ALVO
ASX: ALV

Major Step Out Extends VMS Mineralisation Over 100m Down Plunge

HIGHLIGHTS

- Assays received from extensional diamond drilling at the Palma Volcanic hosted Massive Sulphide ("**VMS**") Project delivers high-grade mineralisation, including:
  - **PD3-069: 9m @ 2.5% CuEq*** or **6.21% ZnEq** from 342m
    - *Inc.* **4m @ 5.1% CuEq** or **12.5% ZnEq** from 347m
  - **PD3-071: 4m @ 1.4% CuEq** or **3.45% ZnEq** from 433m
- Major step-out hole **PD3-076 intersected a broad zone of sulphide mineralisation over 100m down-plunge** from previous deepest intercept – assays pending
- **Results follow significant high-grade extensional drill intercepts released in January 2023:**
  - **PD3-059: 14m @ 3.0% CuEq** from 228m; inc. **5m @ 7.3% CuEq** from 237m
  - **PD3-065: 13m @ 1.5% CuEq** from 333m; inc. **5m @ 3.1% CuEq** from 340m
  - **PD3-065: 14m @ 1.7% CuEq** from 376m; inc. **5m @ 3.6% CuEq** from 379m
- Downhole Electromagnetic ("**DHEM**") surveys completed on the deepest holes at C3 demonstrate conductive plates extend potential VMS mineralisation hundreds of metres down-plunge
- Alvo aims to incorporate the results from the recent extensional drill program at C3 to expand the Palma Project Mineral Resource Estimate[1] ("**MRE**") of 4.6Mt @ 1.0% Cu, 3.9%, 0.4% Pb & 20g/t Ag in Q3 CY2023

*Refer to the detailed explanation of assumptions and pricing underpinning the copper equivalent (CuEq) on page 9 of this announcement and in Section 2 of the attached JORC Code Table (Appendix 1)

Alvo Minerals Limited (ASX: ALV) ("**Alvo**" or **the** "**Company**") is pleased to release assay results from its extensional (Phase 2) diamond drill program at the C3 deposit at the Palma Project ("**Palma**" or "**the Project**") located in Central Brazil. The Company has now completed over 18,800m of diamond drilling at Palma, continuing uninterrupted since listing in October 2021.

Alvo is aiming to significantly expand the existing JORC 2012 MRE of 4.6Mt @ 1.0% Cu, 3.9% Zn, 0.4% Pb & 20g/t Ag that was based on only historical drilling performed by the CPRM. The drill results from Phase 1 and Phase 2 exceeded expectations on grade and thickness when compared to the existing MRE and the Company anticipates incorporating these into an updated MRE in Q3 CY2023.

Alvo has accelerated the regional exploration program across Palma which now covers >875km^2 of contiguous and highly prospective ground in a known VMS district. The district, which is now 90% controlled by Alvo, has been idle for over 30 years since the first discovery in the 1970s and presents an extraordinary opportunity to make new discoveries by applying modern exploration techniques.

[1] Full details of the Palma Project MRE including JORC tables is contained within the Company's Prospectus lodged with ASX on 18 October 2021

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PROJECT
Palma Project

Shares on Issue 72,830,314
ASX Code ALV

Rob Smakman, Alvo's Managing Director commented on the latest results from C3:

"C3 continues to deliver the high-grades and widths we have come to expect from drilling this exceptional VMS deposit. We have now completed Phase 2 extensional drilling at C3 and will begin to update the MRE which we are confident will be a significant improvement on tonnes and grade when compared to the previous estimate, that was based solely on historical drilling by the Brazilian Geological Survey (CPRM).

We now turn our drilling attention to C1 where we have kicked off the Phase 2 extensional drill program, aiming to build on and extend the fantastic results we achieved there in CY2022. The drilling at C1 will utilise the DHEM in the same way we have at C3, allowing drilling to focus in on the best areas of the deposit.

We remain committed to making new discoveries at Palma and are advancing the regional exploration across multiple fronts, looking to build regional targets to a point where we are compelled to drill. I look forward to updating shareholders on the regional exploration which is progressing at pace and building multiple targets towards drilling. Every day we are closer to new a discovery."

Diamond Drilling and DHEM Surveys at C3

Phase 2 diamond drilling at the C3 prospect has been completed, with the final hole (PD3-076) now completed and awaiting assays. The drilling announced in this update includes several holes targeting extensions to the mineralisation drilled historically by the Brazilian Government geological survey (**CPRM**) and more recently by Alvo in 2021 and 2022.

These new assay results from the extensional drilling included significant intercepts, including:

- **PD3-069: 9m @ 2.5% CuEq** or **6.21% ZnEq** (0.8% Cu, 5.6% Zn, 2.2 g/t Ag) from 342m
  - *Inc.* **4m @ 5.1% CuEq** or **12.5% ZnEq** (1.1% Cu, 12.5% Zn, 3.9 g/t Ag) from 347m
- **PD3-071: 4m @ 1.4% CuEq** or **3.45% ZnEq** (1.2% Cu, 1.2% Zn, 7.5 g/t Ag) from 433m
- **PD3-075: 10m @ 0.6% CuEq** or **1.35% ZnEq** (0.6% Cu, 0.2% Zn, 6.5 g/t Ag) from 341m

These results were received from intercepts on the edge or outside of the lower grade portion of the MRE and the results are expected to positively impact the MRE expected to be updated in coming months (see Figure 1 & Table 1).

These results follow the initial Phase 2 drill results released in January 2023, including[2]:

- **PD3-059: 14.2m @ 3.0% CuEq** (1.1% Cu, 6.1% Zn, 0.2% Pb, 12g/t Ag & 0.04g/t Au) from 228m
  - *Inc.* ***4.8m @ 7.3% CuEq*** *(1.8% Cu, 16.8% Zn, 0.4% Pb, 24g/t Ag & 0.1g/t Au) from 237m*
- **PD3-065: 13.0m @ 1.5% CuEq,** (1.0% Cu, 1.8% Zn, 0.1% Pb, 8g/t Ag & 0.02g/t Au) from 333m
  - *Inc.* **4.7m @ 3.1% CuEq** *(1.9% Cu, 4.6% Zn, 0.31% Pb, 21g/t Ag & 0.05g/t Au)* from 340m
- **PD3-065: 14m @ 1.7% CuEq,** (0.7% Cu, 3.3% Zn, 0.2% Pb, 10g/t Ag & 0.03g/t Au) from 376m
  - *Inc.* ***5.3*m @ 3.6% CuEq** *(1.0% Cu, 8% Zn, 0.5% Pb, 25g/t Ag & 0.05g/t Au)* from 379m

The mineralisation remains open down-plunge to the south-west, with the plunge orientation evidenced by both structural logging of the drill-core and by interpretation of the DHEM surveys completed after drilling.

[2] See ASX Release – Large Extension of High-Grade Copper and Zinc Mineralisation – 19 January 2023

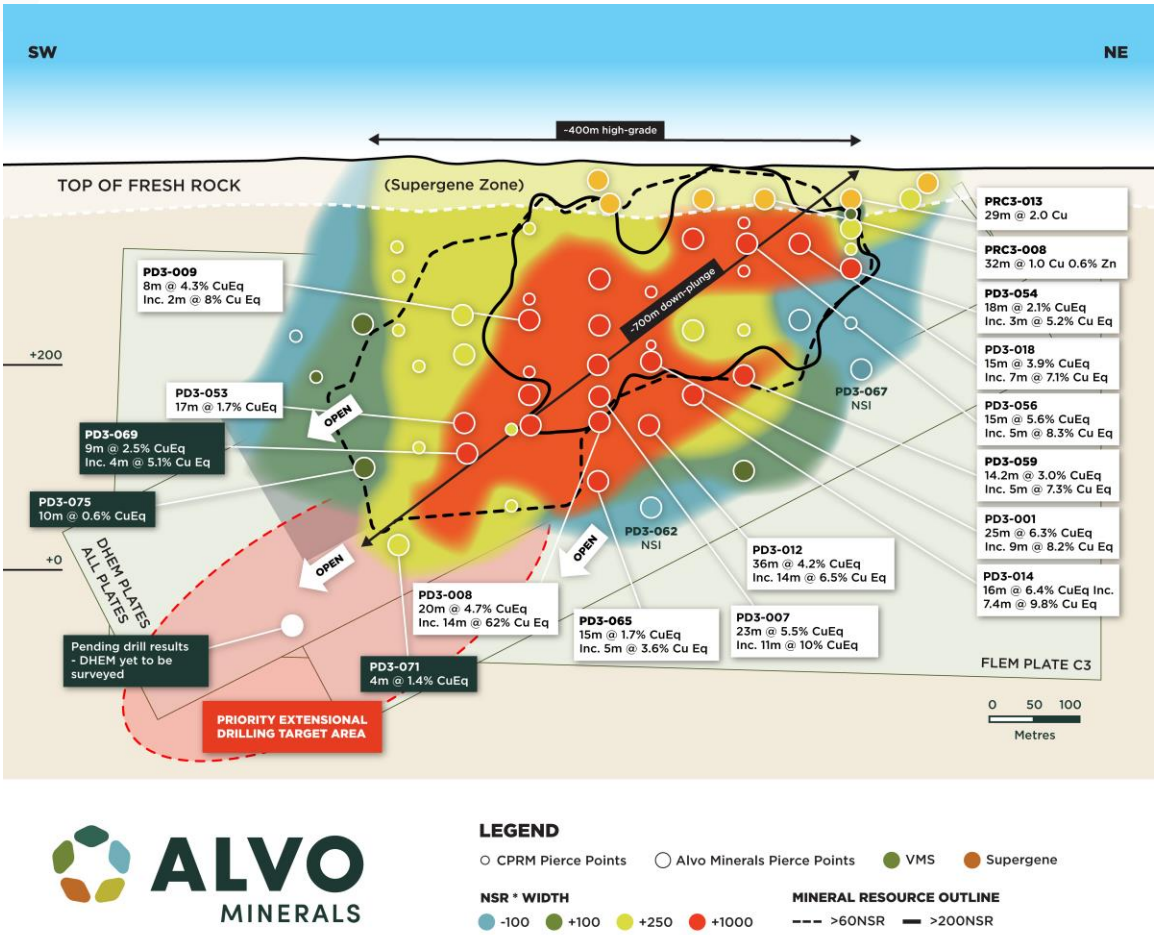

***Figure 1**: C3 Long section showing recent and historic drilling pierce points.*

***Table 1:** Significant intercepts C3 Diamond drilling program*

Hole ID	Prospect	Length (m)	From (m)	CuEq %	ZnEq %	Cu %	Zn %	Pb %	Ag g/t	Au g/t	Comment
PDE-066	EMA	-	-	-	-	-	-	-	-	-	NSI
PD3-067	C3	-	-	-	-	-	-	-	-	-	NSI
PDB-068	POMBO	-	-	-	-	-	-	-	-	-	NSI
PD3-069	C3	**8.9**	342.1	**2.5**	**6.21**	**0.8**	**5.6**	0.0	2.2	0.0	VMS
Including	C3	**3.8**	347.2	**5.1**	**12.54**	**1.1**	**12.5**	0.0	3.9	0.0	VMS
PDE-070	EMA	-	-	-	-	-	-	-	-	-	NSI
PD3-071	C3	**4.2**	432.8	**1.4**	**3.45**	**1.2**	**1.2**	0.0	7.5	0.0	VMS
PD3-071	C3	10.9	441.2	0.3	0.69	0.3	0.1	0.0	0.0	0.0	VMS
PDF-072	MAFICO	-	-	-	-	-	-	-	-	-	NSI
PDE-073	EMA	-	-	-	-	-	-	-	-	-	NSI
PDP-074	PELICANO	-	-	-	-	-	-	-	-	-	NSI
PD3-075	C3	**9.5**	340.5	**0.6**	**1.35**	0.6	0.2	0.1	6.5	0.0	VMS

Table of significant intercepts calculated using a 0.1% Cu or 0.5% Zn or 0.1 g/t Au lower cut-off, minimum interval of 1m and a maximum of 2m of internal dilution.

In hole PD3-076 (results pending), drilling targeted a step-out of over 100m down-plunge from the deepest mineralised intercept hit to date. Alvo's geologists logged 9.5m of semi-massive and disseminated mineralised sulphides surrounded by the same alteration assemblage seen elsewhere at C3 (see Figure 2 & Table 2). DHEM is planned on this hole in coming weeks-the results of which will be critical in understanding the larger potential at C3.

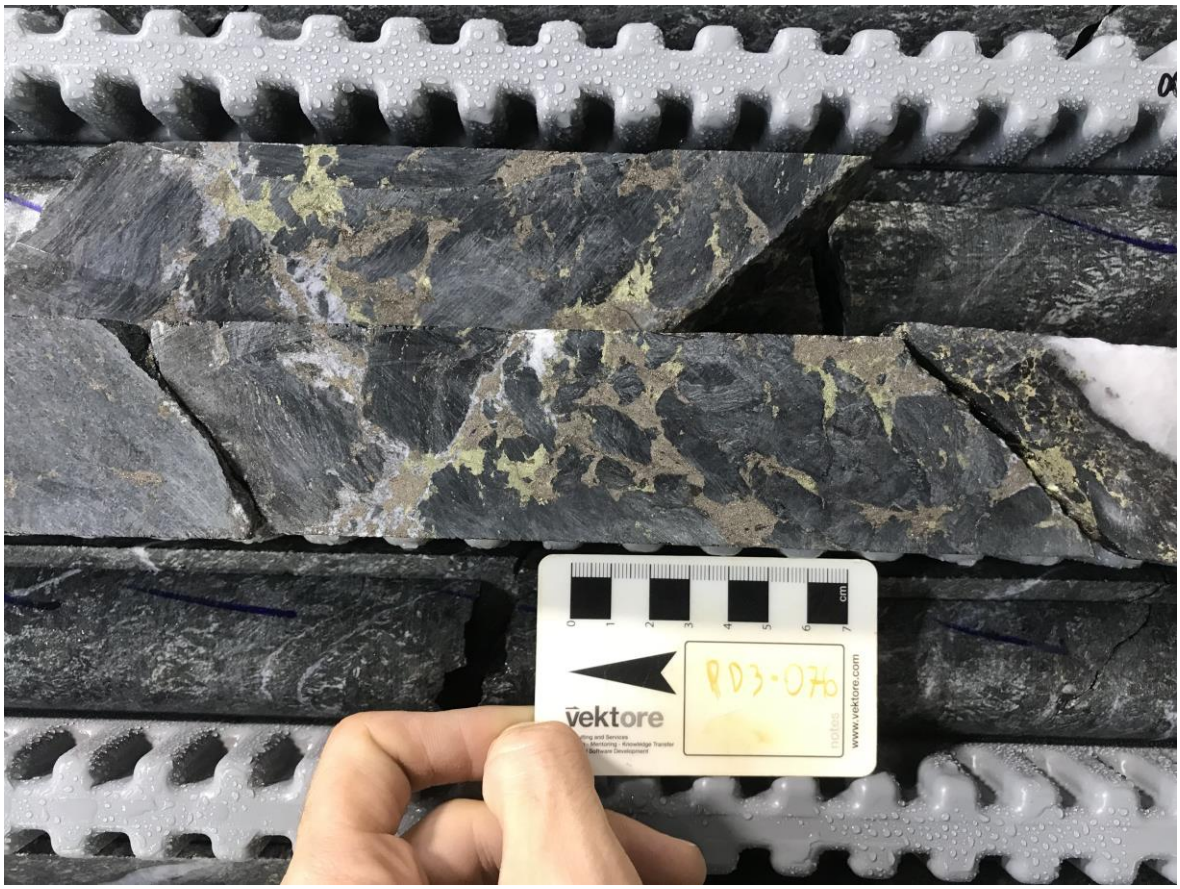

***Figure 2**: Core photo of PD3-076, depth of 438.7m with brecciated amphibolite disseminated/ semi-massive sulphides with chalcopyrite (gold colour) and Phyrrotite (bronze colour)*

__Table 2__: Selected geological logging from PD3-076. Abbreviations include; Hydrothermal Alteration Intensity (M= Moderate, S= Strong), Sulphide % (Py= pyrite, Po= Phyrrotite, Cpy=Chalcopyrite).

From (m)	To (m)	Interval (m)	Litho-code	Hydrot Alt Intensity	Sulphide (%)				Lithotype	Finished: 24/06/2023
					Po	Py	Cpy	Sulf Occur		Description
436.00	438.50	2.50	MFSH	M	>2-3	<1	>1-2	Disseminated	Muscovite Feldspatic Schist	Fds-bio-mus schist with pervasive sericite hydrothermal alteration. Foliated, marked by sericite, with crenulation. Rich in quartz layers. Sericite hydrothermal bands show brecciating texture and sulfidation. Sulfidation, Po>Cpy>Py (3-5%) disseminated and concentrated in the hydrothermal bands.
438.50	439.00	0.50	DISS	M	>15-25	>3-5	>15-25	Semi-mass	Disseminated Sulphide	Disseminated sulphide composed of Po>Cpy (15-25%) in sericite hydrothermal portion, marked by a breccia texture with sulphide matrix and thin sericitic rock angular centimetric fragments. Sulphide masses are irregular as interstitial and with irregular variation between Po and Cpy. Rare faults occur and are filled by carbonate and sulphides.
439.00	445.00	6.00	AMPH	M	>2-3	>1-2	>1-2	Disseminated	Amphibolite	Amphibolite with moderate to strong hydrothermal alteration marked by prismatic cm amphibole crystals in a sericite-feldspar-chlorite matrix. Magnetite mm crystals also mark the hydrothermalism. Foliation is poorly printed. At 443.4m occurs a decametric quartz-albite hydrothermal band with pyrite layers. Sulfidation, Po>Py>Cpy (3-5%) disseminated.
445.00	446.25	1.25	QAHT	S	>2-3	>2-3		Disseminated	Quartz albite hydrothermal	Quartz-albite hydrothermal zone, with irregular foliation, pinkish coloured. Quartz is white or translucid. Irregular foliation is sub-parallel to the surroundings. Sulfidation, Py (2-3%) disseminated, commonly euhedral.

C3 'Cluster' Drilling

Drilling reported also includes several holes from the Ema, Mafico and Pombo prospects (see Figure 3). These prospects which surround the C3 deposit were targeted based primarily around the combined disciplines of ground geophysics (FLEM and IP), geochemistry and geology.

Although none of these holes reported significant mineralised intercepts, drilling intercepted significant disseminated or semi-massive unmineralised sulphides (mainly pyrite and pyrrhotite). These holes were checked with DHEM on completion of the drilling, confirming the conductor was intercepted.

At Pelicano, a single drillhole was completed into the large conductor, and drilling intercepted disseminated sulphides at the target depth, including trace amounts of chalcopyrite (copper bearing sulphide). A DHEM survey is planned to follow-up on this prospect as the amount of sulphides doesn't appear to explain the extensive anomaly. On completion and interpretation of the DHEM, additional drilling may be planned for Pelicano.

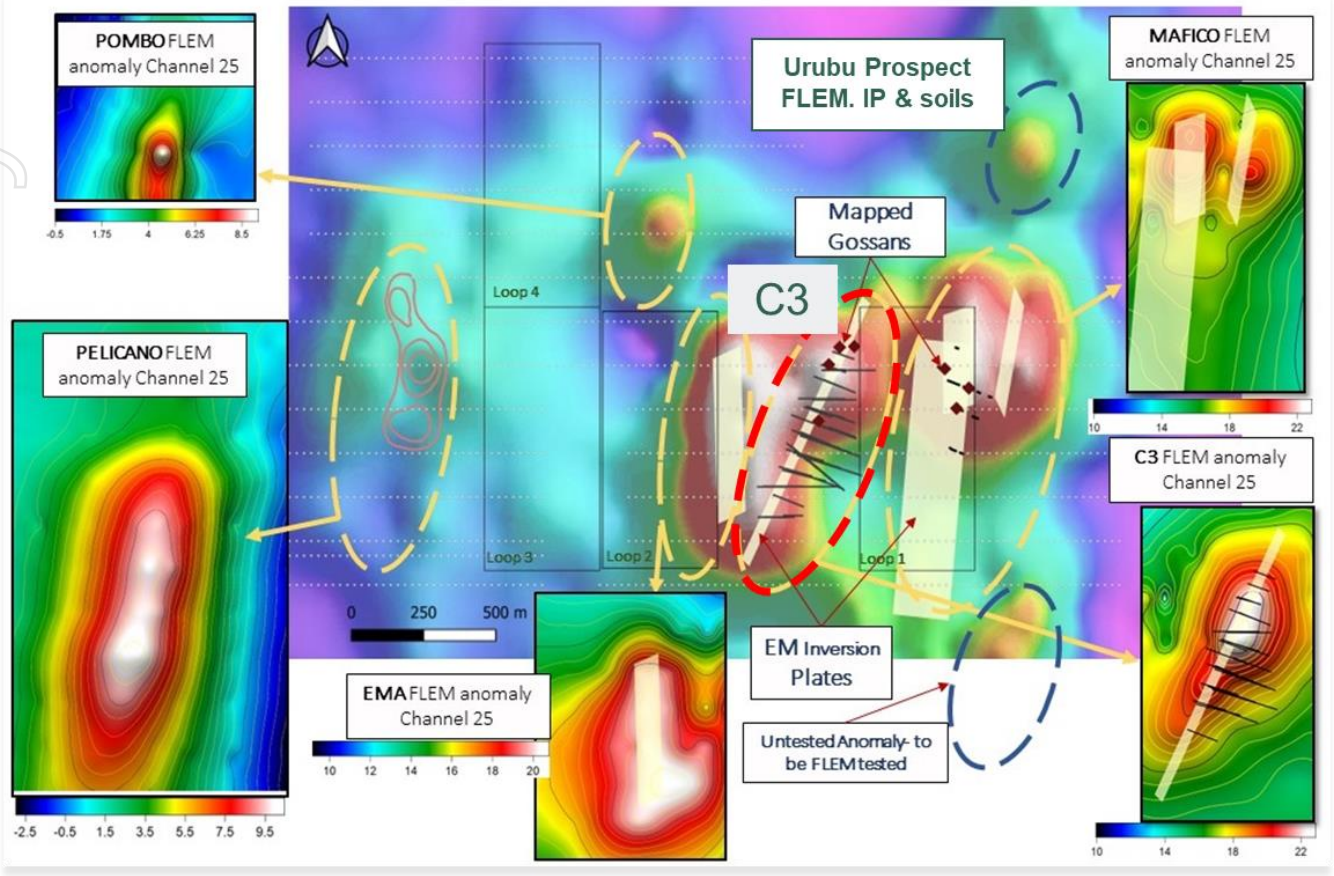

***Figure 3**: C3 'Cluster' highlighting the locations of the Mafico, Ema, Pombo and Pelicano prospects which surround C3.*

Palma Regional Exploration Strategy

Since estimating the Maiden Resource Estimate at IPO in 2021 of 4.6Mt @ 1.0% Cu, 3.9%, 0.4% Pb & 20g/t Ag based on historical drill results completed by the CPRM, Alvo has completed >18,880m of diamond drilling and 1,467m of Reverse Circulation ("**RC**") drilling. In addition, the Company has completed extensive geological logging, multiple geophysical surveys (IP, FLEM and DHEM) and studies of physical properties.

This information gathered has enhanced Alvo's technical team's knowledge and understanding of the Palma VMS district, enabling the team to effectively explore and assess regional target areas across the >875km^2 of contiguous landholding and 70km of prospective strike for similar deposits.

Exploration work is underway across multiple prospects with the aim of advancing prospects to drill-ready targets. Field activities including geological mapping, soil sampling, Auger drilling ("**Auger**"), Induced Polarisation Surveys ("**IP**") and Fixed Loop electromagnetic surveys ("**FLEM**") are being undertaken concurrently on various prospects within the district.

Importantly, through the Company's key equipment purchases purchase it allows for flexible, fast and efficient exploration and is significantly less expensive than typical contracted exploration as the only material expense is labour.

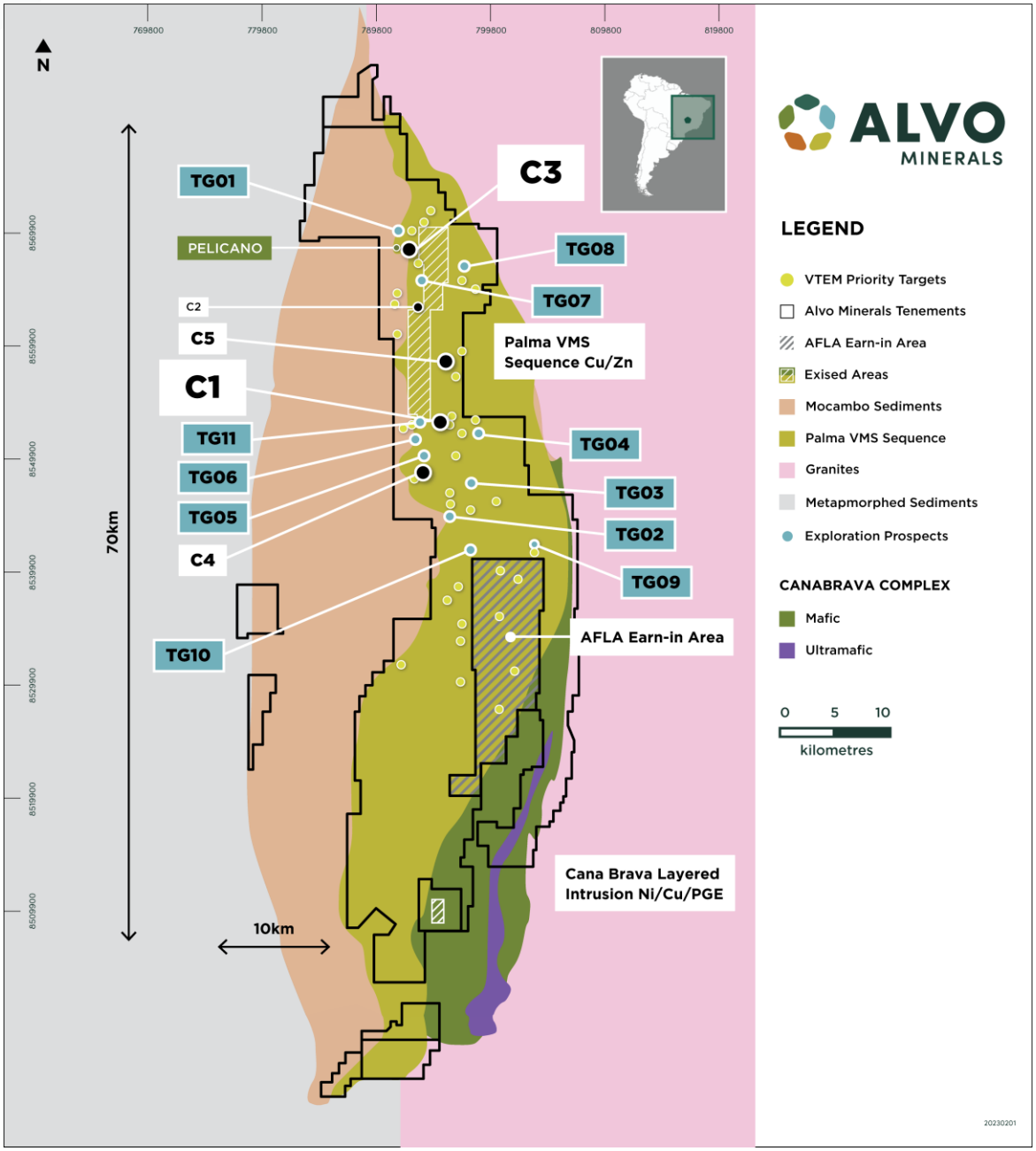

Figure 4: *Palma Project including known deposits (C3 & C1), advanced mineralised prospects (C4 & C5) and emerging exploration prospects.*

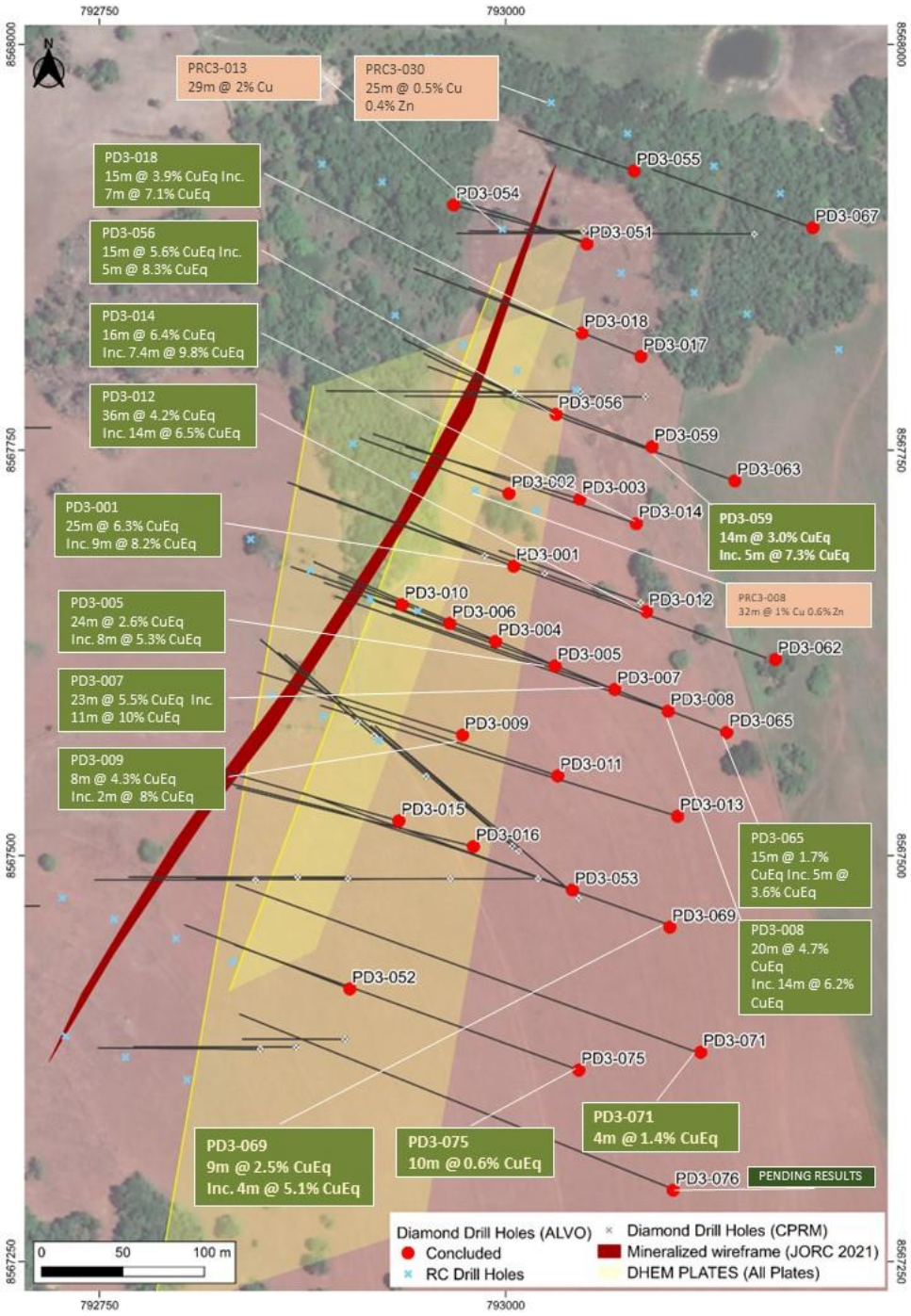

***Figure 5**: C3 Drill plan with updated mineralised intercepts.*

***Cueq & Zneq: Copper and Zinc Equivalent Calculation** The copper and or zinc equivalent grades (CuEq & ZnEq) are based on copper, zinc, silver, lead and gold prices of US$7,782/t Copper, US$3,189/t Zinc, US$1,980/t Lead, US$19.30/oz Silver, and US$1,696/oz ((price deck based on 3-month LME as 7/11/22) Recoveries of 81%, 83%, 70%, 50% and 50% respectively,(recoveries based on ASX Metallurgical testwork released 9 November 2022). The copper equivalent calculation is as follows: Cu Eq = Cu grade% * Cu recovery + ((Pb grade % * Pb recovery % * (Pb price $/t/Cu price$/t)) + (Zn grade % * Zn recovery % * (Zn price $/t/Cu price $/t)) + (Ag grade g/t /31.103 * Ag recovery % * (Ag price $/oz/Cu price $/t) + (Au grade g/t /31.103 * Au recovery % * (Au price $/oz/Cu price $/t). Reported on 100% Basis.*

Table 3: Collar details of Diamond Drilling reported in this release. Coordinates are in SIRGAS_2000 Zone22S.
Hole PDF-057 was abandoned when the hole collapsed.

Hole ID	Prospect	Easting	Northing	RL	Depth	Azimuth	Dip	Comment
PDE-066	EMA	792519.00	8567763.00	393.91	**310.20**	90	-50	Discovery
PD3-067	C3	793189.00	8567887.00	392.02	**196.70**	290	-60	Expand
PDB-068	POMBO	792470.00	8568293.00	384.77	**202.05**	270	-50	Discovery
PD3-069	C3	793101.00	8567456.00	395.45	**421.25**	290	-60	Expand
PDE-070	EMA	792624.00	8567673.00	399.54	**211.70**	90	-65	Discovery
PD3-071	C3	793120.00	8567379.00	396.15	**532.80**	290	-60	Expand
PDF-072	MAFICO	793280.00	8567709.00	395.80	**249.15**	110	-60	Discovery
PDE-073	EMA	792533.00	8567469.00	405.57	**279.10**	90	-50	Discovery
PDP-074	PELICANO	791614.00	8567551.00	422.69	**403.10**	290	-60	Discovery
PD3-075	C3	793045.00	8567368.00	396.97	**403.30**	290	-60	Expand
PD3-076	C3	793103.00	8567294.00	396.99	**523.50**	290	-60	Expand

Next Steps and Upcoming Newsflow

- Extensional diamond drilling at C1 prospect targeting significant extensions along strike and at depth to high-grade VMS mineralisation – **Underway**
- Auger Drilling using Alvo's new truck mounted mechanical Auger – **Underway regional and infill at C1 south**
- DHEM surveys at C3 and C1, on diamond holes completed during phase 1 and phase 2 drill programs – **Ongoing**
- FLEM surveys on regional targets across Palma, defined by the previously completed VTEM surveys – **Ongoing- currently working at Urubu and C5**
- Geochemical sampling across known exploration prospects – **Ongoing- currently working at TG-08, TG-09 & TG-10**
- Metallurgical test work at C3 – **Ongoing, results expected in Q2**
- Metallurgical test work at C1 – **Ongoing, results expected in Q2**
- Induced Polarisation (IP) surveys at **C5, C1 and regional targets** – **Ongoing**
- Mineral Resource Estimate update for C3 deposit – **Q3 CY2023**
- Mineral Resource Estimate update for C1 deposit – **Q4 CY2023**

This announcement has been approved for release by the Board of Alvo Minerals Limited.

ENQUIRIES

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References to Previous ASX Announcements

Reference in this report is made to previous announcements including:

As reported in the announcement "ALVO LAUNCHES MAIDEN DRILL PROGRAM AT C3" dated 26 October 2021 issued by Alvo Minerals Limited

As reported in the announcement "ALVO INTERCEPTS BROAD ZONE IN TE FIRST HOLE AT C3" dated 4 November 2021 issued by Alvo Minerals Limited

As reported in the announcement "ALVO TO INITIATE EM SURVEY AND SECURES ADDITIONAL RIG FOR 2022" dated 8 December 2021 issued by Alvo Minerals Limited

As reported in the announcement "C3 DELIVERS EXCEPTIONAL DRILL RESULTS INCLUDING 10.57m @ 6.27% COPPER & 14.76% ZINC" dated 14 February 2022 issued by Alvo Minerals Limited

As reported in the announcement "FURTHER OUTSTANDING DRILL RESULTS INCLUDING 36m @ 1.49% COPPER & 8.58% ZINC" dated 30 March 2022 issued by Alvo Minerals Limited

As reported in the announcement "MULTIPLE DISCOVERY AND EXTENSIONAL TARGETS HIGHLIGHTED BY EM SURVEYS" dated 8 July 2022 issued by Alvo Minerals Limited

As reported in the announcement "FLEM CONDUCTORS & MINERALISED GOSSANS DEFINE HIGH PRIORITY TARGETS, DRILLING UNDERWAY" dated 16 August 2022 issued by Alvo Minerals Limited

As reported in the announcement "ALVO DELIVERS DRILLING INTERCEPTS UP TO 4.3% CU, 17% ZN & 184G/T AG" dated 30 August 2022 issued by Alvo Minerals Limited

As reported in the announcement "DRILLING AT PALMA EXPANDS POLYMETALLIC POTENTIAL" dated 18 October 2022 issued by Alvo Minerals Limited

As reported in the announcement "PRELIMINARY METALLURGICAL TESTWORK INDICATES EXCELLENT RECOVERIES" dated 9 November 2022 issued by Alvo Minerals Limited

As reported in the announcement "Large Extension of High-Grade Copper and Zinc Mineralisation – 19 January 2023 issued by Alvo Minerals Limited

In relation to the MRE and other exploration results or estimates cross-referenced above, these are extracted from the Independent Geologists' Report prepared by Target Latin America and others (the "**IGR"**), which is included in full in Alvo's prospectus dated 30 July 2021 (the "**Prospectus**") and which was announced to ASX within the Prospectus on 18 October 2021. Alvo confirms that it is not aware of any new information or data that materially affects the information included in the IGR and that all the material assumptions and technical parameters underpinning the Inferred Mineral Resource Estimate continue to apply and have not materially changed.

Forward Looking Statements

Statements regarding plans with respect to Alvo's Palma Project and its exploration program are forward-looking statements. Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside Alvo's control and actual values, results or events may be materially different to those expressed or implied herein. Alvo does not undertake any obligation, except where expressly required to do so by law, to update or revise any information or any forward-looking statement to reflect any changes in events, conditions, or circumstances on which any such forward-looking statement is based.

Competent Person's Statement

The information contained in this announcement that relates to recent exploration results is based upon information compiled by Mr Rob Smakman of Alvo Minerals Limited, a Competent Person and Fellow of the Australasian Institute of Mining and Metallurgy. Mr Smakman is a full-time employee of Alvo and has sufficient

experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the "Australasian Code for Reporting of Mineral Resources and Ore Reserves" (or JORC 2012). Mr Smakman consents to the inclusion in this announcement of the matters based upon the information in the form and context in which it appears.

ABOUT ALVO

Alvo Minerals (ASX: ALV) is a base and precious metals exploration company, hunting high-grade copper and zinc at its flagship Palma Project, located in Central Brazil. The Palma Project has a JORC 2012 Inferred Mineral Resource Estimate - 4.6Mt @ 1.0% Cu, 3.9% Zn, 0.4% Pb & 20g/t Ag.

Alvo's strategic intent is to aggressively explore and deliver growth through discovery, leveraging managements' extensive track record in Brazil. There are three phases to the exploration strategy – *Discover, Expand and Upgrade.*

Alvo is committed to fostering best in class stakeholder relations and supporting the local communities in which it operates.

JORC Tables

Section 1 Sampling Techniques and Data (Criteria in this section apply to all succeeding sections, note data in this section is extracted from historic reports)

Criteria	JORC Code explanation	Commentary
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.* • *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 Nickel that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Half diamond core was sampled and submitted for analysis, ensuring representivity of the sample zones. Sampling was typically 1m in mineralised zones unless the geologist determined a different length was appropriate. Areas away from the main mineralised zones may have been sampled as 2m composite samples. • Sampling was supervised by Alvo geologists who selected the sampling zones. • Geologists log the mineralisation as massive, semi-massive disseminated, stringer, brecciated or barren. These logs were used to determine the main mineralisation zones, which dictated the sampling. Mineralisation was also logged as potentially supergene mineralised in the oxidised zone.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	• Standard-tube diamond drilling by independent drill contractor. Drillhole diameter was variable- HW for collar and friable material, HQ diameter was generally used until the base of complete oxidation and then the diameter reduced to NQ. All holes are down-hole oriented using Reflex Gyro tool. Drill core is oriented using NQ ACT 3 orienting tool from Reflex.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• Recoveries are recorded by both the driller's assistant (on site) and Alvo field assistant once the core has been received at the core shed. Recoveries are measured by comparing the length of the drill run with the amount of core actually recovered. Recovery has averaged >95% for all drilling to date. • Drillers are penalised for poor recovery and are constantly supervised at the rig to ensure care is taken to ensure high recoveries. • No relationship is believed to exist between recovery and grade.

Criteria	JORC Code explanation	Commentary
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All holes have been geologically logged by Alvo geologists, to a detail relevant for inclusion in an MRE. Care is taken to ensure metallurgical factors are included (specifically the % of and type of sulphides present). Basic geotechnical logging is standard. • Logging and core processing is both qualitative and quantitative. Core is photographed wet and dry, measured for magnetic susceptibility, conductivity, density, RQD and basic geotechnical logging. All core is structurally logged by geologists to look for planar and linear features. Measurements of these are taken on both oriented and non-oriented core. • All drilling results reported have been logged onsite by Alvo geologists. Logs include hole number, hole location, date drilled, collar, dip and azimuth as well as qualitative data such as rock type, and descriptions of the colour, alteration, weathering, grainsize, mineralisation and texture. • The Phase 2 drill program targeting the C3 deposit, 4,895m in 15 holes have been drilled to date. Drilling at Mafico (5 holes for 1,165m), Ema (4 holes for 1,150m), Pelicano (1 hole for 403m) and Pombo (1 hole for 202m). All metreage reported has been logged.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Drill core is sawn in half and one half (consistently the same half) of the core is sampled. The remaining half is stored by Alvo in its dedicated facility. • Sample size, being generally 1m sample intervals, is appropriate to the material being sampled and considered to be representative.
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.* • *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.*	• SGS Geosol Laboratorios Ltda (**SGS**) are used for multi element and gold analyses on half diamond core. The lab techniques described below are considered appropriate for the style of mineralisation at the Palma Project ○ Half drill core samples are dried, crushed until 75% pass 3mm, homogenised and split with 250-300g pulverised until 95% passing 150# ○ Gold is determined by 30g fire assay ○ Multi element (including Cu, Zn, Pb and Ag) are determined by multi-acid digestion and ICP-OES. Samples ab ove 1% Zn, Cu, Pb or 100 g/t Ag are re-tested using a higher lower detection limit. Samples above 5% Pb are re-tested using a higher detection limit. • The QA/QC data includes standards, blanks, duplicates and laboratory checks. Alvo inserts internationally certified standards at a rate of 1 in 10 samples, blanks 1 in ~25 samples. Duplicates are selected from the crushed samples at a rate of 1 in 20 samples and follow the same assaying procedure. • Alvo has reviewed the QA/QC data for all lab samples and are satisfied the results are within acceptable limits

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *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.*	• Significant intercept tables are prepared by Alvo personal and checked by at least one other geologist. • No twinned holes are being reported. • All data is received from the laboratories and uploaded into excel spreadsheets where it is checked and uploaded into cloud storage. Once QA/QC procedures have been completed, the data is loaded into an Access database. • No adjustments to the data were made. Weighted averages were used to calculate significant intercepts. For duplicates, the first sample is recorded for intercepts.
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Alvo is using GPS to locate and record the drillhole collar locations. All drillholes are downhole surveyed using the Gyro tool from Reflex. • All location data has been recorded SIRGAS 2000 UTM zone 22S. • Topographic control is adequate for the exploration at Palma.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• Drillholes were variably spaced- Phase 2 drilling at C3 has targeted step-outs from the 2021 JORC (2012) MRE and other holes considered important for any future MRE update. Drilling at Mafico, Ema and Pelicano are new targets and there is no grid for drilling at these prospects as yet. • Drill spacing is considered sufficient to complement the previously reported Inferred JORC 2012 MRE. Results will improve the geological and grade continuity. • No compositing has been applied to the results (beyond weight averaging the results). Some sampling at 2m intervals was applied in areas away from the main VMS mineralisation.
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.* • *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.*	• Drilling was oriented to intercept mineralisation as perpendicular as possible. No bias is believed to have occurred however geological and geophysical evidence suggests folding and faulting has occurred. Sampling lengths were generally 1m downhole, unless there was a specific geological control required by the geologist. Several 'scissor holes' (holes drilled in the opposite azimuth to the normal) were drilled in order to aid understanding of geological continuity and or ore-body orientation. C3 is generally planar in overall geometry, however ongoing interpretation has noted faults, folds and shear zones in the drilling which may have altered the geometry. • All intercepts recorded are downhole intervals and may not equal true width. Scissor holes are reported the same and normally oriented holes.
Sample security	• *The measures taken to ensure sample security.*	• Drillcore is transported from the field to a locked facility by Alvo or drilling staff daily. Samples are prepared in the coreshed by Alvo staff and transported to the lab by a dedicated transport company.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits of the techniques or data has been undertaken at this stage.

Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

Criteria	JORC Code explanation	Commentary
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 security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The C3 prospect is located on exploration tenement 800.744/1978 which is a part of the agreement Alvo has with the CPRM (Geological Survey of Brazil). Alvo has the right to explore and eventually transfer 100% of this and other tenements, subject to several staged payments, drilling and payment of 1.71% royalty (above statutory government royalties). • Alvo is confident the tenement is in good standing and no known impediments exist for further exploration or eventual mining, apart from normal statutory reporting, local access agreements and state and federal approvals.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Exploration was mainly completed by the CPRM. The work was completed to a high standard for the time and Alvo was able to estimate an inferred JORC compliant Mineral Resource Estimate based on the information and work completed by the CPRM. The interpretation of this historical work has guided much of the drilling and exploration to date which has been successful in upgrading and extending the geological potential.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Palma polymetallic project is located principally in the Palmeiropolis volcano-sedimentary sequences (PVSS), composed of a series of bimodal volcanic rocks and associated sedimentary units, regionally metamorphosed to amphibolite facies. The mineralisation is of a Volcanogenic Massive Sulphide (VMS) type, occurring at or near the contact between a metamafic volcanic unit and meta-sedimentary schist and comprises pyrite, pyrrhotite, sphalerite, chalcopyrite, galena, occurring as disseminated, brecciated and massive form.

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.*
	• *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.*
		• See Table 2- Collar table. All drilling from C3 is included in Table 2.

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.*	• The significant intercepts were calculated using minimum sample length of 1m, with up to 2m of consecutive dilution, samples included with values > 0.2%Cu or >0.5% Zn or >0.1g/t Au. No upper cuts were considered. • Weighted averages were calculated for all intercepts. • Copper equivalent grades are reported. Parameters for this calculation are; ***CuEq and ZnEq: Copper and Zinc Equivalent Calculation*** *The metal equivalent grades are based on copper, zinc, silver, lead and gold prices*

Criteria	JORC Code explanation	Commentary
	• *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	*of US$7,782/t Copper, US$3,189/t Zinc, US$1,980/t Lead, US$19.30/oz Silver, and US$1,696/oz Gold ((price deck based on 3-month LME as 7/11/22) Recoveries of 81%, 83%, 70%, 50% and 50% respectively,(recoveries based on ASX Metallurgical testwork released 9 November 2022). The copper equivalent calculation is as follows: Cu Eq = Cu grade% * Cu recovery + ((Pb grade % * Pb recovery % * (Pb price $/t/Cu price$/t)) + (Zn grade % * Zn recovery % * (Zn price $/t/Cu price $/t)) + (Ag grade g/t /31.103 * Ag recovery % * (Ag price $/oz/Cu price $/t) + (Au grade g/t /31.103 * Au recovery % * (Au price $/oz/Cu price $/t). Reported on 100% Basis.*
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').*	• At C3, the mineralised domain dips moderately to steeply towards east-southeast with the drill holes planned to cut the mineralised domain in a perpendicular manner. The downhole depths are reported, true width is not accurately known at this stage. • The downhole depths are reported, true widths* is not accurately known at this stage.
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.*	• See diagrams reported in the announcement
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 results are reported above the cut-offs described above. Not all of the holes are sampled.
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.*	• Extensive exploration data and information has been completed at the Palma Project and previously reported. A summary is provided below; • Airborne geophysics. There have been several combined aeromagnetic and radiometric surveys which cover the area, generally flown by Brazilian Government Agencies. These are generally broad spaced and useful for regional context. In 2008, private groups Lara Minerals and Voltorantim SA flew an heli-borne VTEM survey across the area which highlighted multiple conductors. These may be related to massive sulphide accumulations, however most of these potential conductors were not followed up. • Drilling: Drilling by the CPRM was completed in the '70's and '80's and is included in this summary for the C1 and C3 prospects. CPRM also drilled other targets at C2, C4 and C5 where they discovered mineralisation. CPRM also drilled several targets that did not intersect economic mineralisation. JICA drilled 7 holes in the 1980's mainly around the C4 target. Lara/Votorantim drilled 11 holes into targets they defined from the VTEM survey.

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		• Metallurgical testwork: The CPRM completed several phases of metallurgical testwork including bench and pilot plant scale. This testwork is summarised in the Prospectus issued by Alvo Minerals Ltd in 2021. • Alvo estimated a JORC compliant MRE for the C1 and C3 prospects. • Ground geophysics has been completed by Alvo across these prospects. Surveys have included fixed loop electromagnetic surveys (FLEM), Downhole electromagnetic surveys (DHEM) and Induced Polarisation Surveys (IP).
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.*	• Alvo will continue the diamond drilling program targeting the C1 depsoit. The program will evolve as results are received and will focus on upgrading and expanding the inferred MRE. Potential exists both along strike and at depth. Alvo has also started drilling on new prospects that have high geological probability of hosting mineralised sulphides. • Alvo has in-house electromagnetic and Induced polarisation survey equipment and is performing FLEM, DHEM and IP surveys. It is expected these surveys will enhance the drilling program by delineating possible extensions of the highly conductive mineralisation. • Alvo has purchased a truck mounted mechanical Auger drill rig allowing fast and effective Geochem sampling across the companies tenure. • Alvo routinely soil sampling across the tenure, geologically maps and occasionally trenches prospects to better understand the under-surface geology and geochemistry.