

BASE METALS DISCOVERY AT MINJINA

HIGHLIGHTS

- Zn-Pb-Cu-Ag discovery confirmed at the Minjina base metals prospect within the Company's 100%-owned Yamarna Project
- Mineralisation is unconstrained within a >1km x 750m zone of elevated Zn including a high-grade zone of:
 - 7m @ 3.20% Zn, 0.82%Pb (4.02% Zn + Pb) & 11.84 g/t Ag from 73m including
 - 2m @ 5.0% Zn, 1.4% Pb (6.4% Zn + Pb) & 18.83g/t Ag from 76m in MIRC003
- MIRC003 drilled ~80m east of 2017 hole 17VRC004 intersecting up to 2.52% Zn + Pb & 3.56g/t Ag
- 'Off-hole' DHEM target at MIRC003 presents a compelling follow up drill target analogous to Aeris Resources' Jaguar-Bentley Zn-Cu deposit with a deeper hole planned to test this target
- Shallow 'Mt Venn style' Cu-Ni-Co mineralisation intersected over large widths in holes MIRC004 and MIRC008 - including the highest grade cobalt intersection in the Yamarna Project to date (3m @ 0.18% Co from 7m in MIRC004)
- Results in line with reported pXRF data with further downhole and surface geophysical surveys planned to commence later this month in preparation for further drilling next month.

Cosmo's Managing Director, James Merrillees commented:

"This is an outstanding result from Cosmo's first drill program at Minjina. The confirmation of a thickening zone of zinc-lead-silver mineralisation in MIRC003 vindicates the Company's targeting approach.

Higher grade zones including several metres with more than 6% Zn + Pb and more than 20 g/t Ag in the first hole drilled into the area since 2017 suggests this may be the distal edge of a larger system. The off-hole EM target identified at MIRC003, and the remodelling of several near-miss holes has generated multiple compelling walk-up drill targets. We expect additional direct targets will be generated by the ground geophysics program commencing in the coming weeks which will also enhance our technical understanding of the system.

The Company see parallels at Minjina with mineralisation and the discovery history of the outstanding base metals deposits in the Teutonic Bore District including the Bentley deposit discovered in 2008, which from first production in 2010 to August 2021 produced more than 42kt of copper, 318kt of zinc and 13.6Moz of silver¹"

¹ Refer Aeris Resources website www.aerisresources.com.au

Cosmo Metals

Level 3, 33 Ord St West Perth
WA 6005
cosmometals.com.au

Telephone: +61 (8) 6400 5301
Email: admin@cosmometals.com.au
ASX: CMO

Shares on Issue: 50.5M
Market Cap: \$7.5M (at \$0.15)
Cash: \$2.1M (at Sep 30 2022)



Cosmo Metals Ltd (“Cosmo” or the “Company”) (ASX: CMO) is pleased to announce the results from the first phase of RC drilling at the Minjina Prospect, within the Yamarna Project located ~150km east of Laverton in the Eastern Goldfields of Western Australia.

Cosmo’s nine-hole (1,627m) program targeted two distinct mineralisation styles at Minjina ~1km north of the Company’s Mt Venn deposit:

1. **VMS-style Zinc (Zn) - Lead (Pb) - Silver (Ag) mineralisation** similar to the deposits of the Teutonic Bore District north of Leonora which includes the Teutonic Bore, Jaguar and Bentley deposits
2. **Magmatic Copper (Cu) - Nickel (Cu) - Cobalt (Co) mineralisation** analogous to the Company’s Mt Venn deposit.

Volcanogenic Massive Sulphide (VMS) Zn-Pb-Ag

VMS Zn-Pb-Ag mineralisation was first identified in 2017 from hole 17MVRC004 which intersected:

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

Mineralisation in 17MVRC004 is non-magnetic and very weakly conductive and therefore difficult to detect with traditional electromagnetic (EM) surveying. To test the target model, the Company drilled a step-out hole, MIRC003 collared ~80m east of 17MVRC004 (*refer Figures 1 & 2*).

MIRC003 intersected significantly broader and higher grade Zn-Pb-Ag mineralisation compared with 17MVRC004 including:

- 4m @ 0.37% Zn, 0.34% Pb, 4.81g/t Ag from 28m *and*
- 8m @ 0.53% Zn, 0.12% Pb, 2.77 g/t Ag from 48m *and*
- **7m @ 3.20% Zn, 0.82% Pb, 11.84 g/t Ag from 73m which included**
 - **2m @ 5.0% Zn, 1.4% Pb, 18.83g/t Ag from 76m**
- 4m @ 0.49% Zn, 0.10 % Pb, 2.74 g/t Ag from 116m

Mineralisation in MIRC003 is open down dip and along strike with the above significant intersections contained within a broad zone of anomalous (>0.1%) Zn extending most of the entire length of the hole.

The Company interprets the ‘stringer’ or vein style mineralisation intersected in MIRC003 to be within the footwall zone of a deeper, potentially more massive, mineralised system.

As previously announced the review of down hole EM (DHEM) in MIRC003 identified a ~1,500S conductor off the end of the hole at ~250m to the top of the model. This deeper target fits the above interpretation and represents a compelling target for follow up drill testing as discussed further below.

The above results are in line with the portable X-ray fluorescence (pXRF) analyses announced by the Company in December and give confidence in this technique of rapid analyses for future programs.

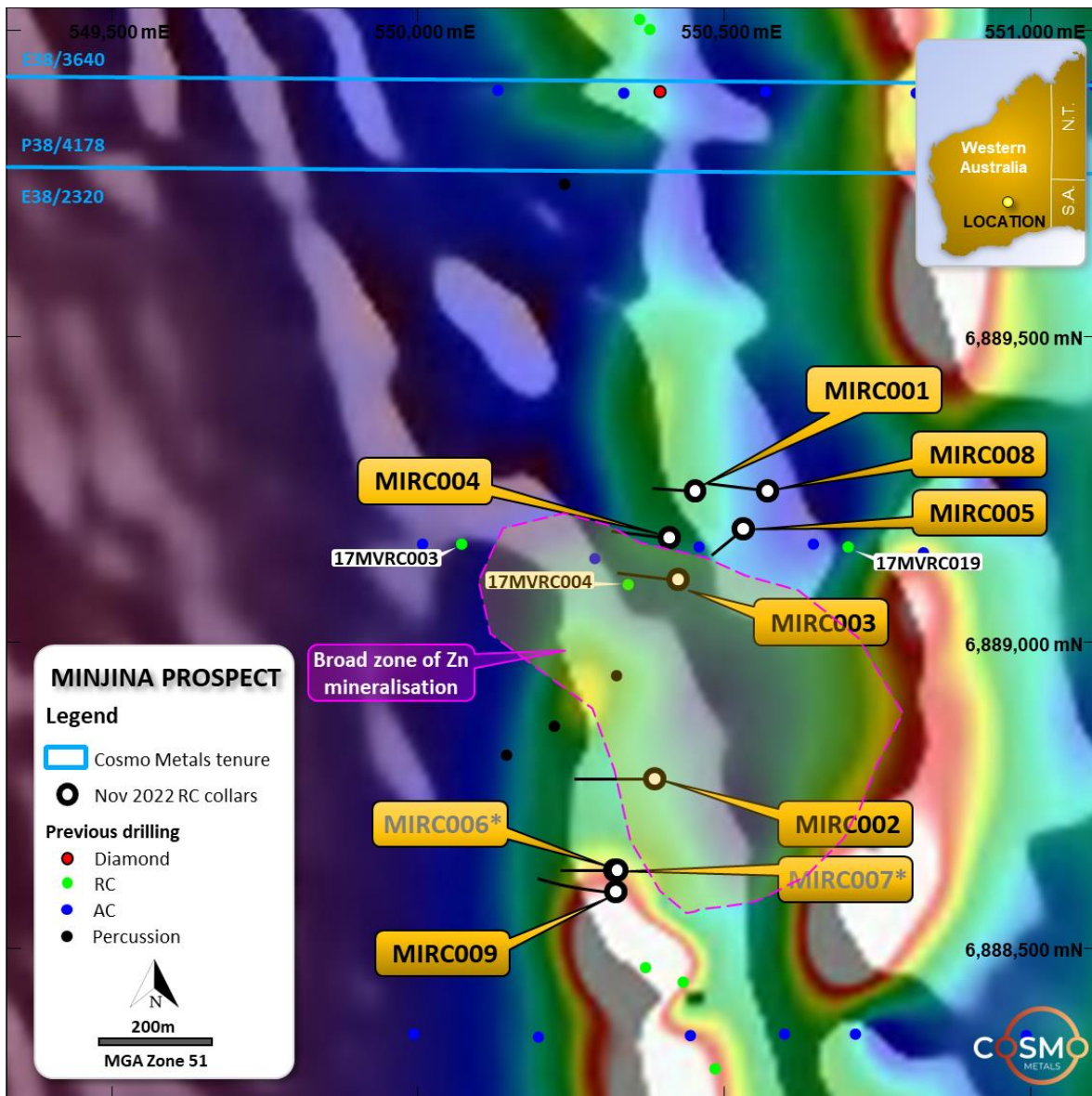


Figure 1: Cosmo Metals’ Minjina Prospect, drilling on regional airborne magnetic image (RTP TMI) with broad zone of Zn mineralisation outlined. *MIRC006 and 007 abandoned short of target.

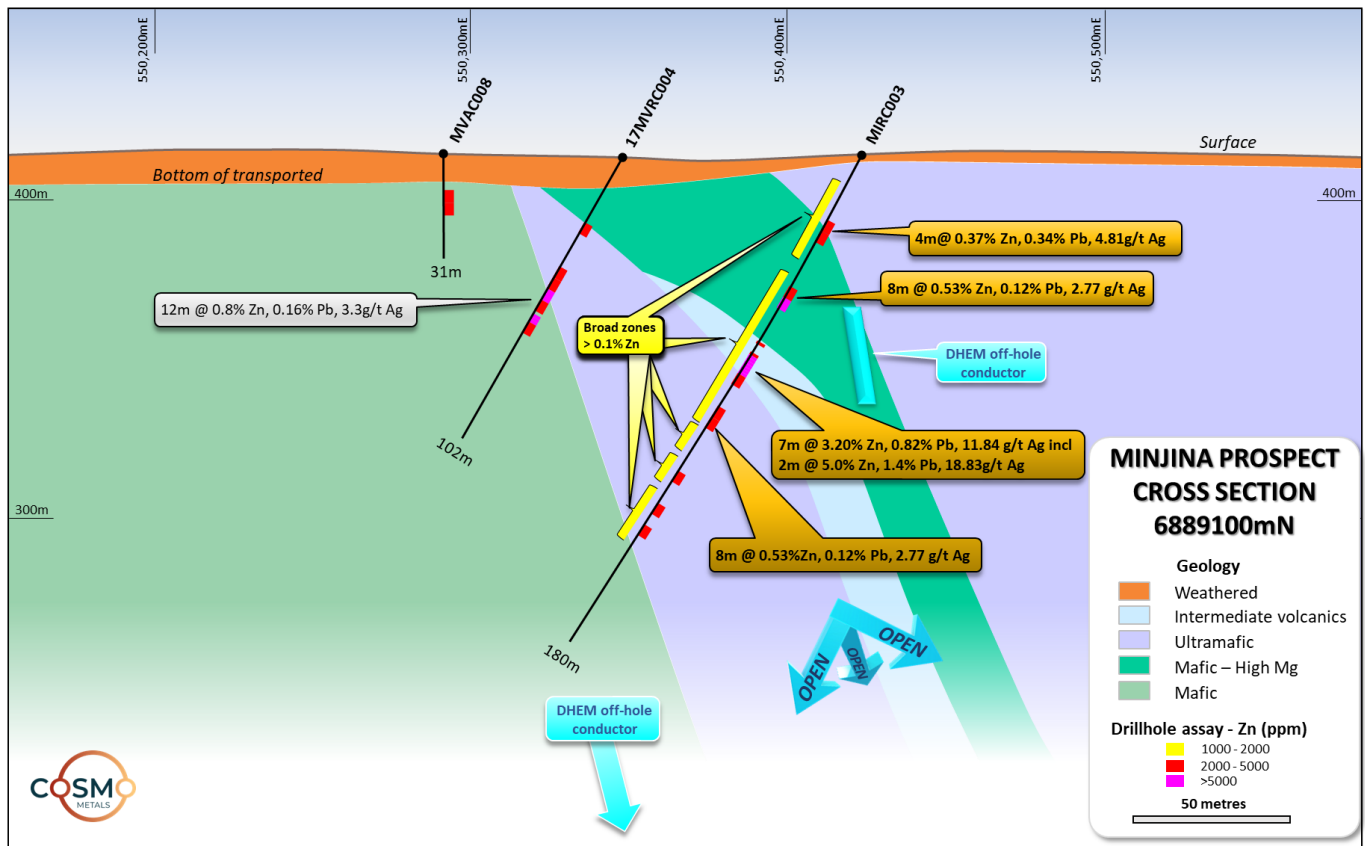


Figure 2: Section 6889100, MIRC003 testing downdip ~80m east of historical hole 17MVR004 with significant grade (>0.5% Zn) intervals within broad zones of >0.1% Zn. Off-end conductor ~50m below section (~260m from surface to top).

Magmatic Copper (Cu) – Nickel (Ni) – Cobalt (Co)

The Cu-Ni-Co system at Minjina is analogous to the Company’s Mt Venn deposit, and associated with massive pyrrhotite, which is typically magnetic and conductive, representing a relatively straightforward target for surface geophysics in the region.

The Company’s systematic program of moving loop and downhole electromagnetic (MLEM & DHEM) surveying completed in several campaigns between August and November 2022 identified two strong, discrete, late-time EM conductors at Minjina which were the initial focus of the RC program.

MIRC001 & MIRC002 targeting these strong conductors were drilled to the target depths, however failed to intersect geology or mineralisation that could explain the conductors, with MIRC002 intersecting an 11m-wide zone of elevated arsenic, copper, zinc and silver from 72m down hole within a broad, 76m-wide zone of disseminated sulphide (pyrrhotite-pyrite) mineralisation from 7m down hole.

Cosmo was able to mobilise a DHEM crew to probe MIRC001 and MIRC002 while the rig remained on site with survey data confirming the presence of strong off-hole conductors.

a) MIRC001 Follow up

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).



MIRC004 intersected a 55m-wide zone of highly magnetic, 'Mt Venn style' Cu mineralisation from 7m down hole with significant mineralisation including:

- 3m @ 0.37% Cu, 0.06% Ni, 0.18% Co from 7m *and*
- 12m @ 0.44% Cu, 0.08% Ni, 0.02% Co from 16m *including*
 - **1m @ 1.31% Cu, 0.28% Ni, 0.08% Co from 24m**
- 20m @ 0.21% Cu, 0.10% Ni, 0.03% Co from 45m.

The 0.18% cobalt (Co) intersection in MIRC004 is the highest-grade Co intersected to date in the Yamarna Project, which may reflect interaction with the VMS system intersected in MIRC003 ~70m to the south.

MIRC008, ~115m east of MIRC001 intersected a wide zone of 'Mt Venn style' massive and disseminated sulphide (pyrrhotite>>chalcopyrite) mineralisation from 172m downhole including:

- 5m @ 0.19% Cu, 0.09% Ni, 0.02% Co from 172m and
- 7m @ 0.58% Cu, 0.29% Ni, 0.06% Co from 182m and
- 12m @ 0.60% Cu from 196m.

MIRC008 was cased for DHEM and a survey crew is mobilising to site later this month to survey this hole to determine the potential for stronger conductors at depth and along strike.

b) MIRC002 Follow-up

A strong (>7,000S) off-hole conductor modelled ~150m south of MIRC002 was tested by holes MIRC006, 007 and 009.

MIRC006 was abandoned short of the target depth at 168m and an attempted redrill of this hole (MIRC007) failed at 19m when the collar 'blew out' in the void created by MIRC006.

Stepping ~30m to the south to avoid interaction with MIRC006 and 007, MIRC009 was drilled to planned depth however failed to intersect a conductor where modelled, with the target remaining unexplained, although the hole intersected several zones of anomalous arsenic, copper, zinc and silver, potentially representing a near miss.

Further review of the EM modelling using the geology intersected in MIRC002 and MIRC009 has resolved a new model which neither hole intersected.

This a compelling target for drill testing given the association with broad elevated base metals and pathfinder elements in MIRC002 and MIRC009.

MIRC009 was unable to be cased for DHEM due to blockages in the hole and prior to further drilling the Company is planning further ground EM (Fixed Loop EM) as well as probing the adjacent hole MIRC006 for potential survey with DHEM.



NEXT STEPS

The Company has engaged geophysical crews to commence ground surveys at Minjina later this month including:

- Downhole EM at MIRC008 and MIRC006
- Fixed loop EM (FLEM) over MIRC009 and MIRC003
- Ground gravity survey over the entire Minjina system to better map geology and potentially denser, mineralised zones.

The Company has also received proposals from drill contractors to mobilise to site next month to test targets identified from the above geophysical surveys as well as:

- Test the compelling off-hole DHEM target at MIRC003
- Grid drilling on sections to the north and south around the discovery hole at MIRC003 to identify vectors and potential controls and vectors to the system
- Test the off-hole conductor associated with the 'near-miss' in holes MIRC002 and MIRC009.

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

For further information please contact:

James Merrillees (Managing Director)

Cosmo Metals

Phone +61 8 6400 5301

Email: admin@cosmometals.com.au

Website: cosmometals.com.au

 [Follow CMO on LinkedIn](#)

Lucas Robinson

Corporate Storytime

Mobile +61 408 228 889

Email: lucas@corporatestorytime.com

 [Follow CMO on Twitter](#)

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

TABLE 2: Significant Zn drilling assay results. Intervals are calculated with a lower cut-off of 0.5% Pb + Zn with up to 2m of internal dilution. Higher grade intervals reported >1% Pb + Zn. No top-cut applied. All widths quoted are downhole widths, true widths are not known at this stage.

HOLE ID	TOTAL DEPTH (M)	DEPTH FROM (M)	DEPTH TO (M)	LENGTH (M)	ZN (PPM)	PB (PPM)	AG (PPM)	CU (PPM)
MIRC003	180	28	32	4	3,680	3,370	4.81	432
<i>and</i>		48	56	8	5,280	1,173	2.77	482
<i>and</i>		73	80	7	31,184	8,219	11.84	448
including		76	78	2	50,250	13,750	18.83	320
<i>and</i>		116	120	4	4,920	1,065	2.74	1,180



TABLE 3: Significant Cu drilling assay results. Intervals are calculated with a lower cut-off of 0.15% Cu with up to 2m of internal dilution. Higher grade intervals reported >1% Cu. No top-cut applied. All widths quoted are downhole widths, true widths are not known at this stage.

HOLE ID	TOTAL DEPTH (M)	DEPTH FROM (M)	DEPTH TO (M)	LENGTH (M)	CU (PPM)	NI (PPM)	CO (PPM)
MIRC004	180	7	10	3	3,690	602	1808
<i>and</i>		16	28	12	4,370	803	241
<i>Including</i>		24	25	1	13,150	2790	750
<i>and</i>		45	65	20	2,074	1014	282
MIRC008	204	172	177	5	1,895	850	212
<i>and</i>		182	189	7	5,776	2867	599
<i>and</i>		196	197	12	6,030	210	66

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.</p> <p>Samples were prepared and analysed at ALS Laboratories in Perth.</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-MS (ALS method; ME-MS61L) for 33 multi-elements including Co, Cu, Pb, 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>All samples were assayed by industry standard techniques.</p> <p>Typical analysis methods are detailed in the previous section and are consider 'near total' values.</p> <p>Routine 'standard' (mineralised pulp) Certified Reference Material (CRM) was inserted by Cosmo at a nominal rate of 1 in 50 samples. Routine 'blank' material (unmineralised sand) was inserted at a nominal rate of 1 in 100 samples. No significant issues were noted.</p> <p>No duplicate or umpire checks were undertaken.</p> <p>ALS (Perth) provided their own routine quality controls within their own practices. No significant issues were noted.</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>



CRITERIA	COMMENTARY
	pXRF data are downloaded into an Excel spreadsheet and then compiled into the Company's SQL database. No adjustments were made to individual spot XRF data reported.
<i>Location of data points</i>	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. Downhole surveys were completed by the drilling contractors using the Reflex EZ-TRACK with a measurement taken every 30m downhole. Planned or compass bearing/dip measurements were used for survey control for holes without downhole survey data. MGA94 UTM zone 51 coordinate system is used.
<i>Data spacing and distribution</i>	The spacing and location of most of the drilling is variable which is common for early-stage exploration. The spacing and location of data is considered acceptable for exploration purposes.
<i>Orientation of data in relation to geological structure</i>	Drilling is nominally perpendicular to regional geological and mineralisation trends where interpreted, and practical. True width and orientation of intersected mineralisation is currently uncertain. The spacing and location of data is considered acceptable for exploration purposes.
<i>Sample security</i>	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.
<i>Audits or reviews</i>	None completed.

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>	The Yamarna Project comprises the following tenements held 100% by Cosmo Metals Ltd. 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.
<i>Exploration done by other parties</i>	Previous explorers included: <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>



CRITERIA	COMMENTARY
<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> <p>Visual logging of sulphide mineralogy shows pyrrhotite dominant with chalcopyrite a subordinate sulphide phase.</p>
<i>Drill hole Information</i>	<p>A list of drill hole coordinates, orientations and intersections reported in this announcement are provided in the body and appendices within this announcement.</p>
<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>For Zn-Pb intervals significant intercepts were reported for grades greater than 0.5% Pb + Zn with a maximum dilution of 2m. High grade intervals are quoted using a >1% Pb + Zn 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>	<p>The orientation of structures and mineralisation is not known with certainty; however, drill holes were oriented perpendicular to interpreted mineralisation.</p>
<i>Diagrams</i>	<p>Appropriate maps, sections and tabulations are presented in the body of this announcement.</p>
<i>Balanced reporting</i>	<p>All composite samples were assayed however comprehensive reporting of all results is not practicable. Significant intersections are reported in the body and appendices of this announcement</p>
<i>Other substantive exploration data</i>	<p>Not applicable, no other material exploration data.</p>
<i>Further work</i>	<p>Further work is discussed in the body of this announcement.</p>