXRF Cu throughout the hole with locally elevated Zn, sulphur, and iron with strong magnetic susceptibility.	Elevated Cu and Zn mineralisation however hole terminated short of the main mineralised zone. Unable to case for DHEM. Recommend extending.
MIRC006	168	Strong (>7,000S) conductor identified from DHEM in MIRC002 (150m south)	Strong Cu mineralisation in top 26m with elevated Ni in mafic-ultramafic geology. Elevated sulphur from 115-168m (EOH)	The mafic-intermediate sequence intersected in MIRC006 may be at the deeper edges of the late Cu-Pb-Zn-Ag mineralised system. Hole abandoned at 168m due to 'shanked' bit.
MIRC007	19	Redrill of MIRC006	NSI	Abandoned after collar 'blow out'
MIRC008	204	Off hole conductor identified from DHEM in MIRC001	16m wide (downhole) zone from 172-188m of magnetic sulphides (pyrrhotite>>chalcopyrite) with pXRF Cu >1,500ppm.	Mineralisation may be related to top section in MIRC001 (from 24-67m). A 60-70° structure may join the units and mineralisation is open.
MIRC009	252	Strong (>7,000S) conductor identified from DHEM in MIRC002 (redrill of MIRC006/MIRC007)	Intersected mafic-ultramafics from 97-143m with elevated Cu, and Zn. Similar elevated Cu-Zn (±Ni) in the top 20m of the hole.	No conductive stratigraphy intersected despite strong (>7,000S) modelled conductor from DHEM in MIRC002. Elevated Zn in pXRF suggests the influence of a VMS type mineral system (interpreted to the north).

This announcement is authorised for release to the ASX by the Board of Cosmo Metals Ltd.

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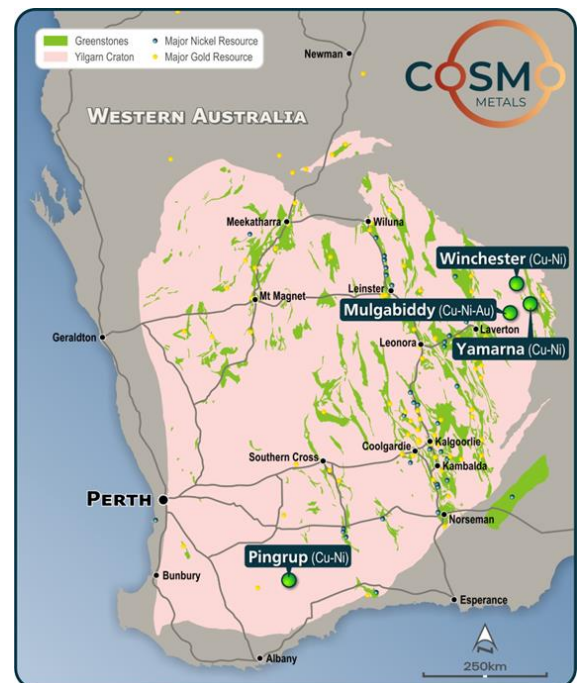
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About Cosmo Metals Ltd

Cosmo Metals Ltd (Cosmo; ASX: CMO) is an ASX-listed, base metals exploration company focused on the advancement of its flagship Mt Venn, Winchester and Eastern Mafic projects in the underexplored Yamarna Belt, in the Eastern Goldfields region of Western Australia.

The Yamarna Belt is considered highly prospective for copper-nickel-cobalt (Cu-Ni-Co) and platinum group elements (PGE), and Cosmo's well regarded technical team is advancing exploration on multiple fronts to unlock the potential of the region.

With previous drilling having identified Cu-Ni-Co sulphide mineralisation at Cosmo's key projects, the company has a unique opportunity to add value from this 460km² landholding



Competent Persons Statement

The information in this report that relates to Exploration Results is based upon and fairly represents information compiled by Mr James Merrillees, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Merrillees is a full-time employee of the Company.

Mr Merrillees has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Merrillees consents to the inclusion in the report of the matter based on his 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 Cosmo's planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "estimate," "expect," "intend," "may," "potential," "should," and similar expressions are forward-looking statements. Although Cosmo 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 actual results will be consistent with these forward-looking statements.



APPENDIX A DRILL HOLE INFORMATION

TABLE 1: RC drill hole coordinate details. Drill hole coordinates MGA94 Zone 51 (GDA94). Collars located with handheld GPS (± 5 m accuracy), EOH= end of hole depth, RC = Reverse Circulation drill hole\

* Holes MIRC006 and MIRC007 were abandoned short of the target depth

PROSPECT	HOLE ID	HOLE TYPE	EOH (M)	EAST MGA	NORTH MGA	RL MGA	DIP	AZIMUTH MGA
MINJINA	MIRC001	RC	192	550452	6889249	425	-70	270
MINJINA	MIRC002	RC	300	550385	6888780	423	-70	270
MINJINA	MIRC003	RC	180	550424	6889106	419	-60	270
MINJINA	MIRC004	RC	180	550409	6889175	424	-60	270
MINJINA	MIRC005	RC	132	550529	6889189	424	-60	225
MINJINA	MIRC006*	RC	168	550318	6888631	423	-60	270
MINJINA	MIRC007*	RC	19	550324	6888630	423	-60	270
MINJINA	MIRC008	RC	204	550569	6889249	416	-60	270
MINJINA	MIRC009	RC	252	550322	6888595	423	-60	270

APPENDIX B JORC CODE, 2012 EDITION – TABLE 1

SECTION 1 - SAMPLING TECHNIQUES AND DATA

(Criteria in this section apply to all succeeding sections)

CRITERIA	COMMENTARY
<i>Sampling techniques</i>	<p>RC samples were collected into calico bags over 1m intervals using a cyclone splitter. The residual bulk samples are placed in piles on the ground. Two cone splits are taken off the rig splitter for RC drilling.</p> <p>Visually prospective zones were sampled over 1m intervals and sent for analysis while the rest of the hole was composited over 4m intervals by taking a spear sample from each 1m bag.</p> <p>A quality assurance /quality control (QAQC) system comprising internal and laboratory standards, blanks and duplicates were used to evaluate analytical results.</p> <p>Portable XRF data is collected with an Olympus Vanta M Series analyser on each 1m sample from spoil dumped on the ground, with a 30 second beam time using three beams</p>
<i>Drilling techniques</i>	<p>Industry standard drilling methods and equipment were utilised.</p> <p>Reverse Circulation (RC) Drilling was undertaken by Blue Spec Drilling using 130 to 140mm diameter drill bits. RC drilling employed face sampling hammers ensuring contamination during sample extraction is minimised.</p>
<i>Drill sample recovery</i>	<p>Sample recovery data is noted qualitatively in geological comments as part of the logging process. Sample condition has been logged for every geological interval as part of the logging process.</p> <p>No quantitative twinned drilling analysis has been undertaken and no information is available to assess the relationship between sample recovery and grade.</p>
<i>Logging</i>	<p>Geological logging of drilling followed established company procedures. Qualitative logging of samples includes lithology, mineralogy, alteration, veining and weathering. Abundant geological comments supplement logged intervals.</p>
<i>Sub-sampling techniques and sample preparation</i>	<p>1m cyclone splits and 4m speared composite samples were taken in the field. Samples were prepared and analysed at ALS Laboratories Perth.</p> <p>All samples were submitted to ALS Laboratory (Perth) for analyses. Sample preparation included:</p> <p>Samples are weighed, crushed (such that a minimum of 70% pass 2mm) and pulverised (such that a minimum of 85% pass 75µm) as per ALS standards.</p> <p>All samples have been submitted for analysis via a 4-acid digest and ICP-AES (ALS method; MS-ICP61) for 33 multi-elements including Co, Cu, Ni & Zn.</p> <p>For elements that report over range, ALS use ore grade 4-acid digest and ICP-AES methods; nickel (Ni-OG62), copper (Cu-OG62), and sulphur (S-IR08 Leco Sulphur analyser).</p> <p>Sample collection, size and analytical methods are deemed appropriate for the style of exploration.</p>
<i>Quality of assay data and laboratory tests</i>	<p>Laboratory analyses have not yet been reported.</p> <p>pXRF instrument used is an Olympus Vanta M-series with 30 second beam time with three beams collected and standard instrument calibration procedures.</p>
<i>Verification of sampling and assaying</i>	<p>The standard CMO protocol was followed for insertion of standards and blanks with a blank and standard inserted per 40 samples. No QAQC problems were identified in the results. No twinned drilling has been undertaken.</p> <p>pXRF data are downloaded into an Excel spreadsheet and then compiled into the Company's SQL database.</p> <p>No adjustments were made to individual spot XRF data reported.</p>
<i>Location of data points</i>	<p>Drill collars were set out using a handheld GPS and final collar locations collected using a handheld GPS. Sample locations are collected using a handheld GPS which is considered acceptable for the early-stage nature of this program.</p>



CRITERIA	COMMENTARY
	<p>Downhole surveys were completed by the drilling contractors using the Reflex EZ-TRACK with a measurement taken every 30m downhole.</p> <p>Planned or compass bearing/dip measurements were used for survey control for holes without downhole survey data.</p> <p>MGA94 UTM zone 51 coordinate system is used.</p>
<i>Data spacing and distribution</i>	<p>The spacing and location of most of the drilling in the CMO projects is variable which is common with early exploration.</p> <p>The spacing and location of data is considered acceptable for exploration purposes.</p>
<i>Orientation of data in relation to geological structure</i>	<p>Drilling is nominally perpendicular to regional geological and mineralisation trends where interpreted, and practical. True width and orientation of intersected mineralisation is currently uncertain.</p> <p>The spacing and location of data is considered acceptable for exploration purposes.</p>
<i>Sample security</i>	<p>Cosmo Metals' personnel are responsible for delivery of samples from the drill site to the Yamarna exploration camp for courier pick-up and delivery to ALS in Perth.</p>
<i>Audits or reviews</i>	<p>None completed.</p>

SECTION 2 REPORTING OF EXPLORATION RESULTS

(Criteria listed in the preceding section also apply to this section.)

CRITERIA	COMMENTARY
<i>Mineral tenement and land tenure status</i>	<p>The Yamarna Project comprises the following tenements held 100% by Cosmo Metals Ltd.</p> <p>Tenements comprise Exploration licences E38/2320, E38/2685, E38/2952, E38/2953, E38/5957, E38/2958, E38/3640 and prospecting licences P38/4178 and P38/4540.</p>
<i>Exploration done by other parties</i>	<p>Previous explorers included:</p> <ul style="list-style-type: none"> 1990's. Kilkenny Gold NL completed wide-spaced, shallow, RAB drilling over a limited area. Gold assay only. 2008. Elektra Mines Ltd (now Gold Road Resources Ltd) completed two shallow RC holes targeting extension to Mt Venn igneous complex. XRF analysis only, no geochemical analysis completed. In 2011 Crusader Resources Ltd completed broad-spaced aircore drilling targeting extensions to the Thatcher's Soak uranium mineralisation. Only XRF analysis was completed. In late 2015 Gold Road drilled and assayed an RC drill hole on the edge of an EM anomaly identified from an airborne XTEM survey, identifying copper-nickel-cobalt mineralisation. In 2017 Great Boulder subsequently re-assayed the Gold Road hole and confirmed primary bedrock sulphide mineralisation, with peak assay results of 1.7% Cu, 0.2% Ni, 528ppm Co (over 1m intervals) over two distinct lenses. Great Boulder completed a ground based moving loop EM survey in September 2017 and reported extensive strong EM conductors and co-incident copper-nickel mineralisation from aircore geochemistry. <p>Full details of all historical drilling and exploration results can be found in the Independent Geologist's Report in Cosmo Metals' Prospectus dated 22 November 2021 available from the Company's website.</p>
<i>Geology</i>	<p>Cosmo Metals' Yamarna Project hosts the southern extension of the Mt Venn igneous complex. This complex is immediately west of the Yamarna greenstone belt.</p> <p>The mineralisation encountered in the Mt Venn drilling suggests that sulphide mineralisation is defined by a prominent long, conductive EM trend, demonstrating a highly sulphur-saturated system within a metamorphosed dolerite, pyroxenite and gabbroic sequence.</p>



CRITERIA	COMMENTARY
	Visual logging of sulphide mineralogy shows pyrrhotite dominant with chalcopyrite a subordinate sulphide phase.
<i>Drill hole Information</i>	A list of drill hole coordinates, orientations and intersections reported in this announcement are provided in the body and appendices within this announcement.
<i>Data aggregation methods</i>	<p>Results were reported using cut-off levels relevant to the sample type. For single metre splits, significant intercepts were reported for grades greater than 0.15% Cu with a maximum dilution of 2m. High grade intervals are quoted using a >1% Cu cut-off with a maximum of 2m internal dilution.</p> <p>No maximum or minimum grade truncations have been applied.</p> <p>A weighted average calculation was used to allow for bottom of hole composites that were less than the standard 4m and when intervals contain composited samples plus 1m split samples.</p> <p>No metal equivalents are used.</p>
<i>Relationship between mineralisation widths and intercept lengths</i>	The orientation of structures and mineralisation is not known with certainty; however, drill holes were oriented perpendicular to interpreted mineralisation.
<i>Diagrams</i>	Appropriate maps, sections and tabulations are presented in the body of this announcement.
<i>Balanced reporting</i>	<p>All composite samples were assayed however comprehensive reporting of all results is not practicable.</p> <p>Significant intersections are reported in the body and appendices of this announcement</p>
<i>Other substantive exploration data</i>	Not applicable, no other material exploration data.
<i>Further work</i>	Further work is discussed in the body of this announcement.