22 October 2025



**ASX:ALV** 

# **New Targets at Palma Copper-Zinc Project**

## **HIGHLIGHTS**

- Multiple new, high-priority, untested copper-zinc prospects at the Palma Volcanogenic Massive Sulphide ("VMS") Cu-Zn Project ("Palma") are being advanced to drill-ready status
  - o Palma hosts a JORC (2012) Mineral Resource Estimate ("MRE") of 7.6Mt @ 2% CuEq<sup>1</sup> (0.7% Cu, 4.0% Zn, 0.4% Pb & 14g/t Ag) in 3 deposits<sup>2</sup>.
  - Alvo discovered the C4 deposit in 2024, combining detailed geochemistry, integrated geology with advanced geophysics.
- Detailed and multi-disciplinary exploration has defined new Cu-Zn targets with high priority prospects summarised below:
  - Esperanza: >1km long Cu-Zn geochemistry anomaly with coincident strong electromagnetic conductor, in favourable geological setting. Rock-chips have results up to 0.5%Pb<sup>3</sup>.
- Touro: Recently discovered prospect featuring a well-defined mineralized trend extending for >1.0km. Multiple Zn-Cu-Pb rich gossan occurrences (results in rock-chips up to 7.5%Zn), supported by coincidence anomalies in soil, auger and progressing fixed loop electromagnetics (FLEM) surveys.
  - Entre Rios, discrete soil and auger anomaly, coincident with shallow (<100m from surface)</li>
     conductors from FLEM survey and chargeability high from Induced Polarisation surveys ("IP")
- Alvo has a district scale landholding (>1,000km²) including over 70km strike of the prospective geology which hosts the 3 known deposits (C1, C3 and C4), and an extensive pipeline of new prospects being defined through systematic geological mapping, geophysics (IP, EM, Gravity), soil sampling and auger geochemical drilling.
- Alvo has entered a scientific co-operation agreement with the Brazilian Geological Survey (CPRM), with a detailed ground Gravity survey completed over the C1 and C4 deposits and interpreted results expected in coming weeks.
- Alvo continues to evaluate new Gold, Copper and Base metals opportunities across Brazil.

**Alvo Minerals Limited (ASX: ALV)** ("**Alvo**" or "the **Company**") is pleased to update shareholders and investors on continuing Exploration across the Palma Cu-Zn Project ("**Palma**" or "**the Project**"). Extensive exploration at Palma has advanced, refined and prioritised multiple drill ready prospects and Alvo is excited about **developing the new** prospects **into new** discoveries.

<sup>&</sup>lt;sup>1</sup> Refer to the detailed explanation of assumptions and pricing underpinning the copper equivalent (CuEq) and zinc equivalent (ZnEq) calculations on page 12 of this announcement and in Section 2 of the attached JORC Code Table (Appendix 1)

<sup>&</sup>lt;sup>2</sup> This MRE is categorised as Indicated: 3.3Mt @ 2.3% CuEq or 6.9% ZnEq and Inferred: 4.3Mt @ 1.8% CuEq or 5.6% ZnEq. For full details including JORC tables please refer to ASX Announcement 19 July 2024 65% Increase in Open-Pit Resources to 7.6Mt @ 2% CuEq at the Palma Project

<sup>&</sup>lt;sup>3</sup> Rock-chip results are derived from Portable XRF (pXRF) analyser and the data presented in this announcement is used for geochemical screening and anomaly identification only. These results are semi-quantitative and subject to verification by laboratory assays. Reported values represent maximum values from multiple analyses, full disclosure is included in Table1 and the body of the announcement.



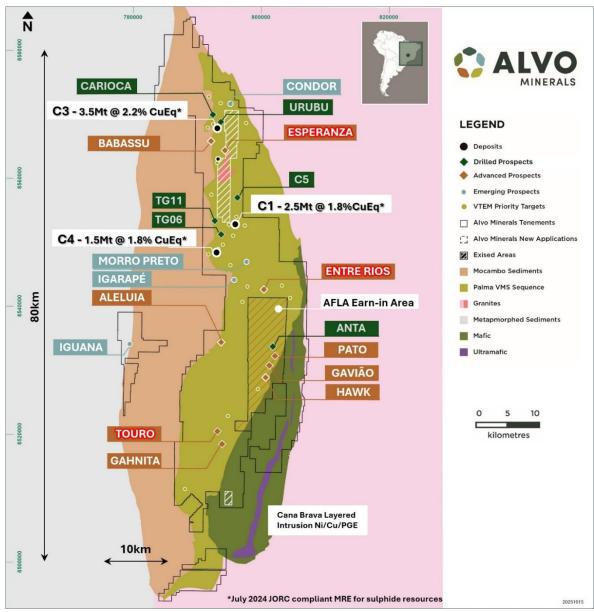
#### Rob Smakman, Alvo's Managing Director commented:

"Exploration at Palma has continued over the past months as we continue our strategy of discovering and developing new prospects for drilling.

"Our exploration team has worked systematically, bringing these new prospects to a point where drilling is the next logical step to confirm a discovery. Each of the chosen prospects has undergone multiple phases of staged exploration with drillhole planning underway.

"Our broader exploration model at Palma is to continue to make new discoveries (similar to the new Alvo C4 discovery) of high-grade copper and zinc deposits to increase the mineral resource base for development.

"Alvo has an extremely motivated, competent and equipped team that has the best modern equipment and techniques available in house for staged exploration. We look forward to delivering on our strategy of discovery and adding to our already significant resource base of Copper and Zinc at Palma."



**Figure 1:** Palma Project – District Scale VMS with known deposits- C1, C3 and C4 and advancing new Prospects; Esperanza, Touro and Entre Rios.



#### **The Palma Project**

Alvo's 100% owned Palma Cu-Zn Project hosts a Total MRE<sup>2</sup> of 7.6Mt @ 2.02% CuEq (or 6.2% ZnEq) for 153kt of contained CuEq tonnes (0.7% Cu, 3.4% Zn, 0.6% Pb, 16g/t Ag and 0.03 g/t Au), demonstrating the potential for Palma to emerge as a significant VMS district.

All deposits at Palma remain open along strike and at depth and have potential to expand and upgrade with additional drilling, geological re-interpretation, metallurgy and engineering studies.

Field work conducted throughout 2025 has comprised auger drilling, soil sampling, geophysical surveys and geological mapping across Palma where Alvo has >1,000km² of ground under tenure and >70km of strike of the prospective geological package. Palma hosts VMS style mineralisation where multiple deposits can typically form in similar geological settings. Alvo's exploration team have defined and are currently prioritising over 30 new Prospects.

Ongoing exploration at Palma is designed to integrate the disciplines of geology, geochemistry and geophysics at the different prospects, gradually refining them until the most prospective are ready to be drilled. Alvo is unique amongst its peers as it has an experienced in-house team with access to cuttingedge equipment- allowing for low-cost effective exploration to continue.

#### **Esperanza**

The Esperanza prospect lies north-south, approximately 3km to the SE of C3 (Figures 1 and 2). The prospect extends over 1km and includes gossan blocks anomalous in Pb and Zn, identified in lateritic soils. Auger drilling also returned samples highly anomalous in Cu, Pb and Zn. These results correlate well with FLEM plates interpreted at depth.

A thin felsic schist unit is faulted and folded within an amphibolite host, a geological setting considered favourable for VMS style mineralisation. Anomalous gossan sub-crop discovered whilst mapping the area and a metachert unit to the east, confirm the areas prospectivity.

A series of ground geophysical surveys were conducted at Esperanza, with a FLEM survey and multiple lines dipole-dipole Induced Polarisation (IP) undertaken. Whilst the IP was inconclusive, the FLEM survey identified a moderate to strong late-time anomaly, which, after interpretation, generated multiple subvertical plate conductors extending north-south, close to and south of the main soil and auger geochemical anomalies. The plates are interpreted to be plunging to the south and Alvo's current interpretation of the data is that the geochemistry anomaly is potentially the up-plunge extension of the massive sulphide mineralisation (see long section in Figure 3).

With the FLEM plates, favourable geological setting and the soil/auger anomalies, Esperanza is considered a highly prospective target for drill testing.



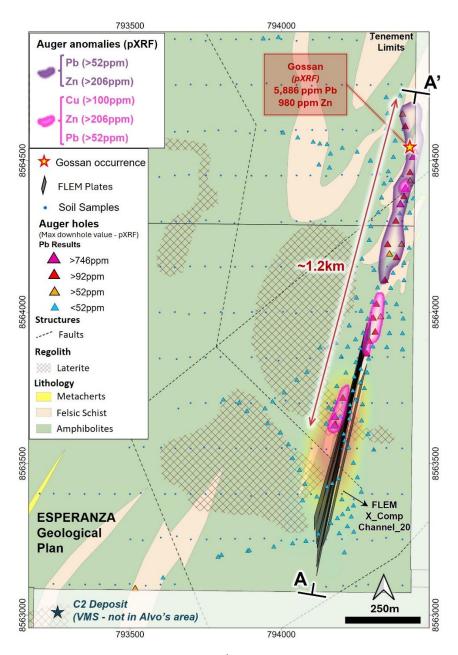


Figure 2: Esperanza Prospect geological plan with soil/auger anomalies, FLEM conductors and surface gossan.



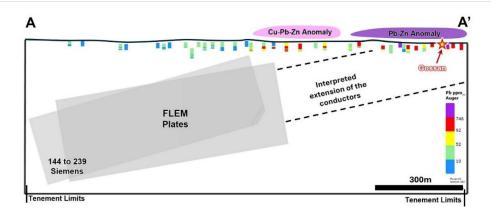


Figure 3: Esperanza Long section with FLEM conductive plates and auger geochemistry.

#### **Touro Prospect**

Touro is a recently discovered prospect featuring a well-defined mineralised trend extending for over 1km (Figures 1 & 4). The trend is marked by numerous gossan blocks containing up to 7.5% Zn, 0.2% Cu, and 1.0% Pb<sup>4</sup>, and is supported by coincidence anomalies in soil, auger, and emerging FLEM targets.

Geological mapping encountered mineralised gossans which included the zinc bearing alteration mineral gahnite. The gossans lie within a hydrothermally altered contact zone, located between mafic and felsic gneiss, considered an ideal geological context with the alteration strong direct evidence of potentially mineralised fluid flow.

A FLEM survey across the northern portion of the anomaly has revealed a late time anomaly, with additional FLEM surveying and interpretation underway across the southern portion of the trend. The inversion of the FLEM data will be completed in coming weeks and an IP survey is planned to cover the Prospect.

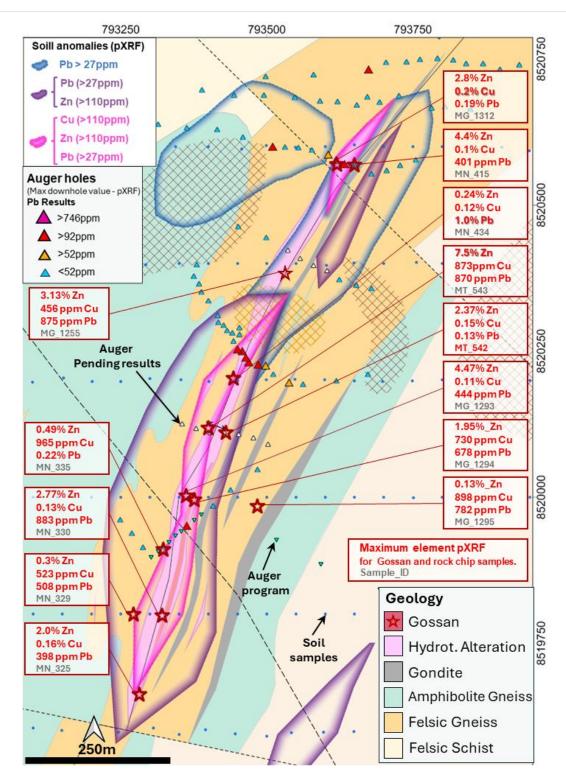
Touro is emerging as an exciting prospect, with the highest surface Zn grades from gossan and altered rockchips encountered from anywhere across the Palma Project. Positive correlation with the continuing geophysical surveys will add significant weight to the Prospect.

pXRF data is not used for Mineral Resource Estimation and should not be considered as definitive grade information. Approximately 10% of Alvo's soil, auger and rick-chip samples are routinely submitted to an independent laboratory (SGS Geosol) for multi-element analysis to validate pXRF readings. These readings are reviewed and compared to the pXRF results, allowing the company confidence in the general veracity of the pXRF results.

The Company adheres to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition), and all material results are disclosed in accordance with its guidelines.

<sup>&</sup>lt;sup>4</sup> Portable XRF (pXRF) data presented in this announcement is used for geochemical screening and anomaly identification only. These results are semi-quantitative and subject to verification by laboratory assays. All values are included in Table 1 below and reported values represent maximum readings from multiple analyses of the same rock-chip samples.





**Figure 4**: Touro VMS prospect. Soil anomalies and multiple mineralised gossans have been mapped at Touro within a hydrothermal alteration halo. Rock-chip results are maximum pXRF values with all values included in Table 1 below.



#### **Entre Rios Prospect**

The Entre Rios prospect lies northeast-southwest, approximately 12km to the SE of C1 (see Figures 1 & 5). Felsic schists and metatuff have been folded within an amphibolite host, a geological setting considered favourable for VMS style mineralisation. The soil geochemical anomaly (Cu + Zn) at Entre Rios was defined and then confirmed with auger drilling, which also highlighted a bullseye anomaly, central to the prospect area (Cu, Pb + Zn).

A series of ground geophysical surveys were conducted at Entre Rios, with a FLEM survey and multiple lines of dipole-dipole arrayed IP undertaken. The FLEM survey identified a strong late-time anomaly, which, after interpretation, generated multiple east dipping, low-moderate plate conductors extending north-south.

The IP surveys also demonstrated a strong chargeability anomaly and low-resistivity anomalies, closely associated coincident with the FLEM plates.

Entre Rios is considered an advanced Prospect with a discrete shallow conductor, ready to be drill tested.



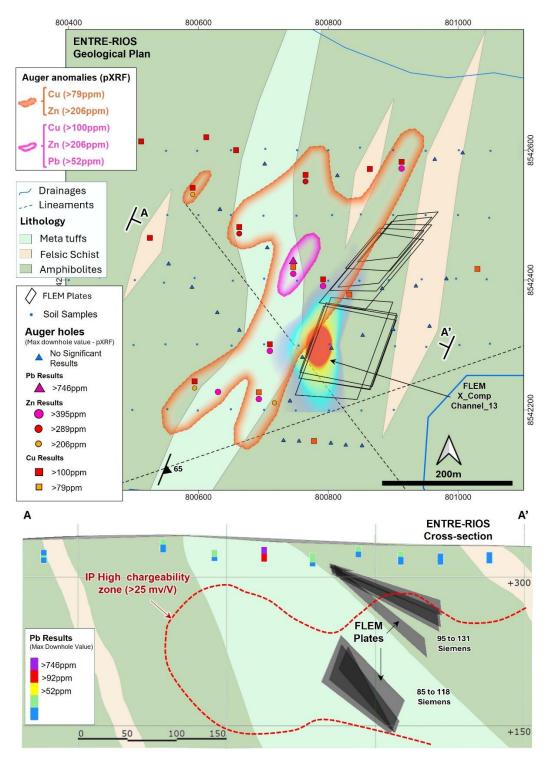


Figure 5: Entre Rios Prospect, geological plan and section.



#### **Palma Reconnaissance Drilling**

Since listing in 2021, Alvo has drilled over 25,000m at Palma, with the majority of drilling targeted at the known deposits of C1 and C3. In 2024, Alvo made the discovery of extensive VMS mineralisation at C4.

VMS exploration is essentially a search for mineralised massive sulphides, the majority of which are closely associated with barren iron sulphides (principally pyrite and pyrrhotite). These iron sulphides are barren of the target mineralisation but can often mimic the geochemical and geophysical signatures of the mineralised targets and the only definitive test is to drill holes.

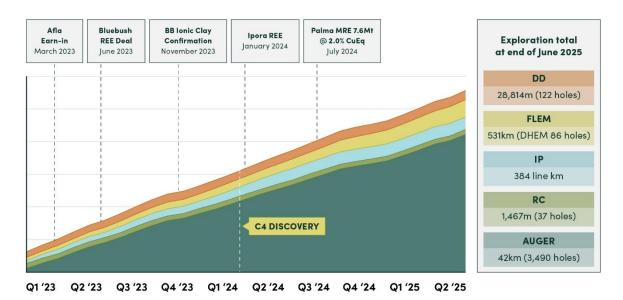
Alvo has drilled multiple Prospects that appeared analogous to the Mineralised deposits of C1, C3 and C4, however when drilled, only massive iron sulphides (typically pyrite and pyrrhotite were encountered). Most recently, 17 reconnaissance diamond holes for 4,172m across 7 different prospects were tested and whilst no massive mineralisation was encountered, some disseminated intercepts and strongly altered zones were intercepted, most likely representing distal portion of a VMS system. Prospect locations drilled are included in Figure 1 and a collar file of the hole locations are included in Table 2. No significant intercepts were encountered in this drilling.

The Anta and Urubu prospects received the majority of the drilling, with off-hole conductors defined after downhole EM surveys highlighted additional potential targets. Both of these prospects remain active with additional work planned to further refine their prospectivity.

Several prospects only received a single hole to test a coincident target (geophysical, geochemical and geological). These included TG-11, TG-06 and Carioca, whilst the northeastern extension of C4 also received one reconnaissance hole. All of these Prospects intercepted massive iron sulphides- explaining the geophysical and geochemical anomalies.

Importantly, a thorough review of the false positives has been undertaken by Alvo's team and the learning incorporated into our ongoing exploration model. The Company expects the additional work completed to define the new Prospects described in this release today are more advanced ahead of definitive drill testing than in prior campaigns.





 $<sup>^*</sup> Doesn't include geochemistry sampling, geological mapping, WTEM survey, structural/alteration logging interpretation etc.\\$ 

Figure 6: Exploration statistics from Alvo's work in Brazil, updated to June 30 2025.

#### **Next Steps**

- Geochemical sampling, geophysical surveying and mapping across exploration prospects at Palma—
   Ongoing
- Bluebush and Ipora HREE Project reviews- Underway
- New Project Copper and Gold project reviews- Ongoing
- Results from detailed ground Gravity surveys at the C1 and C4 deposits, conducted as part of scientific co-operation agreement with the Brazilian Geological Survey (CPRM)- Imminent.

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

#### **Enquiries**

For more information contact:

Rob Smakman Managing Director Alvo Minerals Limited rob@alvo.com.au +61 402 736 773 Media or broker enquiries:

**Fiona Marshall**White Noise Communications fiona@whitenoisecomms.com +61 400 512 109



#### **About Alvo**

Alvo Minerals (ASX: ALV) is an active Australian minerals exploration company, with an established exploration base in central Brazil.

The Company was founded to explore for base and precious metals, hunting high-grade copper and zinc at its Palma Copper Zinc Project in Tocantins State, Brazil. Palma has a JORC 2012 Mineral Resource Estimate of 7.6Mt @ 2.0% CuEq or 6.2% ZnEq (0.7% Cu, 3.4% Zn, 0.6% Pb & 16g/t Ag and 0.03g/t Au). This MRE is categorised as Indicated: 3.3Mt @ 2.3% CuEq or 6.9% ZnEq and Inferred: 4.3Mt @ 1.8% CuEq or 5.6% ZnEq.

Alvo is also exploring for Rare Earth Elements (REE) at its two Ionic Clay REE projects near its exploration base in Central Brazil - Bluebush and Ipora.

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.

\*For details of the Palma Mineral Resource Estimate, please refer to table below and ALV ASX Announcement dated 19 July 2024: 65% Increase in Palma Resource to 7.6Mt @ 2.0% CuEq

#### Management Team:

**Graeme Slattery** – Non-Executive Chairman **Rob Smakman** – Managing Director **Beau Nicholls** – Non-Executive Director

#### Projects:

Palma VMS Cu/Zn Project Bluebush Ionic Clay REE Project Ipora REE Project

**Shares on Issue:** 195,264,810

**ASX Code: ALV** 



#### **References to Previous ASX Announcements**

Reference in this report is made to previous announcements including:

"Prospectus" dated 18 October 2021 issued by Alvo Minerals Limited

"Preliminary Metallurgical Testwork Indicates Excellent Recoveries" dated 9 November 2022 issued by Alvo Minerals Limited

"New VMS Discovery at Palma Delivers Broadest Base Metals Intercept to date" dated 1 August 2023 issued by Alvo Minerals Limited

"65% Increase in Palma Resource to 7.6Mt @ 2.0% CuEq" dated 19 July 2024 issued by Alvo Minerals Limited



#### Palma Mineral Resource Estimate, July 2024:

Deposit	Category	Cut-off Grade: NSR**	Tonnes (Mt)	NSR USD	Cu %	Metal Cu (t)	Zn %	Metal Zn (t)	Pb %	Metal Pb (t)	Ag ppm	Metal Ag (Oz)	Au ppm	Metal Au (Oz)	CuEq*** (%)	CuEq (t)	ZnEq*** (%)
61	Indicated	- 50	1.3	148	0.7	9,600	2.5	33,900	0.5	7,200	13	540,000	0.01	600	1.7	23,300	4.7
C1	Inferred	. 50	1.2	173	0.5	6,500	3.8	45,800	0.7	8,000	17	640,000	0.01	500	2.0	23,400	6.4
C1 Total			2.5	160	0.6	16,100	3.1	79,700	0.6	12,500	14	1,180,000	0.01	1,100	1.8	46,700	5.5
СЗ	Indicated	- 50	2.0	236	1.1	21,600	5.0	97,200	0.2	4,500	15	920,000	0.04	2,200	2.7	53,100	8.4
	Inferred	. 50	1.6	144	1.0	14,900	2.0	31,500	0.1	2,100	10	523,000	0.04	1,800	1.7	25,800	5.1
C3 Total			3.5	195	1.0	36,500	3.7	128,600	0.2	6,600	13	1,440,000	0.04	4,000	2.2	78,900	6.9
C4	Inferred	80	1.5	150	0.2	3,200	3.3	50,600	1.3	19,700	28	1,380,000	0.03	1,300	1.8	28,000	5.5
C1+C3	Indicated	50	3.3	200	0.9	31,200	4.0	131,100	0.4	11,700	14	1,460,000	0.03	2,800	2.3	76,400	6.9
C1+C3+C4	Inferred	(50 & 80)	4.3	154	0.6	24,700	3.0	127,800	0.7	29,800	18	2,540,000	0.03	3,600	1.8	77,300	5.6
Total Sulphides			7.6	174	0.7	55,800	3.4	258,900	0.5	41,500	16	4,000,000	0.03	6,400	2.0	153,600	6.2

<sup>\*</sup>Rounding discrepancies may occur

\*\*The NSR (Net Smelter Return) and Cu/ZnEq values are reported based on copper, zinc, silver, lead and gold prices of US\$8,914/t Copper, US\$3,017/t Zinc, US\$2,173/t Lead, US\$23.3/oz Silver, and US\$1,891/oz gold (price deck based 3-year average Metals Prices). Recovery factor for C3: Cu; 95%, Zn; 86%, Pb; 77%, Ag 74% & Au 70%. Recovery for C1 and C4: Cu; 93%, Zn; 90%, Pb; 86%, Ag 96% & Au 85%. The NSR calculation is as follows: NSR (US\$/t) = [Cu %] \* {Price Cu] \* [RecCu %] + [Zn %] \* {Price Zn] \* [RecZn] + [Pb %] \* {Price Pb] \* [RecPb] + [Ag ppm] \* {Price Ag] \* [RecAg]/31.1035 + [Au ppm] \* {Price Au] \* [RecAu] ]/31.1035 (Adjustments are necessary to normalized to US\$/t basis).

\*\*\*The CuEq calculation is as follow: Cu+(Cu\*((Zn % \* RecZn\*Price Zn) + (Pb % \* Price Pb \* RecPb) + (Ag ppm \* Price Ag \* RecAg) + (Au ppm \* Price Au \* RecAu)) / (Cu % \* Price Cu \* RecCu). ZnEq is calculated with the same formula as CuEq, swapping Cu and Zn.

#### The VMS Exploration Model

Volcanogenic massive sulphide (VMS) ore deposits are associated with submarine volcanic activities and precipitation of metals from high temperature acid aqueous solutions. The deposit style consists in generally stratiform accumulations of polymetallic massive and disseminated sulphides, that form at or below the sea floor. The host rock can be the hydrothermally altered volcanic rock or sedimentary units intercalated within volcanic rocks. The VMS deposits are polymetallic, contain variable amounts of Cu, Zn, Pb, subordinately Ag, Au, Cd, Se, Sn, Bi and other metals.

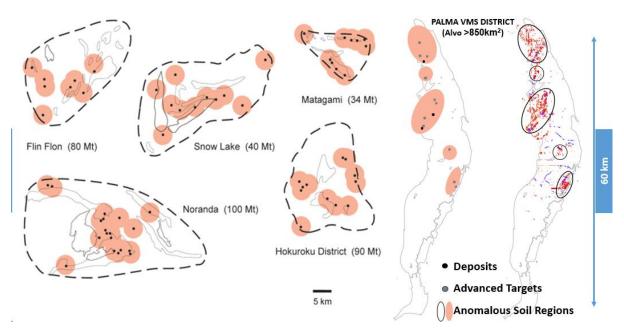
VMS deposits generally consist of two parts: a mound shaped, massive sulphide tabular lens, which accounts for the major part of the sulphide minerals, and discordant vein-type or disseminated sulphide mineralization, called the stringer or stockwork zone, located within an envelope of altered footwall volcanic or sedimentary rocks. In some deposits, the stratiform massive sulphide lens comprises the entire economic deposit, but significant quantities of ore are also mined from the stockwork zone. VMS may occur in multiple ore bodies on a single stratigraphic level or rarely stacked at multiple levels. VMS are regularly spaced on 5-20km and closely clustered lenses occur in some cases.

The Palma VMS District displays many of the characteristics typical of VMS districts around the world (see Figure 8). Other districts of similar scale have generally had significantly more exploration by many companies over decades and have multiple significant deposits resulting from the exploration.



At Palma, where Alvo has the majority of the district (>850km²) under 100% ownership, modern exploration was completed mainly by the Brazilian Geological Survey who discovered and explored for around 10 years from the mid 1970s. The Deposits discovered (C1, C2, C3 and C4) during that period were basically outcropping. Alvo has already added significantly to the exploration in the District by using a systematic approach with the most modern equipment and techniques, including the geophysical and geochemical surveys designed to discover new deposits 'under cover' (see Figure 8).

The Company is excited about testing these targets with drilling, which is considered the ultimate test for any exploration prospect. Any one of these prospects could be a 'company making' discovery and contribute to a growing mining inventory at Palma.



**Figure 7:** VMS Districts from around the world with historic mined tonnages, compared to the footprint of the Palma Project, with known Deposits and Advanced Prospects (after Galley et al 2007).

#### **Forward Looking Statements**

Statements regarding plans with respect to Alvo's projects and its exploration programs 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.



The information contained in this announcement that relates to information attributed to or compiled from the 'Mineral Resource Estimate' is based upon information compiled by Mr Marcelo Batelochi, a Competent Person and Member of the Australasian Institute of Mining and Metallurgy. Mr Batelochi is a full-time employee of MB Consultaria 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 Batelochi consents to the inclusion in this announcement of the matters based upon the information in the form and context in which it appears.

**Table 1**: Assay results from chip samples, analysed using portable XRF (pXRF). Orange = higher results (as shown in Figure XX), and Light Blue = lower results.

TARGET	ROCK_CHIP#	SAMPLE_ID	UTM_X	UTM_Y	Cu ppm pXRF	Pb ppm pXRF	Zn ppm pXRF	COMMENT
TOURO	MG_1255	MG_1255-01	793538	8520411	456	875	875	
TOURO	MG_1255	MG_1255-02	793538	8520411	29	86	19,265	
TOURO	MG_1255	MG_1255-03	793538	8520411	28	76	19,611	Gossan with
TOURO	MG_1255	MG_1255-04	793538	8520411	105	130	21,536	hydrothermal
TOURO	MG_1255	MG_1255-05	793538	8520411	42	115	31,310	alteration
TOURO	MG_1255	MG_1255-06	793538	8520411	182	36	261	
			Average		140	220	15,476	
TOURO	MG_1293	MG_1293-01	793362	8520003	196	145	18,973	
TOURO	MG_1293	MG_1293-02	793362	8520003	451	444	5,194	
TOURO	MG_1293	MG_1293-03	793362	8520003	696	283	7,093	
TOURO	MG_1293	MG_1293-04	793362	8520003	1,132	357	8,701	
TOURO	MG_1293	MG_1293-05	793362	8520003	164	259	1,884	
TOURO	MG_1293	MG_1293-06	793362	8520003	338	340	3,087	
TOURO	MG_1293	MG_1293-07	793362	8520003	195	210	2,708	
TOURO	MG_1293	MG_1293-08	793362	8520003	215	176	2,730	Gossan
TOURO	MG_1293	MG_1293-09	793362	8520003	272	316	2,553	Gussaii
TOURO	MG_1293	MG_1293-10	793362	8520003	107	98	2,643	
TOURO	MG_1293	MG_1293-11	793362	8520003	14	0	25	
TOURO	MG_1293	MG_1293-12	793362	8520003	94	72	29,649	
TOURO	MG_1293	MG_1293-13	793362	8520003	148	101	44,727	
TOURO	MG_1293	MG_1293-14	793362	8520003	222	319	25,308	
TOURO	MG_1293	MG_1293-15	793362	8520003	69	48	95	
		,	Average		288	211	10,358	
TOURO	MG_1294	MG_1294-01	793376	8519996	545	425	6,354	
TOURO	MG_1294	MG_1294-02	793376	8519996	730	678	4,956	
TOURO	MG_1294	MG_1294-03	793376	8519996	261	271	7,686	
TOURO	MG_1294	MG_1294-04	793376	8519996	130	136	18,850	Gossan
TOURO	MG_1294	MG_1294-05	793376	8519996	298	569	19,510	O033411
TOURO	MG_1294	MG_1294-06	793376	8519996	127	406	1,803	
TOURO	MG_1294	MG_1294-07	793376	8519996	166	168	14,720	
		,	Average		322	379	10,554	
TOURO	MG_1295	MG_1295-01	793385	8519985	688	578	207	
TOURO	MG_1295	MG_1295-02	793385	8519985	500	298	1,388	Gossan with
TOURO	MG_1295	MG_1295-03	793385	8519985	898	782	804	hydrothermal
TOURO	MG_1295	MG_1295-04	793385	8519985	342	432	208	alteration
			Average		607	523	652	



TARGET	ROCK_CHIP#	SAMPLE_ID	UTM_X	UTM_Y	Cu ppm pXRF	Pb ppm pXRF	Zn ppm pXRF	COMMENT
TOURO	MG_1312	MG_1312_01	793620	8520570	2,021	1,968	387	
TOURO	MG_1312	MG_1312_02	793620	8520570	1,683	1,116	892	
TOURO	MG_1312	MG_1312_03	793620	8520570	616	1,326	33	0
TOURO	MG_1312	MG_1312_04	793620	8520570	381	361	8,849	Gossan
TOURO	MG_1312	MG_1312_05	793620	8520570	214	215	27,973	
			Average		983	997	7,627	
TOURO	MN_325	MN_325_01	793282	8519663	45	39	19,927	
TOURO	MN_325	MN_325_02	793282	8519663	1,127	398	626	
TOURO	MN_325	MN_325_03	793282	8519663	131	46	19,876	
TOURO	MN_325	MN_325_04	793282	8519663	72	105	153	
TOURO	MN_325	MN_325_05	793282	8519663	226	73	178	Gossan
TOURO	MN_325	MN_325_06	793282	8519663	75	63	157	
TOURO	MN_325	MN_325_07	793282	8519663	1,648	354	845	
TOURO	MN_325	MN_325_08	793282	8519663	19	7	10,920	
		,	Average		418	136	6,585	
TOURO	MN_329	MN_329_01	793272	8519800	523	508	2,995	
TOURO	MN_329	MN_329_02	793272	8519800	402	411	1,390	Gossan
			Average		463	460	2,193	
TOURO	MN_330	MN_330_01	793321	8519798	87	286	27,769	
TOURO	MN_330	MN_330_02	793321	8519798	908	418	1,333	
TOURO	MN_330	MN_330_03	793321	8519798	996	328	3,387	Gossan with
TOURO	MN_330	MN_330_04	793321	8519798	40	64	19,338	hydrothermal alteration
TOURO	MN_330	MN_330_05	793321	8519798	1,319	883	966	aneranon
		1	Average		670	396	10,559	
TOURO	MN_335	MN_335_01	793323	8519911	965	717	1,180	
TOURO	MN_335	MN_335_02	793323	8519911	589	549	4,941	0
TOURO	MN_335	MN_335_03	793323	8519911	624	2,257	1,942	Gossan
			Average		726	1,174	2,688	
TOURO	MN_415	MN_415_01	793650	8520569	188	401	6,235	
TOURO	MN_415	MN_415_02	793650	8520569	181	353	13,463	
TOURO	MN_415	MN_415_03	793650	8520569	1,012	391	2,206	
TOURO	MN_415	MN_415_04	793650	8520569	903	385	2,450	
TOURO	MN_415	MN_415_05	793650	8520569	645	305	43,967	0
TOURO	MN_415	MN_415_06	793650	8520569	219	109	43,858	Gossan
TOURO	MN_415	MN_415_07	793650	8520569	154	279	5,202	
TOURO	MN_415	MN_415_08	793650	8520569	226	325	7,545	
TOURO	MN_415	MN_415_09	793650	8520569	236	146	969	
		1	Average		418	299	13,988	
TOURO	MN_434	MN_434_01	793443	8520204	1,223	1,399	73	
TOURO	MN_434	MN_434_02	793443	8520204	259	1,721	1,682	Gossan /
TOURO	MN_434	MN_434_03	793443	8520204	504	10,266	2,365	Saprolite
		1	Average		662	4,462	1,373	
TOURO	MT_542	MT_542_01	793430	8520111	442	717	216	
TOURO	MT_542	MT_542_02	793430	8520111	891	664	23,711	
TOURO	MT_542	MT_542_03	793430	8520111	510	632	1,860	
TOURO	MT_542	MT_542_04	793430	8520111	767	824	3,845	
TOURO	MT_542	MT_542_05	793430	8520111	648	831	13,172	Gossan
TOURO	MT_542	MT_542_06	793430	8520111	1,000	855	4,192	Gussaii
TOURO	MT_542	MT_542_07	793430	8520111	1,054	893	6,788	
TOURO	MT_542	MT_542_08	793430	8520111	1,586	1,372	7,663	
TOURO	MT_542	MT_542_09	793430	8520111	837	915	327	
			Average		859	856	6,864	
		•						



TARGET	ROCK_CHIP#	SAMPLE_ID	UTM_X	UTM_Y	Cu ppm pXRF	Pb ppm pXRF	Zn ppm pXRF	COMMENT
TOURO	MT_543	MT_543_01	793400	8520119	873	696	4,690	
TOURO	 MT_543	MT 543 02	793400	8520119	795	601	4,521	
TOURO	MT_543	MT_543_03	793400	8520119	459	870	12,160	
TOURO	MT_543	MT_543_04	793400	8520119	707	709	9,284	
TOURO	MT_543	MT_543_05	793400	8520119	490	708	75,504	
TOURO	MT_543	MT_543_06	793400	8520119	644	742	3,080	
TOURO	MT_543	MT_543_07	793400	8520119	519	702	1,262	Gossan
TOURO	MT_543	MT_543_08	793400	8520119	346	502	43,151	
TOURO	MT_543	MT_543_09	793400	8520119	198	409	36,744	
TOURO	MT_543	MT_543_10	793400	8520119	433	682	27,532	
TOURO	MT_543	MT_543_11	793400	8520119	385	549	42,220	
TOURO	MT_543	MT_543_12	793400	8520119	593	753	4,187	
			Average		537	660	22,028	
ESPERANZA	MN_892	MN_892-01	794436	8564530	83	588	287	
ESPERANZA	MN_892	MN_892-02	794436	8564530	126	659	508	
ESPERANZA	MN_892	MN_892-03	794436	8564530	60	334	238	
ESPERANZA	MN_892	MN_892-04	794436	8564530	80	523	281	
ESPERANZA	MN_892	MN_892-05	794436	8564530	94	517	388	
ESPERANZA	MN_892	MN_892-06	794436	8564530	47	333	320	
ESPERANZA	MN_892	MN_892-07	794436	8564530	151	531	465	
ESPERANZA	MN_892	MN_892-08	794436	8564530	114	477	379	
ESPERANZA	MN_892	MN_892-09	794436	8564530	0	339	142	
ESPERANZA	MN_892	MN_892-10	794436	8564530	16	201	83	
ESPERANZA	MN_892	MN_892-11	794436	8564530	11	136	36	
ESPERANZA	MN_892	MN_892-12	794436	8564530	25	582	95	
ESPERANZA	MN_892	MN_892-13	794436	8564530	0	110	32	
ESPERANZA	MN_892	MN_892-14	794436	8564530	31	458	325	Gossan
ESPERANZA	MN_892	MN_892-15	794436	8564530	50	482	385	Gossan
ESPERANZA	MN_892	MN_892-16	794436	8564530	51	547	422	
ESPERANZA	MN_892	MN_892-17	794436	8564530	58	559	649	
ESPERANZA	MN_892	MN_892-18	794436	8564530	101	5,886	791	
ESPERANZA	MN_892	MN_892-19	794436	8564530	0	837	488	
ESPERANZA	MN_892	MN_892-20	794436	8564530	27	440	135	
ESPERANZA	MN_892	MN_892-21	794436	8564530	0	338	202	
ESPERANZA	MN_892	MN_892-22	794436	8564530	50	1,423	872	
ESPERANZA	MN_892	MN_892-23	794436	8564530	77	1,593	980	
ESPERANZA	MN_892	MN_892-24	794436	8564530	36	959	603	
ESPERANZA	MN_892	MN_892-25	794436	8564530	0	1,539	309	
ESPERANZA	MN_892	MN_892-26	794436	8564530	24	1,067	273	
ESPERANZA	MN_892	MN_892-27	794436	8564530	44	760	157	
			Average		50	823	365	



Table 2: Collar file for Palma diamond drilling

Hole ID	Prospect	Easting	Northing	RL	Final Depth	Azimuth	Dip
PDU-100	URUBU	793,614	8,568,420	385	185	285	-65
PDU-101	URUBU	793,891	8,568,742	385	244	290	-50
PDA-102	ANTA	801,477	8,533,835	331	446	110	-60
PDA-103	ANTA	801,271	8,533,264	342	270	110	-60
PDA-104	ANTA	801,727	8,533,834	331	196	110	-55
PDA-105	ANTA	801,274	8,533,976	351	427	110	-55
PD4-106	C4	792,857	8,548,339	440	197	270	-70
PD4-107	C4-NE	793,213	8,548,778	446	175	270	-50
PDC-108	CARIOCA	792,832	8,570,488	328	190	290	-50
PDU-109	URUBU	794,082	8,569,447	360	290	290	-60
PD5-110	C5	796,372	8,557,701	361	277	270	-50
PD5-111	C5	796,244	8,555,622	339	199	90	-45
PDA-112	ANTA	801,459	8,533,976	343	311	110	-75
PDA-113	ANTA	801,562	8,533,390	339	181	110	-50
PDU-114	URUBU	794,052	8,569,593	368	202	275	-60
PDO-115	TG-11	793,169	8,553,581	406	216	270	-48
PDS-116	TG-06	792,892	8,551,357	429	361	270	-72



**Appendix: 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	<ul> <li>Nature and quality of sampling (egcut 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	Auger Drilling  Alvo auger drilling: Auger geochemical sampling was completed on 1 or 2 metres continuous samples. The samples are homogenised on a tarp and a representative sample of approximately 1kg is bagged and labelled. Sample information is collected in the field on a tablet.  The samples are sent to Alvo's core shed, where samples are dried over 24 hours at 60°C, broken up and sieved to -1mm. These samples are then saved in a small plastic bag and analysed with handheld XRF (pXRF) using soil mode.  ~10% of the samples are dispatched to the independent external lab- SGS Geosol in Goiania.
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, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	<ul> <li>Auger Drilling</li> <li>Auger drilling was completed using a hydraulic auger drilling machine with a 4.5" auger bit and 2m helicoidal rods. The drilling is open hole, meaning there is a significant chance of contamination from the surface and other parts of the auger hole. Holes are vertical and not oriented.</li> <li>Diamond Drilling</li> <li>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 Sprint-IQ™ tool. Drill core is oriented using NQ ACT 3 orienting tool from Reflex.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of</li> </ul>	No recoveries are recorded.     No recoveries are recorded.     The operator observes the volume of each metre and notes any discrepancy.     No relationship is believed to exist between recovery and grade.  Diamond Drilling  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



Criteria	JORC Code explanation	Commentary
	fine/coarse material.	<ul> <li>the drill run with the amount of core actually recovered. Recovery has averaged &gt;95% for all drilling to date.</li> <li>Drillers are penalised for poor recovery and are constantly supervised at the rig to ensure care is taken to ensure high recoveries.</li> <li>No relationship is believed to exist between recovery and grade.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Auger Drilling</li> <li>All holes were logged by Alvo Minerals geologists or field technicians, detailing the colour, weathering, alteration, texture and any geological observations. Care is taken to identify transported cover from in-situ saprolite/clay zones and the moisture content.</li> <li>Qualitative logging only, photography of the spill piles in the field are recorded.</li> <li>All auger drilling is logged onsite by Alvo field technicians. Logs include hole number, hole location, date drilled, collar location, dip and azimuth as well as qualitative data such as rock type, and descriptions of the colour, alteration, weathering, grain size, mineralisation and texture.</li> <li>Diamond Drilling</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>All metreage reported has been logged, but not all metres were sampled.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>All the sampling procedures were conducted by the Alvo Minerals geologists and technicians.</li> <li>Auger Drilling</li> <li>Auger sampling is completed on site. Samples are collected from a modified bucket around the mouth of the hole and then each sample is homogenised and quartered, with a sample bagged on site and sent to Alvo's core shed facility. A representative sample of ~10% are sent to an independent lab (SGS Geosol) for checking against the XRF results.</li> <li>Sampling is considered to be appropriate for the material being collected.</li> <li>Diamond Drilling</li> <li>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.</li> <li>Sample size, being generally 1m sample intervals, is appropriate to the material being sampled and considered to be representative.</li> </ul>
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is	<ul> <li>SGS Geosol Laboratorios Ltda (SGS) are used for multi element analysis on auger, diamond, soil and rockchip samples. The lab</li> </ul>



Criteria	JORC Code explanation	Commentary
	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.	techniques described below are considered appropriate for the style of mineralisation at the Palma Project  Samples are dried, crushed until 75% passing 3mm, homogenised and split with 250-300g pulverised until 95% passing 150#  Multi element (including Cu, Zn, Pb and Ag) are determined by multi-acid digestion and ICP-OES. Sample results over detection limit (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  Alvo has also compared the accuracy of the XRF assays compared to the Lab assay results and found them to be acceptable for interpretation as anomalies. Alvo regularly compares the results for multiple elements between both independent lab and in-house pXRF.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>No significant tables are reported for auger drilling as these are considered geochemical samples and are important from a local anomaly basis only.</li> <li>Significant samples from rock-chip sampling of gossans and other rocks are included with all results (for major elements Cu, Zn and Pb) included, along with arithmetic average</li> <li>No twinned holes are being reported.</li> <li>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.</li> <li>No adjustments to the data were made.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>No adjustments to the data were made.</li> <li>Alvo is using GPS to locate and record the soil, rock-chip, auger and drill hole collar locations.</li> <li>All location data has been recorded in SIRGAS 2000 UTM zone 22S.</li> <li>Topographic control is adequate for the exploration at Palma.</li> </ul>
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.	<ul> <li>Auger drillholes are variably spaced with holes typically 50-400m apart on section (which follow open access and hence may not be perpendicular to the anomaly orientation). Drill sections are variably spaced</li> <li>Diamond drilling locations are variable with collar locations targeted to minimize vegetation disturbance whilst still achieving the geological targeting.</li> <li>Drill spacing and assay methodology is considered insufficient to estimate a Mineral Resource under the JORC 2012 guidelines.</li> </ul>
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	<ul> <li>Drilling was planned along open access- which can include roads, fence lines and open fields. Where possible, drill lines were oriented to intercept anomalies as perpendicular as possible. No bias is believed to have occurred. Sampling lengths were generally 1-2m downhole, unless there was a specific geological control required by the geologist.</li> <li>Mineralisation orientation is unknown and therefore true widths are also unknown.</li> </ul>



Criteria	JORC Code explanation	Commentary
	orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	
Sample security	The measures taken to ensure sample security.	Samples are transported from the field daily to a locked facility by Alvo staff. Samples are prepared in the coreshed by Alvo staff and transported to the lab by a dedicated transport company.
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	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	<ul> <li>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.</li> <li>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.</li> </ul>	The new prospects are located on Granted Exploration Permits, 100% owned by Perth Minerals Ltda a subsidiary of Alvo Minerals Ltd. Touro prospect is located on exploration tenements 861.021/2022 and 860.386/2022; Esperanza Prospect is located on exploration tenements 864.149/2018 and 864.150/2018; Entre Rios Prospect is located on tenement 864.120/2022.  The areas are subject to the Government and Land-Owner Royalties which are variable by substance.  Alvo is confident the tenements are 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.	Regional exploration was mainly completed by the CPRM (Brazilian Government geological Survey) and included wide spaced soils and stream sediment sampling.  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 heliborne 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.
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.	Collar file of diamond drilling is included.  No Auger collar file is included as these are considered geochemical results and used for anomaly definition only.  Rock-chip sample locations are included in Table 1



Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>For rock chips, a portable X-Ray Fluorescence Analyser (pXRF) was used and data presented in this announcement is used for geochemical screening and anomaly identification only. These results are semi-quantitative and subject to verification by laboratory assays. Reported values in the maps and text represent maximum reading point values. All readings are included in Table 1, including average reading values.</li> <li>pXRF data is not used for Mineral Resource Estimation and should not be considered as definitive grade information. Approximately 10% of samples are routinely submitted to an independent laboratory (SGS Geosol) for multi-element analysis to validate pXRF readings.</li> <li>No significant drilling results are reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	No drilling relationships are known.
Diagrams	<ul> <li>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.</li> </ul>	See diagrams reported in the announcement . The Prospects discussed in this announcement are not considered
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.	<ul> <li>No drill results are being reported.</li> <li>Maps are prepared showing the higher zones of anomalism only, in order to highlight targets for further exploration.</li> </ul>
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.	<ul> <li>Extensive exploration data and information has been completed at the Palma Project and previously reported. A summary is provided below;</li> <li>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 heliborne 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.</li> <li>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</li> </ul>



interpretations and future drilling areas, provided this information is not commercially sensitive.  It is expected these surveys will enhance the drilling program by delineating possible extensions of the highly conductive mineralisation, and indicating additional targets for drilling.  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.
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Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status  Exploration done by other	<ul> <li>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.</li> <li>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.</li> <li>Acknowledgment and appraisal of</li> </ul>	<ul> <li>The new prospects are located on Granted Exploration Permits, 100% owned by Perth Minerals Ltda a subsidiary of Alvo Minerals Ltd. Touro prospect is located on exploration tenements 861.021/2022 and 860.386/2022; Esperanza Prospect is located on exploration tenements 864.149/2018 and 864.150/2018; Entre Rios Prospect is located on tenement 864.120/2022.</li> <li>The areas are subject to the Government and Land-Owner Royalties which are variable by substance.</li> <li>Alvo is confident the tenements are 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.</li> <li>Regional exploration was mainly completed by the CPRM</li> </ul>
parties	exploration by other parties.	<ul> <li>(Brazilian Government geological Survey) and included wide spaced soils and stream sediment sampling.</li> <li>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 heliborne 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.</li> </ul>
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.	Collar file of diamond drilling is included.  No Auger collar file is included as these are considered geochemical results and used for anomaly definition only.  Rock-chip sample locations are included in Table 1



Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>For rock chips, a portable X-Ray Fluorescence Analyser (pXRF) was used and data presented in this announcement is used for geochemical screening and anomaly identification only. These results are semi-quantitative and subject to verification by laboratory assays. Reported values in the maps and text represent maximum reading point values. All readings are included in Table 1, including average reading values.</li> <li>pXRF data is not used for Mineral Resource Estimation and should not be considered as definitive grade information. Approximately 10% of samples are routinely submitted to an independent laboratory (SGS Geosol) for multi-element analysis to validate pXRF readings.</li> <li>No significant drilling results are reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	No drilling relationships are known.
Diagrams	<ul> <li>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.</li> </ul>	See diagrams reported in the announcement . The Prospects discussed in this announcement are not considered
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.	<ul> <li>No drill results are being reported.</li> <li>Maps are prepared showing the higher zones of anomalism only, in order to highlight targets for further exploration.</li> </ul>
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.	<ul> <li>Extensive exploration data and information has been completed at the Palma Project and previously reported. A summary is provided below;</li> <li>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 heliborne 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.</li> <li>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</li> </ul>



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.	the 1980's mainly around the C4 target. Lara/Votorantim drilled 11 holes into targets they defined from the VTEM survey.  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. No testwork was completed on C4 mineralisation to date.  Alvo estimated a JORC compliant MRE for the C1, C3 and C4 deposits (2024).  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).  Alvo plans to test new and existing Prospects with diamond drilling when a substantive program can be justified.  Alvo will continue exploring other prospects in order to upgrade them to drill ready prospects. There are multiple 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, and indicating additional targets for drilling.  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.