



# Palma Cu & Zn VMS Project

PDAC Conference  
March 2023



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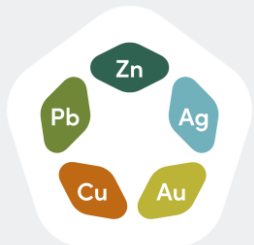
Mr Mortimer has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code 2012. Mr Mortimer is responsible for the geological modelling and resource evaluation sections of the Mineral Resource Estimate. Mr Smakman is a full-time employee of Alvo Minerals 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 JORC Code 2012. Mr Smakman is responsible for the site visit report and sampling sections of the Mineral Resource Estimate. Alvo confirms that it is not aware of any new information or data that materially affects the information included in the original IGR. Alvo confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original IGR. All material assumptions and technical parameters underpinning the estimates in the report continue to apply and have not materially changed. The IGR referred to above may be viewed and downloaded from the Company's website [www.alvo.com.au](http://www.alvo.com.au).

**Copper Equivalent Calculation:** The copper & 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 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 (and zinc) equivalent calculation is as follows:  $CuEq = Cu\ grade\ \% \times Cu\ recovery\ \% + ((Pb\ grade\ \% \times Pb\ recovery\ \% \times (Pb\ price\ \$/t / Cu\ price\ \$/t)) + (Zn\ grade\ \% \times Zn\ recovery\ \% \times (Zn\ price\ \$/t / Cu\ price\ \$/t)) + (Ag\ grade\ g/t / 31.103 \times Ag\ recovery\ \% \times (Ag\ price\ \$/oz / Cu\ price\ \$/t)) + (Au\ grade\ g/t / 31.103 \times Au\ recovery\ \% \times (Au\ price\ \$/oz / Cu\ price\ \$/t))$ . For ZnEq swap Cu and Zn in previous equation. Reported on 100% Basis.

# Investment Summary



Palma Project is a high-grade, Cu-Zn rich VMS ***district scale*** opportunity in Brazil



JORC MRE of  
4.6Mt @ 1.0% Cu, 3.9%  
Zn, 0.4% Pb & 20g/t Ag  
***Historical drilling only***



Alvo has cash, tight capital structure, experienced management & excellent infrastructure



## ***Active Exploration***

Diamond and Auger drilling operating, EM & IP geophysical surveys ongoing, regional geochemistry, mapping



VMS targets occur in clusters - Alvo has secured ***Dominant land position*** (>750km<sup>2</sup>) with >60km of prospective strike



**Alvo's drill results continue to exceed expectations on grade and thickness compared to existing MRE:**

- 36.0m @ 4.2% CuEq<sup>^</sup> or 10.2% ZnEq<sup>^</sup> - C3
- 23.2m @ 5.5% CuEq or 13.4% ZnEq - C3
- 19.7m @ 4.7% CuEq or 11.41% ZnEq - C3
- 16.0m @ 6.4% CuEq or 15.57% ZnEq - C3
- 21.8m @ 4.8% CuEq or 11.72% ZnEq - C1

# Corporate Overview

72.8  
million

## Low Shares On Issue

Exploration success can materially impact share price

\$2.1  
million<sup>1</sup>

## Strong Cash Balance

Sufficient cash to undertake exploration using own equipment

51%

## Quality Share Register

Held by Board (25%), RCF (9%), Sprott (8%), Paragon (5%), Lowell (4%)

\$9.9  
million<sup>2</sup>

## Attractive Enterprise Value

For quality of the mineral resource base and exploration upside potential

## Board and Management

Alvo's board has significant minerals exploration and mining experience in Brazil and around the world.



**Graeme Slattery**  
Non-Exec Chairman  
*Lawyer*



**Rob Smakman**  
Managing Director  
*Geologist*



**Beau Nicholls**  
Non-Exec Director  
*Geologist*

**Experienced team in Brazil to manage exploration activities.**



**Julio Liz**  
Exploration Manager



**Luiz Noronha**  
Administration Manager

# Infrastructure & Location: Palma VMS Project



Strong community and political support



Access to multiple hydroelectricity options



Multiple rail options accessing ports and smelters

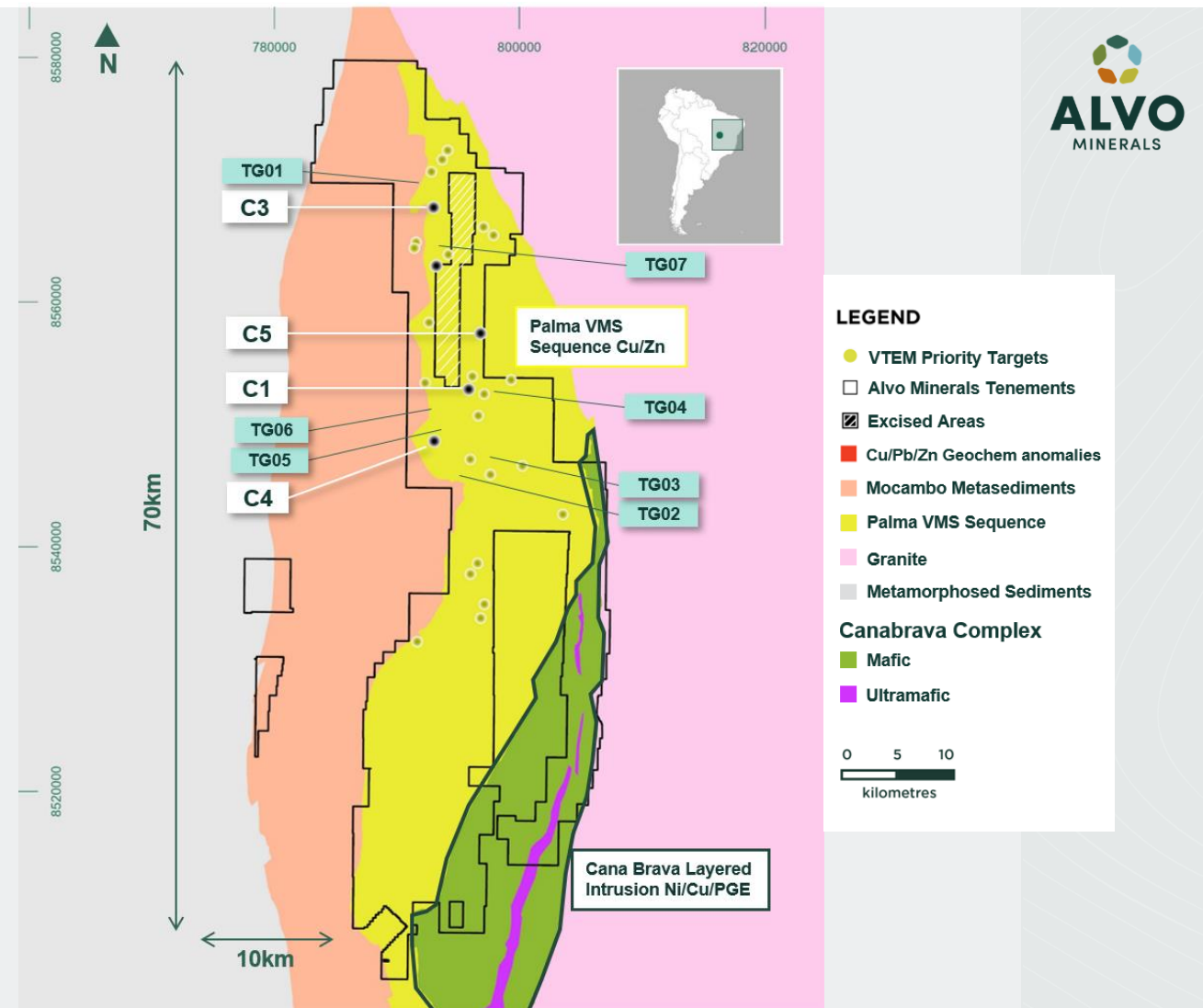


Sealed roads to project



# The Palma Project

- **Palma VMS district- 5 High-Grade, shallow mineralised prospects- JORC resources on only 2**
- VMS typically occur in clusters - only the outcropping prospects drilled historically
- Discovered in 1970's, the District has been largely idle for ~30 years - **Alvo is the first to apply modern / systematic / aggressive exploration**
- VTEM (2008) survey and subsequent FLEM and DHEM surveys and Geochem have confirmed multiple conductors (>20 high priority)
- Alvo has purchased own Electromagnetic (EM) and Induced Polarisation (IP) equipment, as well as an Auger rig for **cheap, flexible and fast in-house exploration**
- >32,000m of drilling (historic); >17,500m of drilling (Alvo '21 -'23). **Update to MRE in 2023**



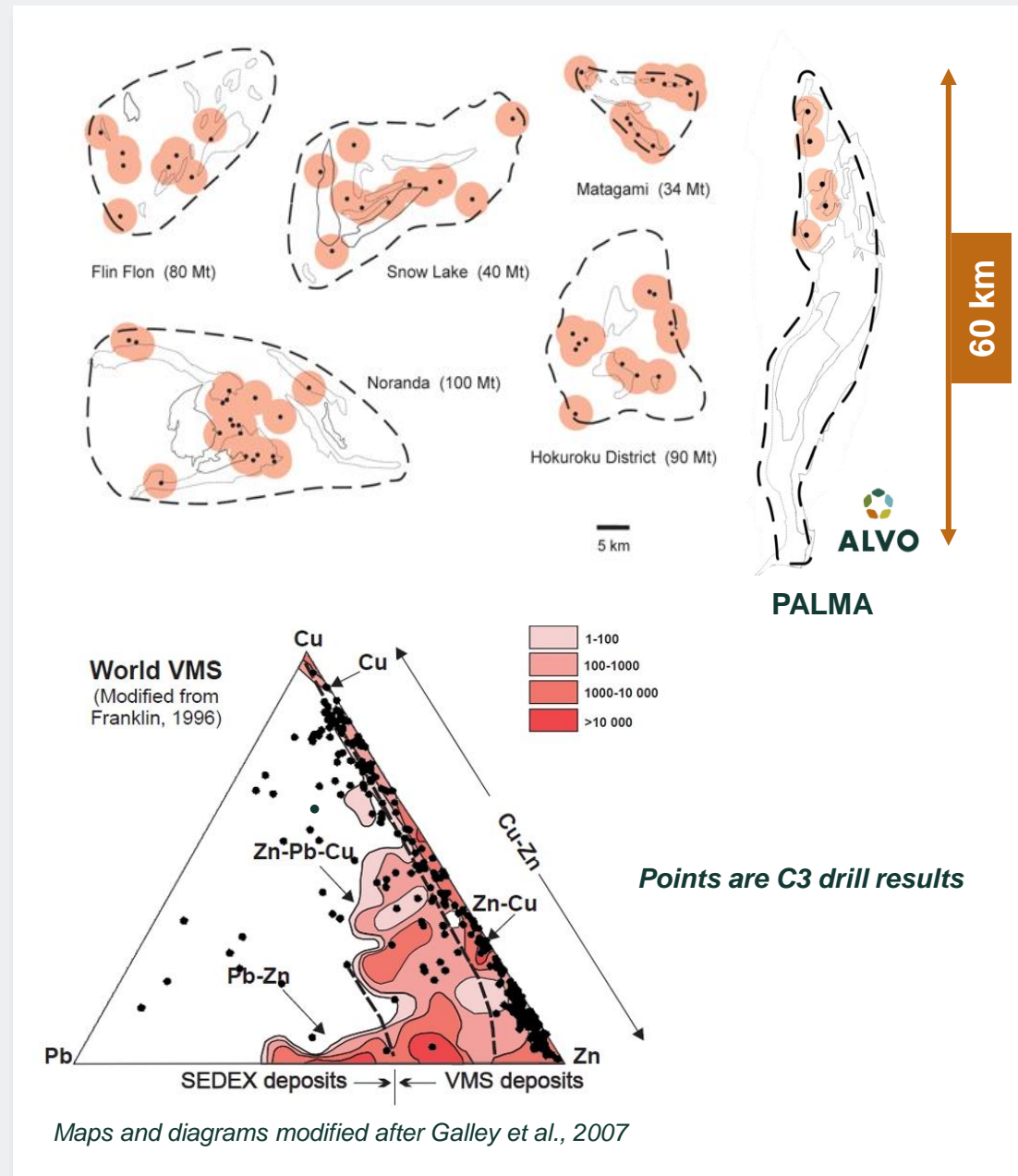
JORC 2012 Inferred Mineral Resource					
Prospect	Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)
C1	1.80	0.8	3.2	0.8	15
C3	2.80	1.1	4.3	0.2	23
<b>Total</b>	<b>4.60</b>	<b>1.0</b>	<b>3.9</b>	<b>0.4</b>	<b>20</b>

\*The NSR cut-off of USD\$60/t has been calculated using the following prices: 2.90\$/lb Cu, 1.04\$/lb Zn, 0.79\$/lb Pb, 24.5\$/oz Ag and assuming recoveries of 90% for all metals in sulphide and 45% for all metals in oxides.

ASX:ALV

# Palma: A new VMS camp

- Volcanogenic Massive Sulphide (VMS) deposits occur in clusters that define MAJOR mining camps
- VMS are important global sources of Cu, Zn, Pb, Ag and Au
- **Palma has the right rocks to become a new VMS camp** – new discoveries via Geophysics, Geochem + Drilling to confirm
- Only outcropping mineralisation has been drilled to date- limited exploration from 1980s
- Alvo has a dominant land position in the district with >750km<sup>2</sup>
- Palmeiropolis is defined as Bi-Modal Mafic- the most common of the VMS styles
  - Common examples include Kidd Creek, Flin Flon, Noranda, San Nicholas (Mexico) and Preiska (RSA)



# C3: High grade Copper and Zinc - Mini Cluster

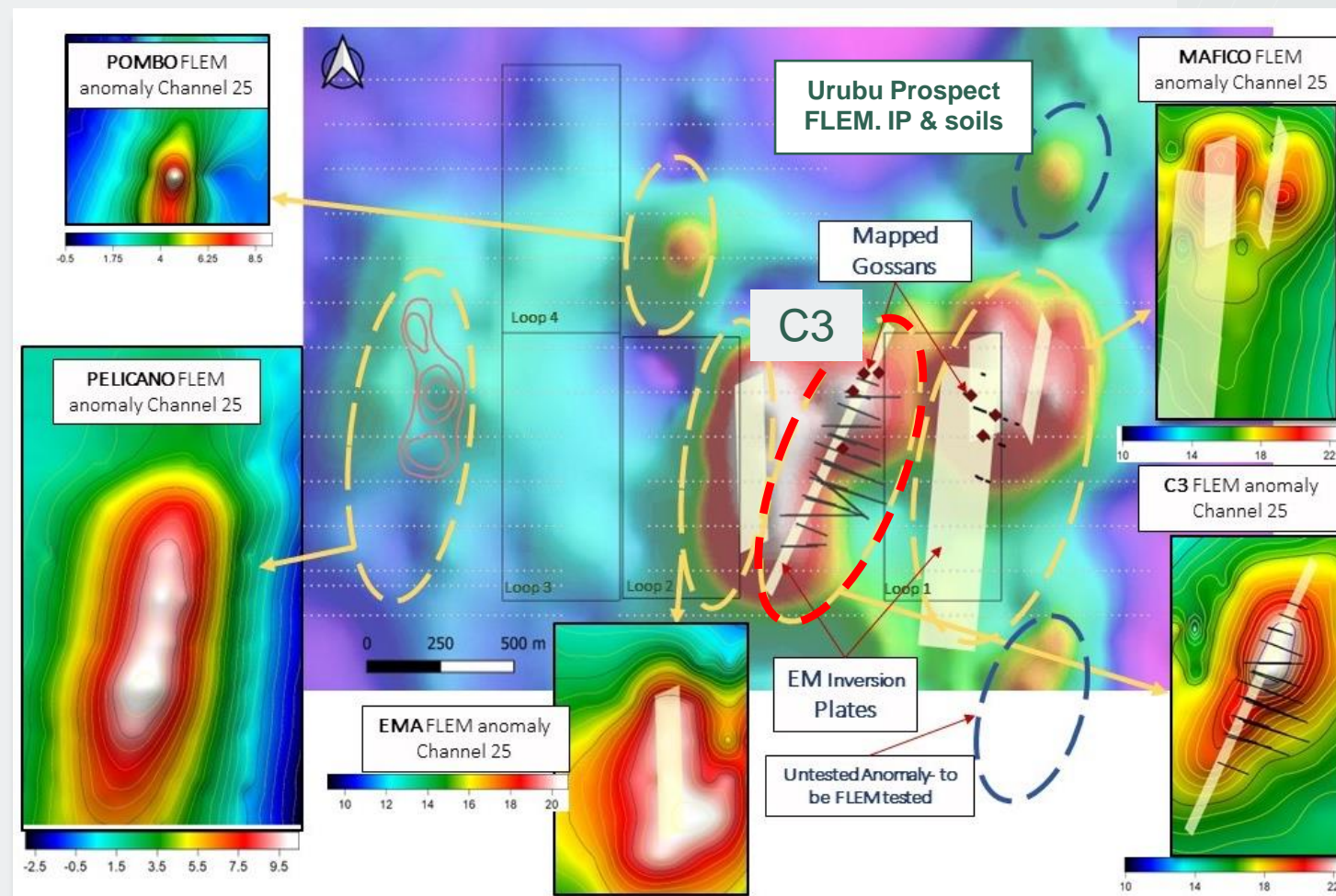
**C3 JORC 2012 MRE** of 2.8Mt @ 1.1% Cu, 4.3% Zn, 0.2% Pb & 23g/t Ag

– based on historic drilling only

New Alvo drilling - multiple high-grade intercepts drilled **will grow the resource**

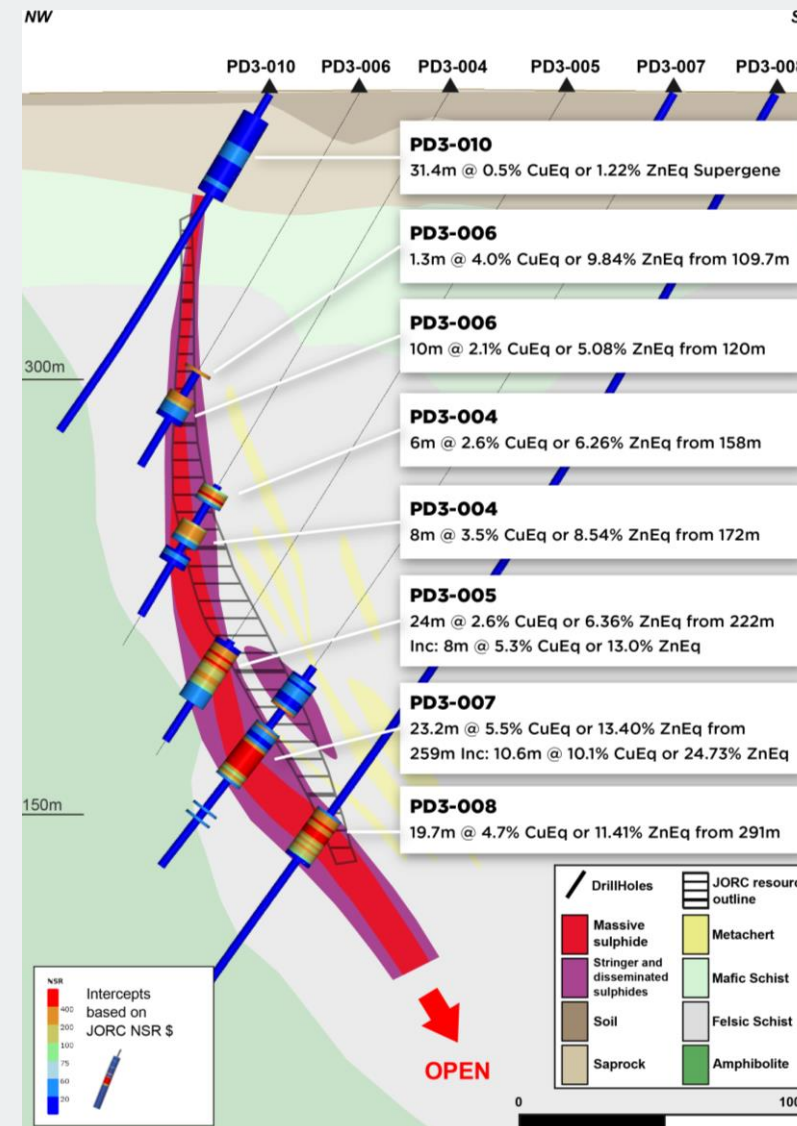
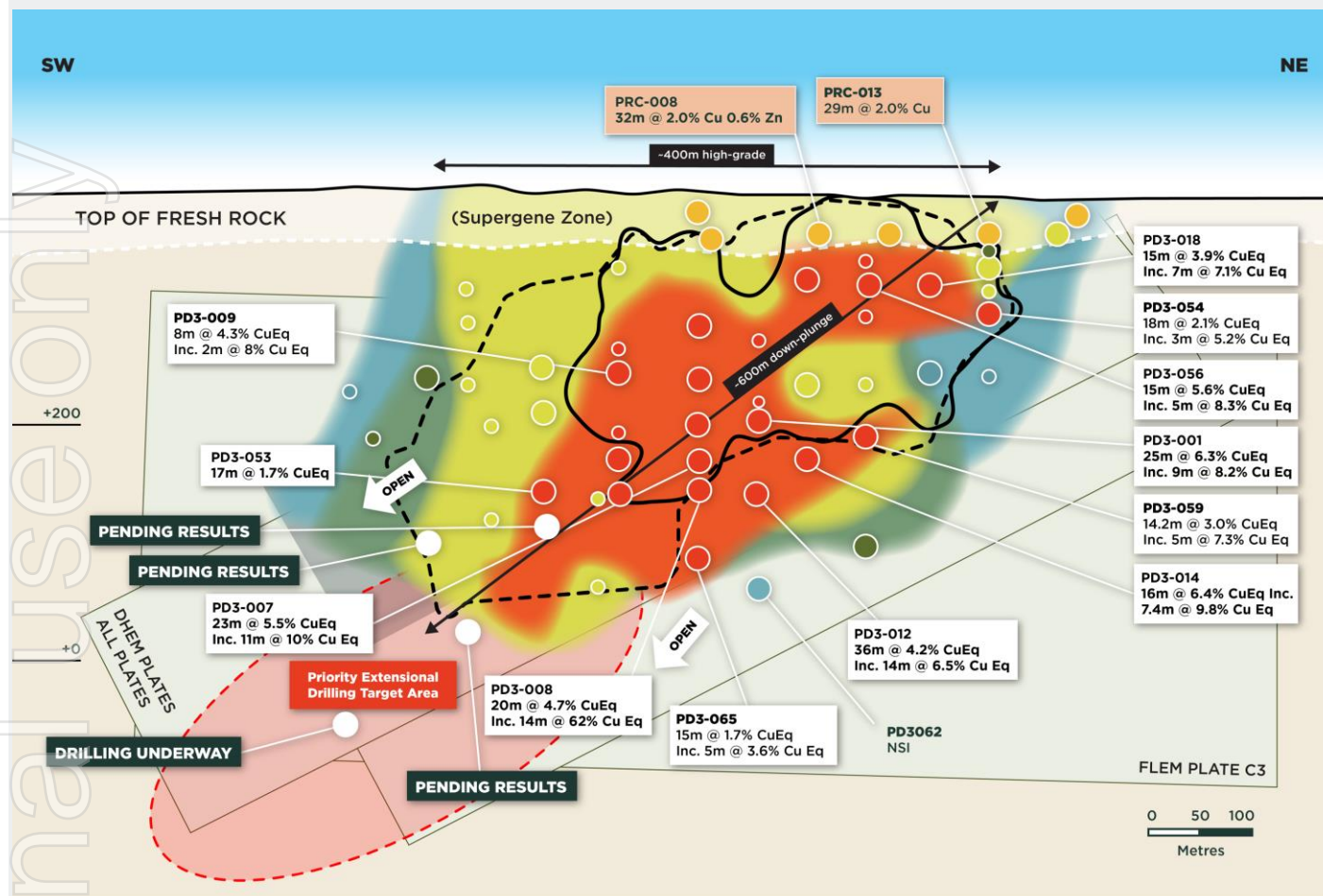
- PD3-001: **25.0m @ 6.3% CuEq or 15.34% ZnEq**
- PD3-007: 23.2m @ 5.5% CuEq or 13.4% ZnEq
  - Inc. 10.6m @ 10.1% CuEq or 24.73% ZnEq
- PD3-008: 19.7m @ 4.7% CuEq or 11.41% ZnEq
- PD3-012: **36m @ 4.2% CuEq or 10.20% Eeq**
- PD3-014: 16.0m @ 6.4% CuEq or 15.57% ZnEq
  - Inc. **7.4m @ 9.8% CuEq or 23.81% ZnEq**
- PD3-018: 15.0m @ 3.9% CuEq or 9.51% ZnEq

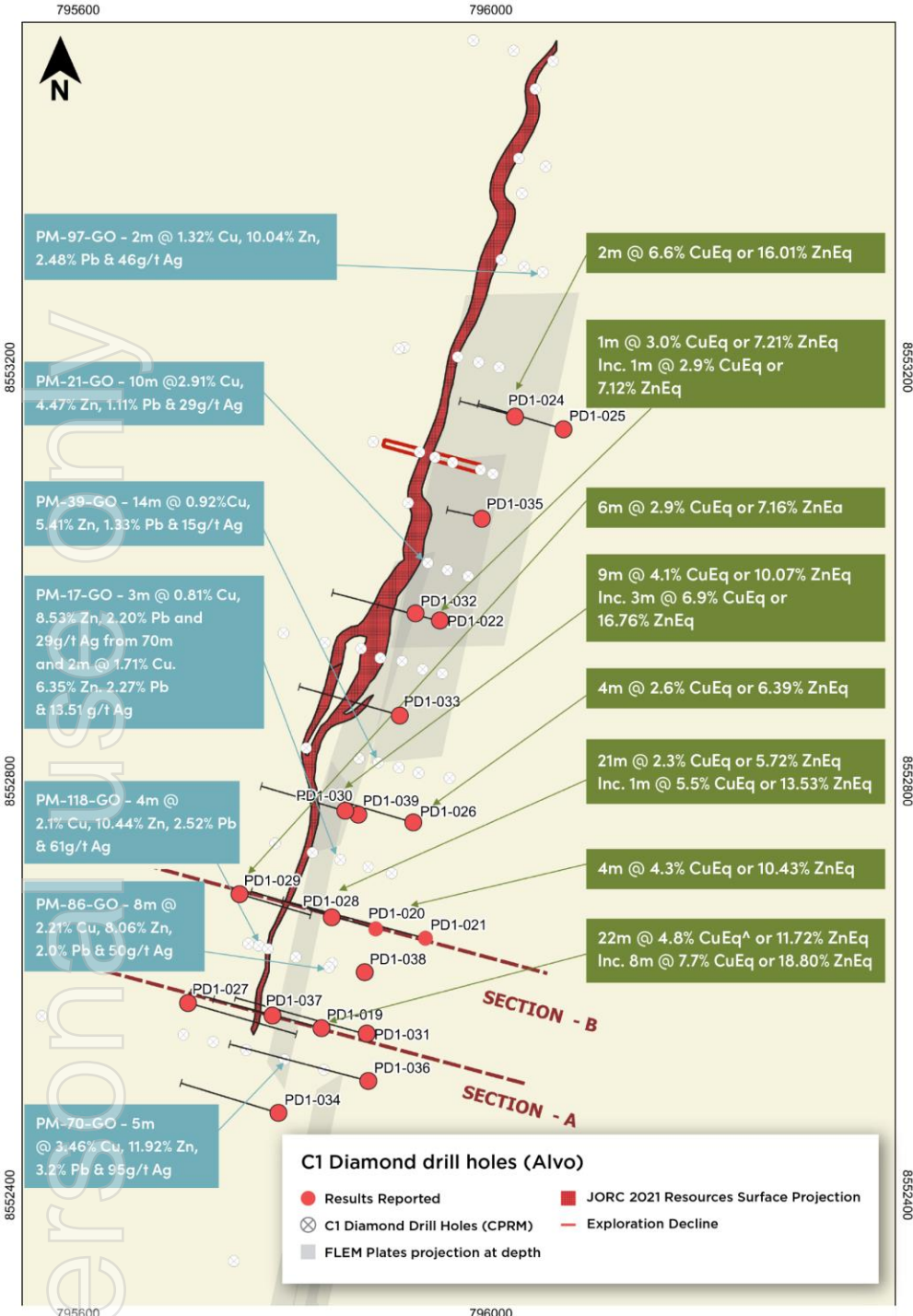
**Phase 2 drilling underway** targeting C3 extensions- we have to find the limits of mineralisation





# C3 Prospect: Thick and High-Grades; Open Down Plunge



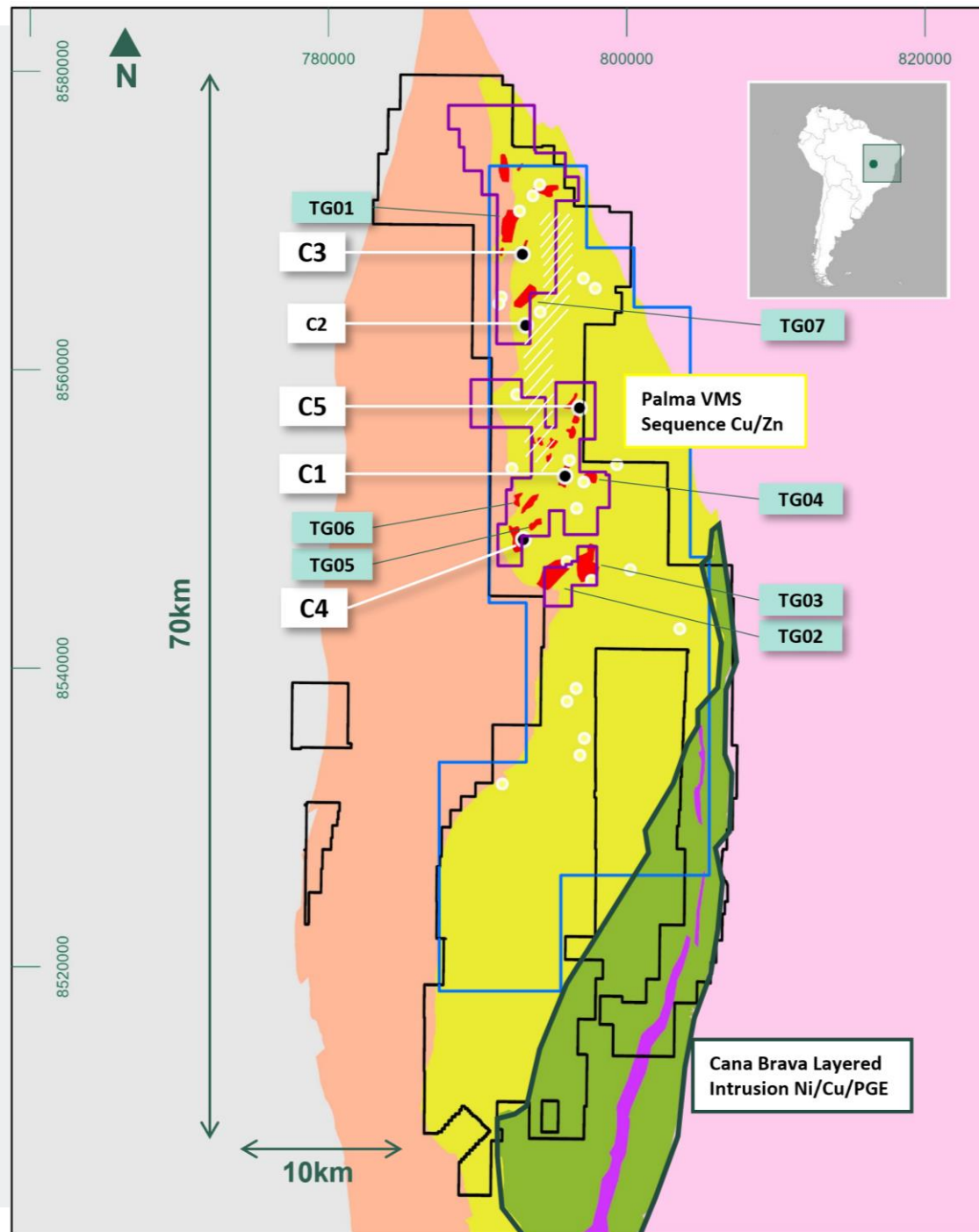
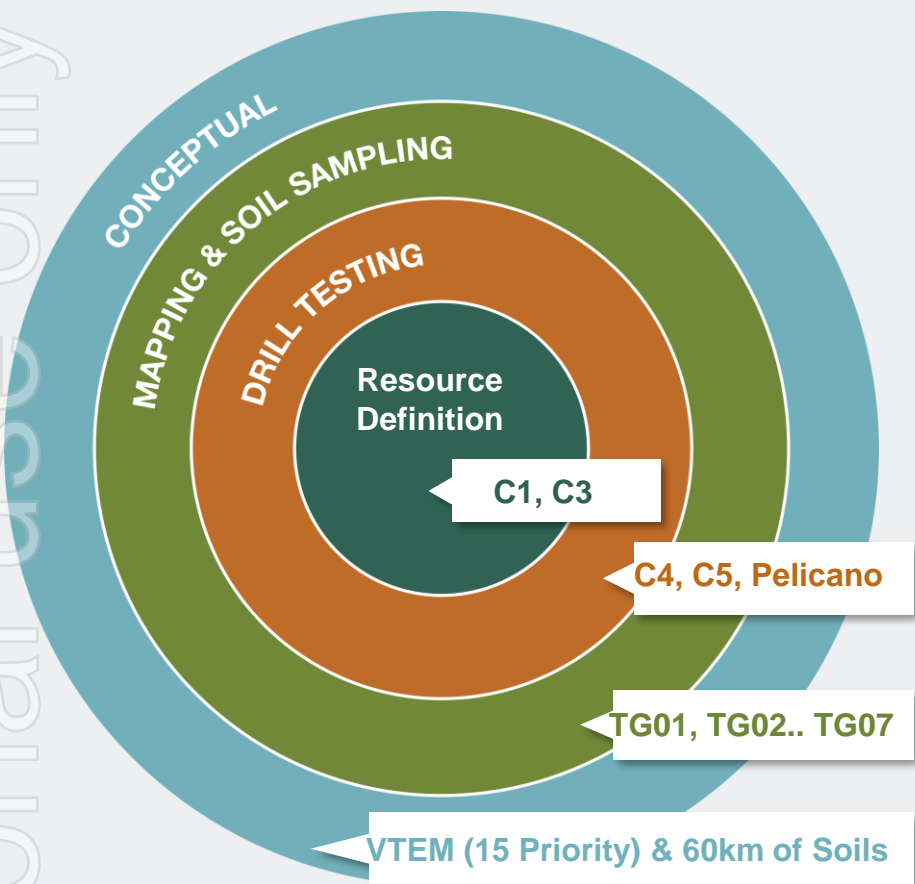


# C1 Prospect: Diamond Drilling

- C1 is mineralised over 1.2km of strike - open at depth and along strike
- Phase one diamond drilling intercepted significant polymetallic massive/semi-massive and disseminated sulphides
  - PD1-019: **21.8m @ 4.8% CuEq^ or 11.72% ZnEq** from 142m  
*Inc. 8.0m @ 7.7% CuEq or 18.80% ZnEq* from 149m
  - PD1-030: **8.9m @ 4.1% CuEq or 10.07% ZnEq** from 64m  
*Inc. 2.8m @ 6.9% CuEq or 16.76% ZnEq* from 64m
  - PD1-028: **20.6m @ 2.3% CuEq or 5.72% ZnEq** from 84m  
*Inc. 2.1m @ 5.5% CuEq or 13.53% ZnEq* from 103m
  - PD1-029: **6.2m @ 2.9% CuEq or 7.16% ZnEq** from 105m
- Fixed loop Electromagnetic Survey (**FLEM**) highlighted potential extensions down dip and **new targets to the south** - drilling and DHEM to test these positions
- IP and DHEM will be completed across C1 in early 2023
- Phase 2 drilling to follow with MRE update and phase 2 results



# Palma Exploration



## LEGEND

- VTEM Priority Targets
- Alvo Minerals Tenements
- Excised Areas
- CPRM Soil samples
- HTEM Survey
- Cu/Pb/Zn Geochem anomalies
- Mocambo Metasediments
- Palma VMS Sequence
- Granite
- Metamorphosed Sediments

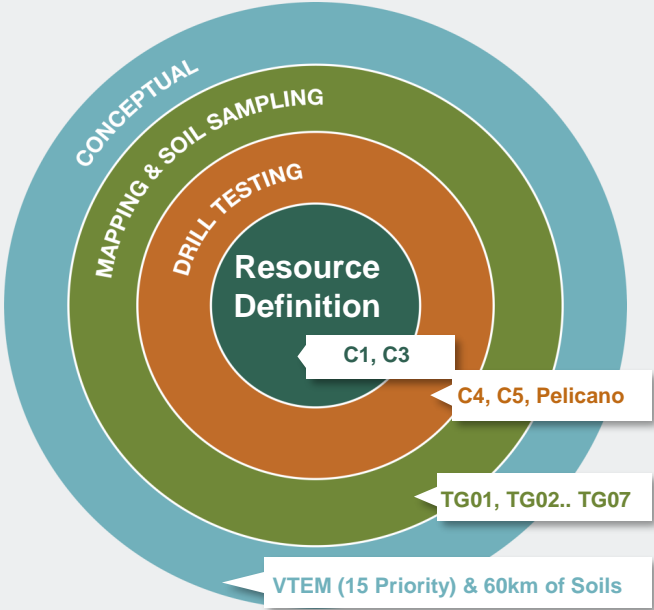
## Canabrava Complex

- Mafic
- Ultramafic



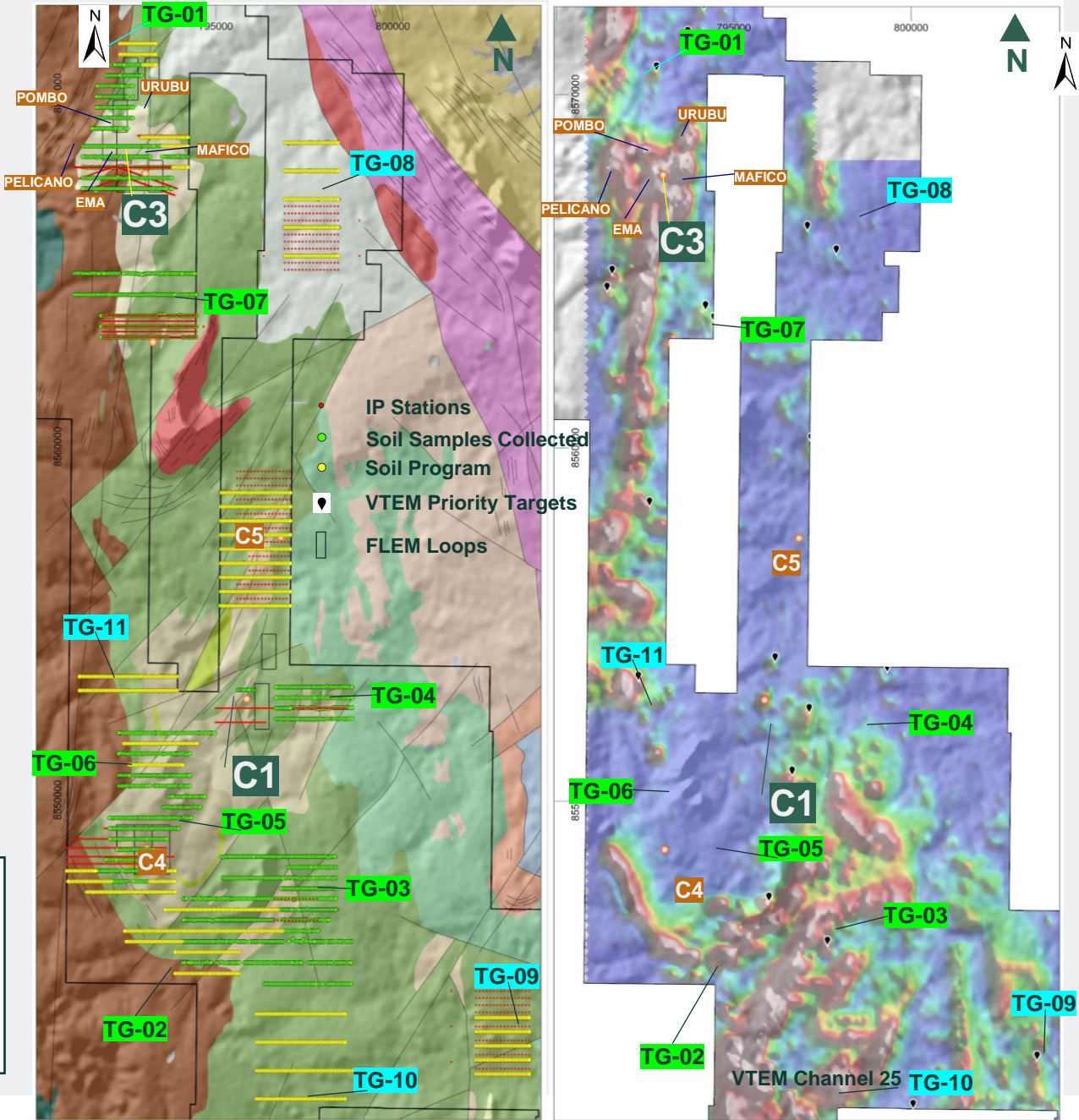
# Exploration

## Multi-Discipline, Multi-Target



Resource Definition  
Drill Testing  
Mapping, Geochem Geophys  
Conceptual

Alvo VTEM Targets





# C5: Exploration

C5 exploration is one of multiple prospects and is presented as an example

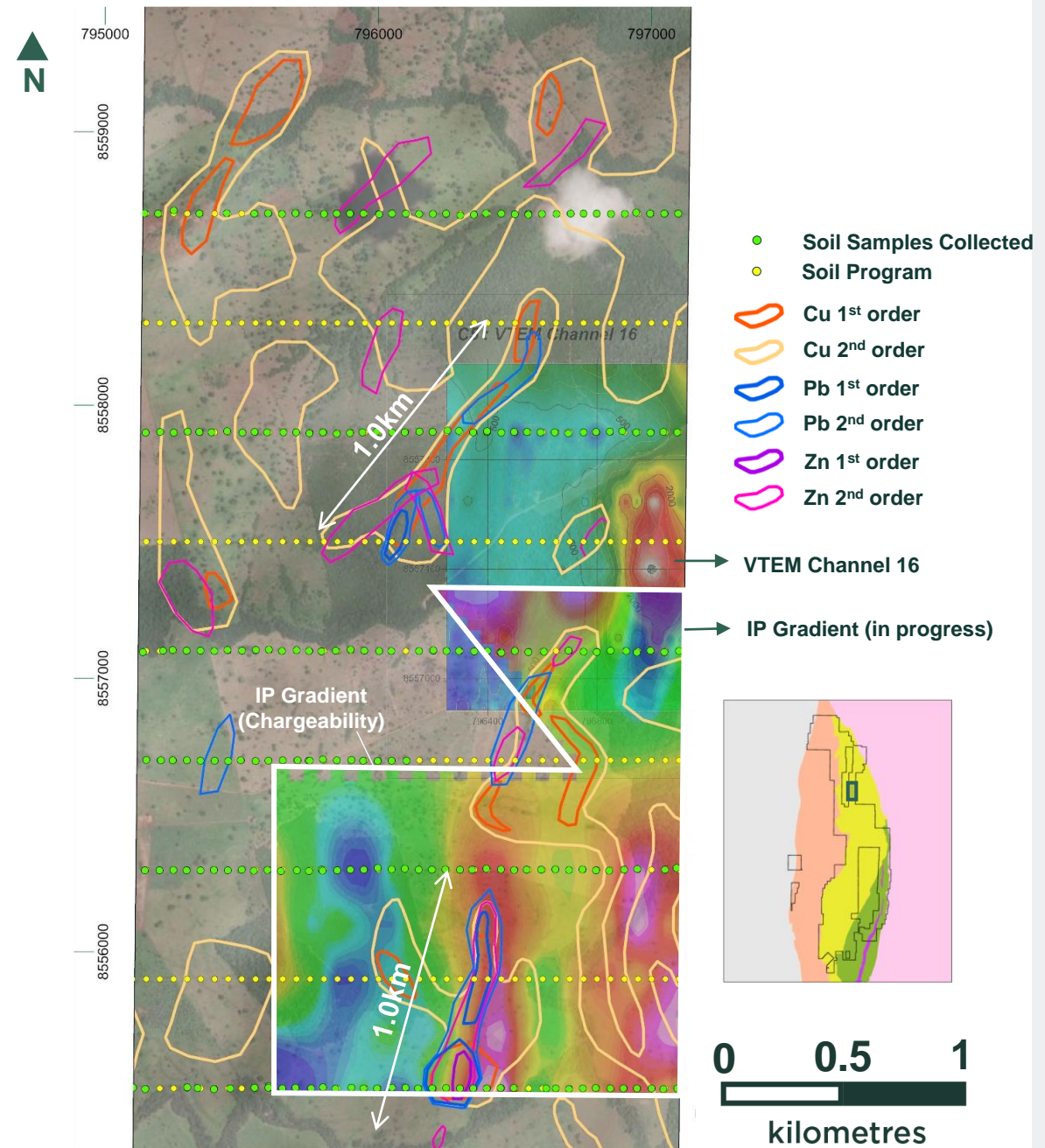
- CPRM completed soils and a single (mineralised) drillhole (not located)
- 3 coincident elongated Cu/Zn/Pb anomalies
- VTEM anomaly on eastern boundary

Alvo completed 800 x 50m soils, now infilling to 400 x 50m

IP survey underway- strong coincident chargeability anomaly on southern soil anomaly

FLEM will be planned based on results of IP and soils Geochem.

Drilling to be planned based on results...

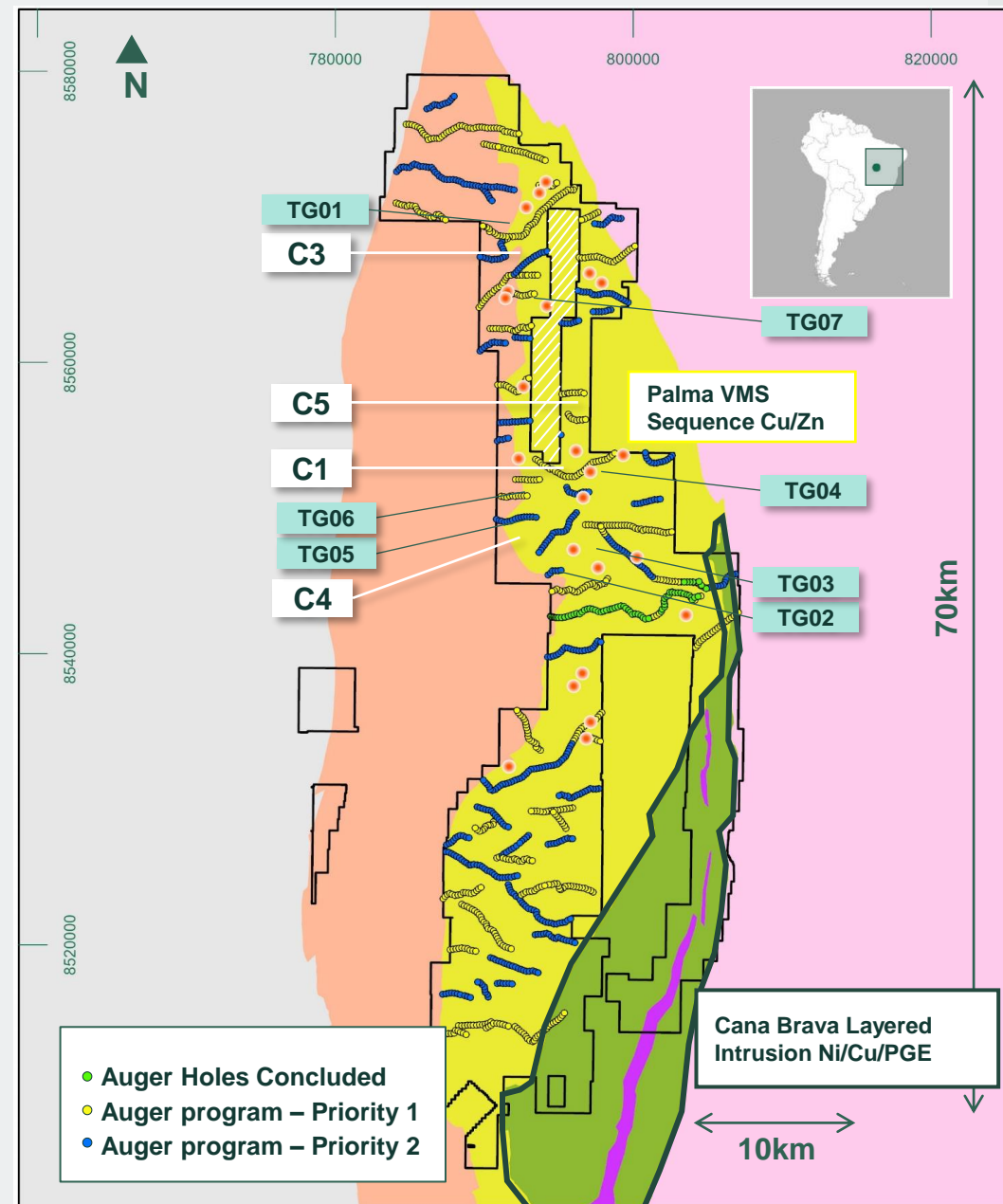


# Regional Auger Drilling- Expanding our Footprint

Auger drilling on extensive road network to simplify access and cover the region

>120 holes completed to date (~1,200m)

-Priority 1 will take ~ 2months



# Palma Project – Next Steps

Q1 23

Q2 23

Q3 23

Q4 23

Q1 24

## C3 PROSPECT

Extensional (phase 2) diamond drilling

DHEM surveys on phase 1 & 2 drill holes

## C1 PROSPECT

Extensional (phase 2) diamond drilling

DHEM surveys on phase 1 & 2 drill holes

## REGIONAL EXPLORATION

FLEM and IP to refine discovery targets

Mapping, soil sampling and auger drilling at early stage targets areas

Canabava Ni Exploration Geochem and Geophysics

Diamond drilling of mature regional targets

## TECHNICAL STUDIES

Metallurgical test work – C3

Metallurgical test work – C1

Geotech review of C3 + C1 diamond drilling

Mineral Resource Expansion

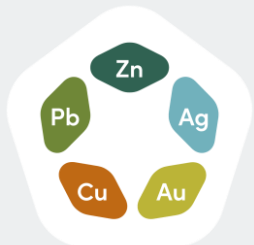




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# Thank you

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ASX: ALV

The logo for VMS BRAZIL is contained within a white, rounded, irregular shape. It features the letters "VMS" in a large, bold, dark green sans-serif font, with the word "BRAZIL" in a smaller, dark green sans-serif font directly below it.

**VMS**  
BRAZIL