



# Limon Epithermal Gold-Silver Drilling Results and El Palmar update



**STM**

29 March 2023

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# Sunstone Snapshot

Ecuador focussed, gold-copper explorer and discoverer

ASX - STM

Market Capitalisation <sup>1</sup> A\$86.5 mill  
 Cash + Equity Investments <sup>2</sup> A\$11.2 mill

Shares on Issue 2,620 million  
 Top 20 Shareholding 36%  
 Institutional and Family Office Shareholding 29%  
 Board and Management Shareholding 5.1%

Desk notes and Analyst Coverage - Taylor Collison  
 - Morgans  
 - MineLife  
 - Far East Capital



<sup>1</sup> Based on share price of A\$0.033 (30 day VWAP)

<sup>2</sup> At Dec 31; Equity investments in CSE listed United Lithium Corp and ASX listed NewPeak Metals

# Ecuador

- Support for responsible mining
- Responsible mining and exploration contributing significantly to FDI, taxes, employment, infrastructure, communities, environmental studies and management
- Investment Protection Agreements signed on several projects
- Major mining companies present and some active in JVs

## Two Large Modern Operating Mines

### Fruta del Norte

Lundin Gold (TSX:LUG) - Ecuador's first modern underground gold mine  
2022 produced 476,329 ozs gold at 10.6g/t, at an AISC of \$805/oz

### Mirador

EcuaCorriente – producing copper-gold concentrate from open pit for export to smelters in China  
673Mt at 0.58% copper and 0.19g/t gold

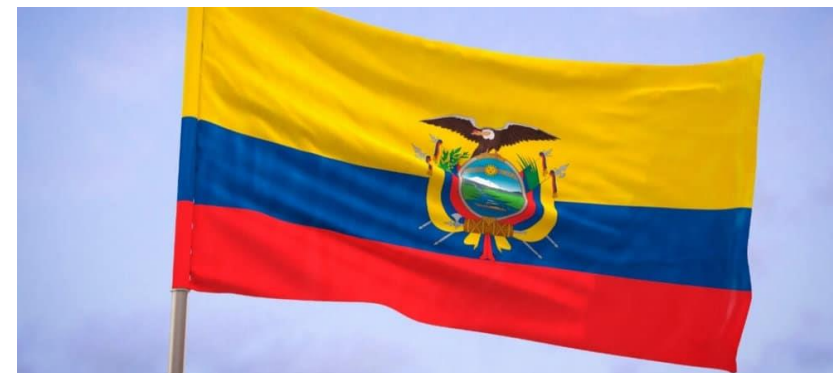
## Several Advanced Projects and Large Exploration Projects

### Cascabel

SolGold 85%/ Cornerstone 15% (SolGold and Cornerstone have announced that they will merge)  
Alpala deposit - 2,663 Mt @ 0.37% copper and 0.25g/t gold in the Measured and Indicated categories  
Top of main orebody ~500m below surface  
Tandayama-America – 263 Mt @ 0.23% copper and 0.19 g/t gold in Indicated and Inferred in open pit

### Warintza

Solaris (TSX.V:SLS); 7km x 5km area containing cluster of porphyry systems  
Warintza Central deposit - 579Mt at 0.47% copper (and 0.03% Mo and 0.05g/t gold) in Indicated category, and 887Mt at 0.39% copper in Inferred category – April 2022



<b>Capital</b>	Quito
<b>Population</b>	17.8 million
<b>Form Of Government</b>	Multiparty republic with one legislative house (National Assembly)
<b>Official Language</b>	Spanish
<b>Total Area (Sq Km)</b>	256,700
<b>Length</b>	650km (~Sydney to Cobar, or ~Perth to Kalgoorlie)
<b>Monetary Unit</b>	US \$
<b>Density: Persons Per Sq Km</b>	68.6
<b>Urban-Rural Population</b>	Urban: 63% • Rural: 37%
<b>Literacy Rate</b>	Male: (2016) 95.4% • Female: (2016) 93.3%
<b>Gross National Income Per Capita (US\$)</b>	5,530
<b>Mining Exports in 2022 (US\$)</b>	2.78 billion (+600% vs 2019)
<b>Exports Top 4 in order</b>	Oil, Prawns, Bananas, Metals

# Investment Opportunity

- **Simple proposition – discovery adds significant shareholder value**
- **Underpinned by Inaugural MRE December 2022; 2.7Mozs AuEq\***
- **The Sunstone team has a track record of copper-gold porphyry discovery**
  - Tujuh Bukit, Indonesia
  - Alpaia, Cascabel, Ecuador
- **Sunstone in late 2021**
  - Initial El Palmar discovery announced 7th October 2021
  - Initial Alba discovery announced 18th November 2021
- **Discoveries delivered very strong share price growth in late 2021**
- **Goal to deliver additional discoveries during 2023**
- **Sunstone owns 87.5% of the Bramaderos Gold-Copper porphyry project in southern Ecuador**
- **Sunstone holds 70%, and can acquire 100%, of the El Palmar Gold-Copper porphyry project in northern Ecuador**



\* See slides 13 & 16



# ESG considered across the business



Sunstone appreciates the strong community support that it has at its projects and takes its **environmental, social and governance** issues very seriously. It is committed to advance its social performance in the areas where we work

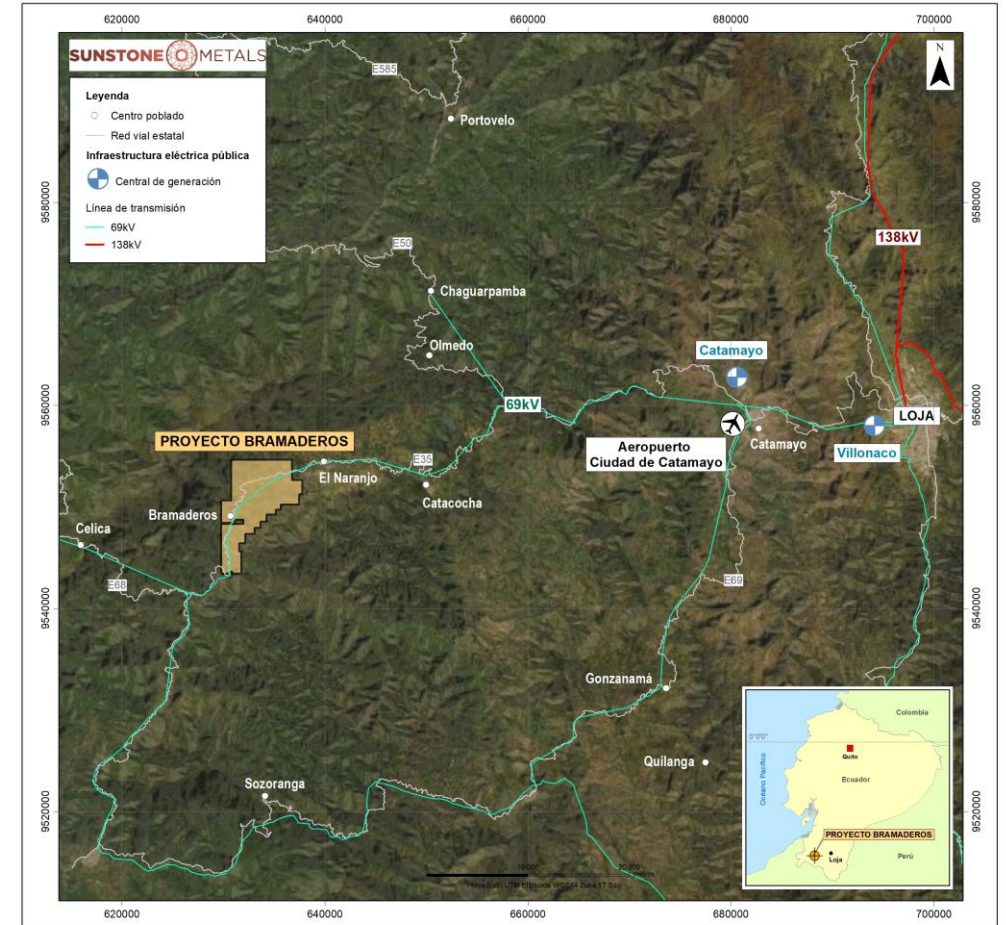
**Sunstone is aiming to produce its inaugural Sustainability Report in Q4 2023**

Sunstone

- has significant **environmental monitoring programs** across its projects
- is involved in various **community programs** at Bramaderos and El Palmar
- undertakes considerable **training programs** across a large range of skills for workers and the communities in which we operate
- **works with the local communities** to assist where possible, for example, during the coronavirus pandemic
- offers employment and skills development
- has implemented strict coronavirus operating plans while not compromising local health and safety



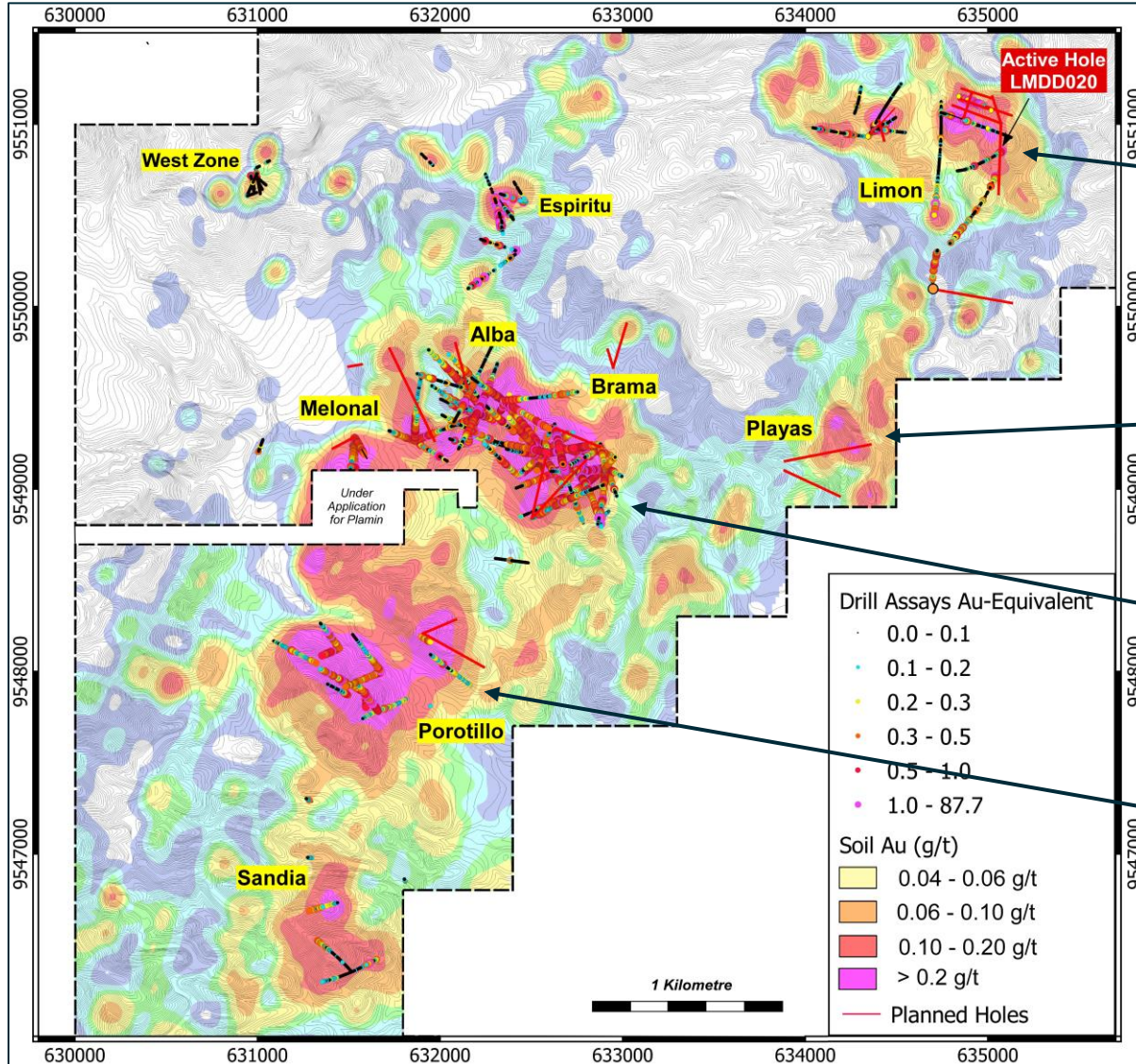
# Bramaderos, Southern Ecuador



- 4,984ha concession
- Adjacent to the Pan American Highway
- At ~900m asl
- Multiple gold-copper targets within the concession all easily accessible
- The project is supported by good infrastructure (hydroelectric power, regional airport nearby)
- 88% of Ecuador's power is generated from hydro power stations



# Bramaderos – rich with gold-copper targets



**LIMON - Outcropping gold-copper porphyry and HS epithermal**  
 97.6m at 0.71g/t gold and 0.23% copper in trench  
 LMDD010 in 2022 delivered 79m at 0.52g/t gold, 0.19% copper, 9.4g/t silver (0.9g/t AuEq) from 90m  
 Sunstone drilling (4 holes) in 2019-20 delivered 13.3m at 0.11 gold and 0.43% copper in shallow High Sulphidation epithermal, and 40.5m at 0.1g/t gold, 0.12% copper, 19ppm molybdenite in porphyry 'halo'  
**Drilling 2022-23; porphyry mineralisation included in Exploration Target**

**PLAYAS – Outcropping gold-copper porphyry**  
**Drilling 2023; not yet included in Exploration Target**

**BRAMA-ALBA – Outcropping gold-copper porphyry >1.2km x 400m**  
**Initial MRE pit constrained; extensions within the Exploration Target**  
**MELONAL drilling 2022-23; included in Exploration Target**

**POROTILLO – Porphyry gold-copper system with historical drill hole**  
 CURI-05 drilled 24m at 1.2g/t gold  
**Drilling 2023; not yet included in Exploration Target**

**SANDIA – Outcropping low-grade gold-copper porphyry**  
 Drilling 2022



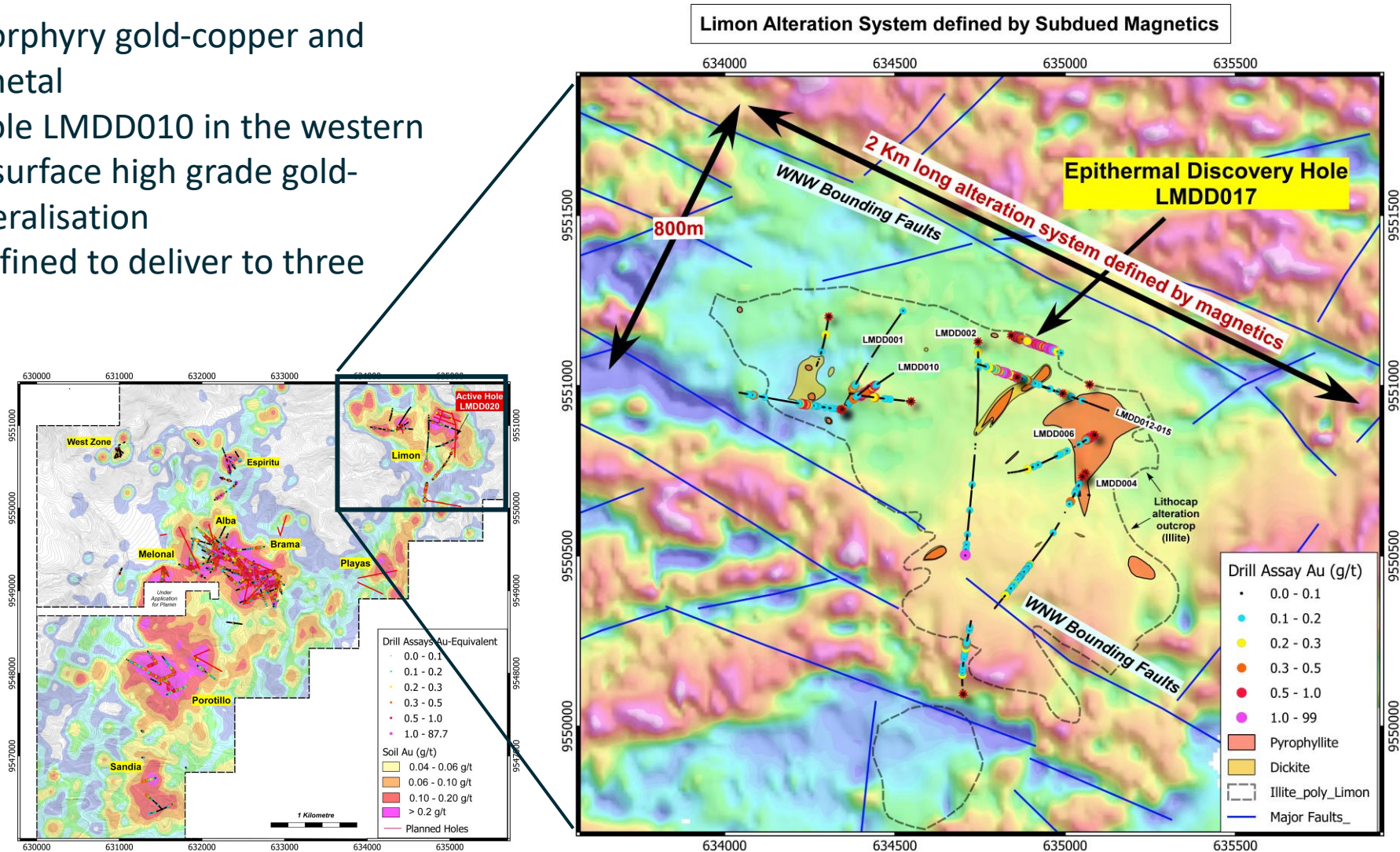
# Limon – gold-silver epithermal above porphyry

- Limon drilling has targeted porphyry gold-copper and epithermal gold-silver-base metal
- High grade trench and drill hole LMDD010 in the western target zone intersected near surface high grade gold-copper in porphyry style mineralisation
- The epithermal target was defined to deliver to three goals –

1. Near surface mineralisation
2. High grade
3. Potential ‘starter pit’

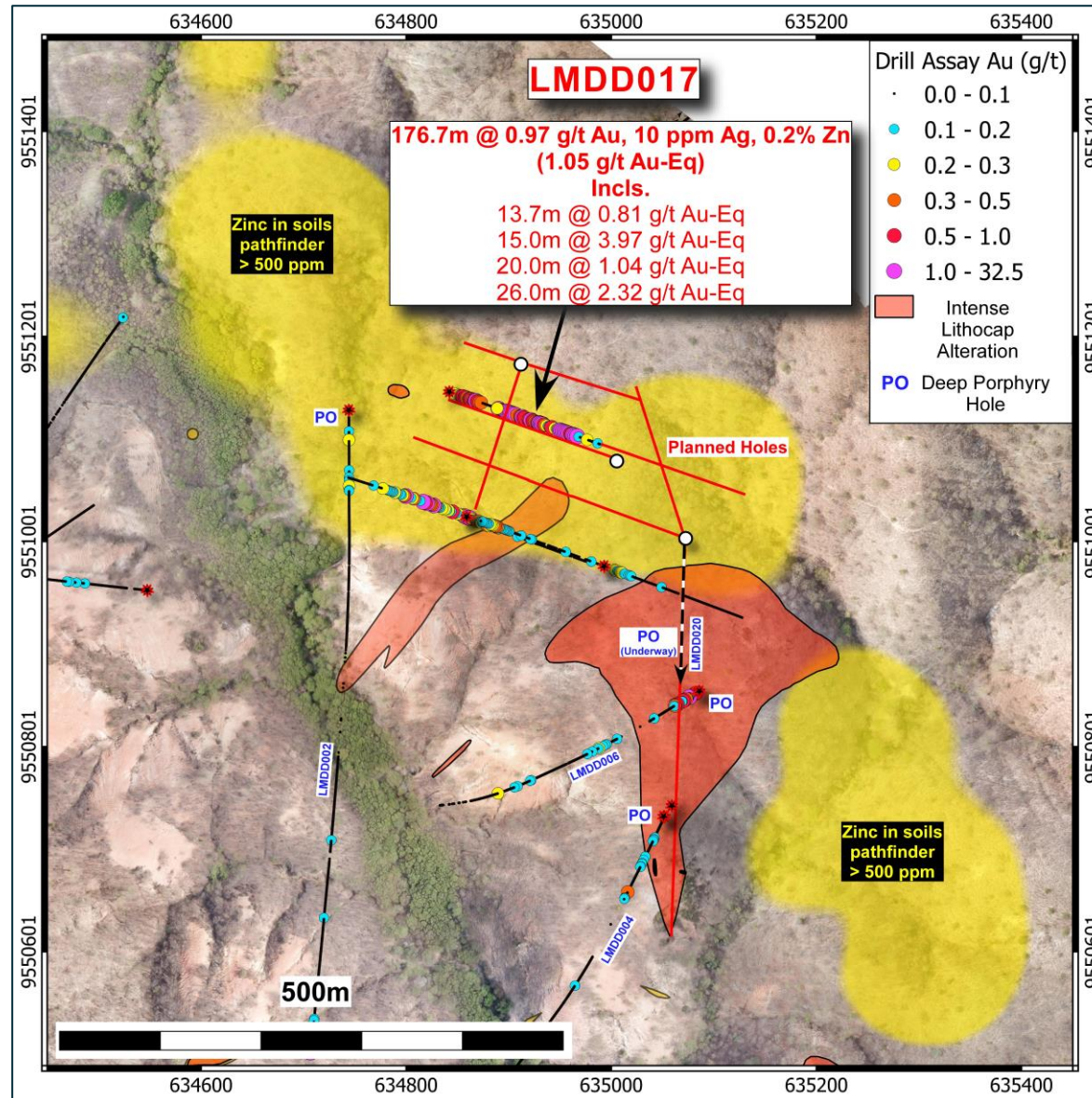
Today's results deliver this

This could have a very significant impact on the Bramaderos Project





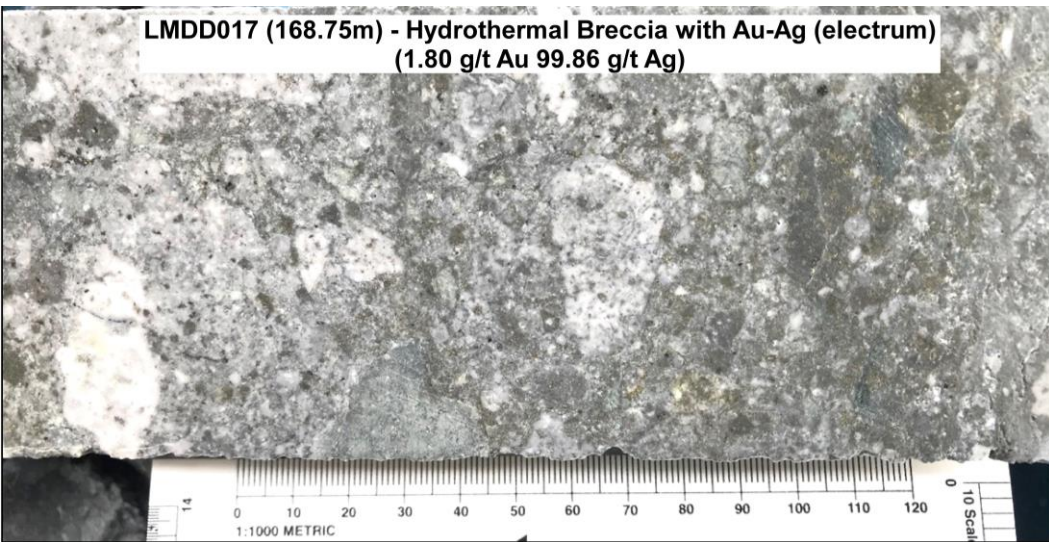
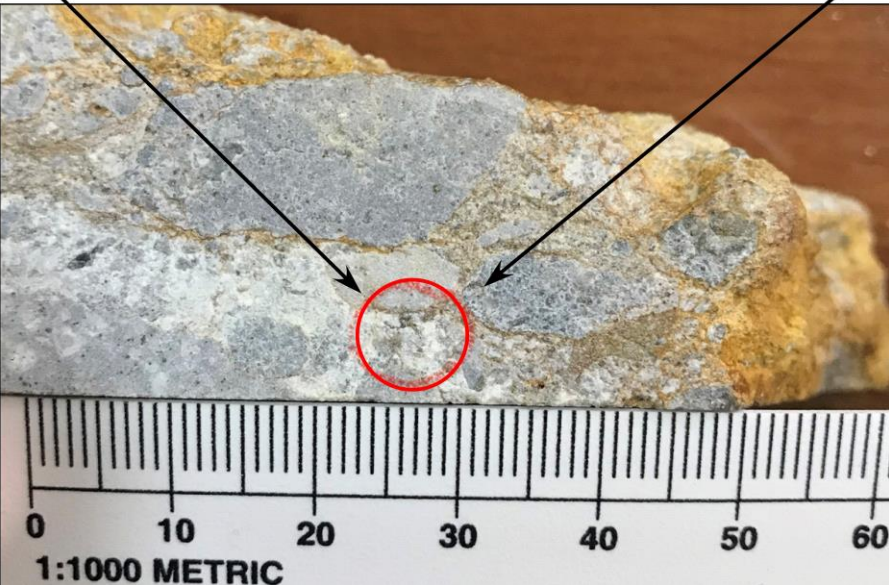
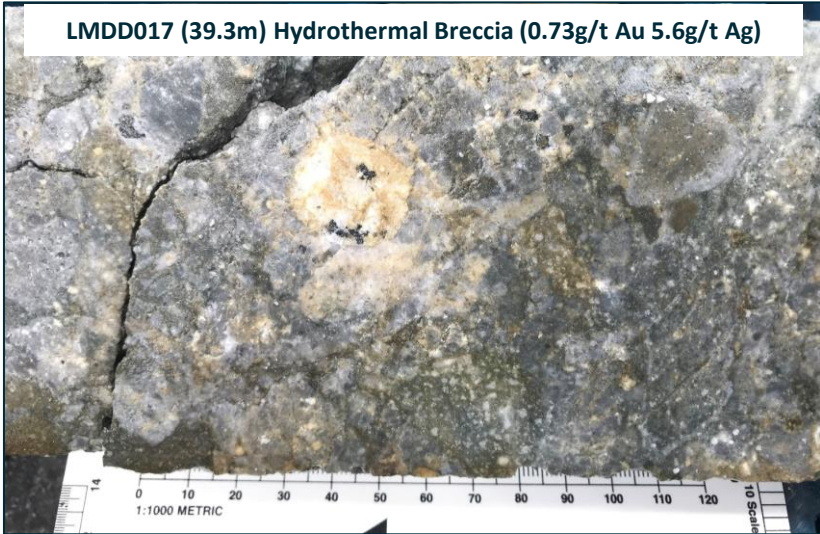
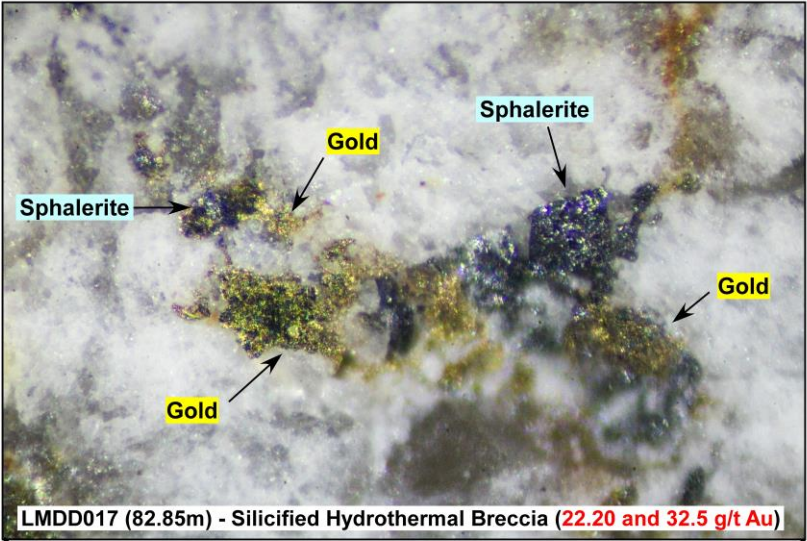
# Limon – gold-silver epithermal



- 176.7m at 1.1g/t AuEq\* (0.97g/t gold and 10.1g/t silver), from 6.8m in LMDD017, including
  - 13.7m at 0.81g/t AuEq\* (0.68g/t gold, 14.9g/t silver), from 29.3m
  - 15.0m at 3.97g/t AuEq\* (3.91g/t gold, 7.69g/t silver), from 81.2m, including
    - 1.7m at 22.3g/t AuEq\* (22.2g/t gold, 6.8g/t silver), from 81.2m
  - 20.0m at 1.04g/t AuEq\* (0.96g/t gold, 9.6g/t silver), from 114.5m
  - 26.0m at 2.32g/t AuEq\* (0.2.02g/t gold, 36.2g/t silver), from 157.5m
- Follow-up drilling is being planned and is expected to comprise 10 holes for ~2,100 m and will take 3 months



# Limon – gold-silver epithermal





# Limon – view to NE





# Brama-Alba – initial Mineral Resource estimate

JORC Classification	Tonnage (Mt)	Au (g/t)	Cu (%)	Ag (g/t)	AuEq (g/t)	AuEq* (Mozs)
Indicated	9	0.38	0.09	1.1	0.53	0.2
Inferred	147	0.35	0.11	1.3	0.53	2.5
<b>Total</b>	<b>156</b>	<b>0.35</b>	<b>0.11</b>	<b>1.3</b>	<b>0.53</b>	<b>2.7</b>

- Due to the effect of rounding, the total may not represent the sum of all components

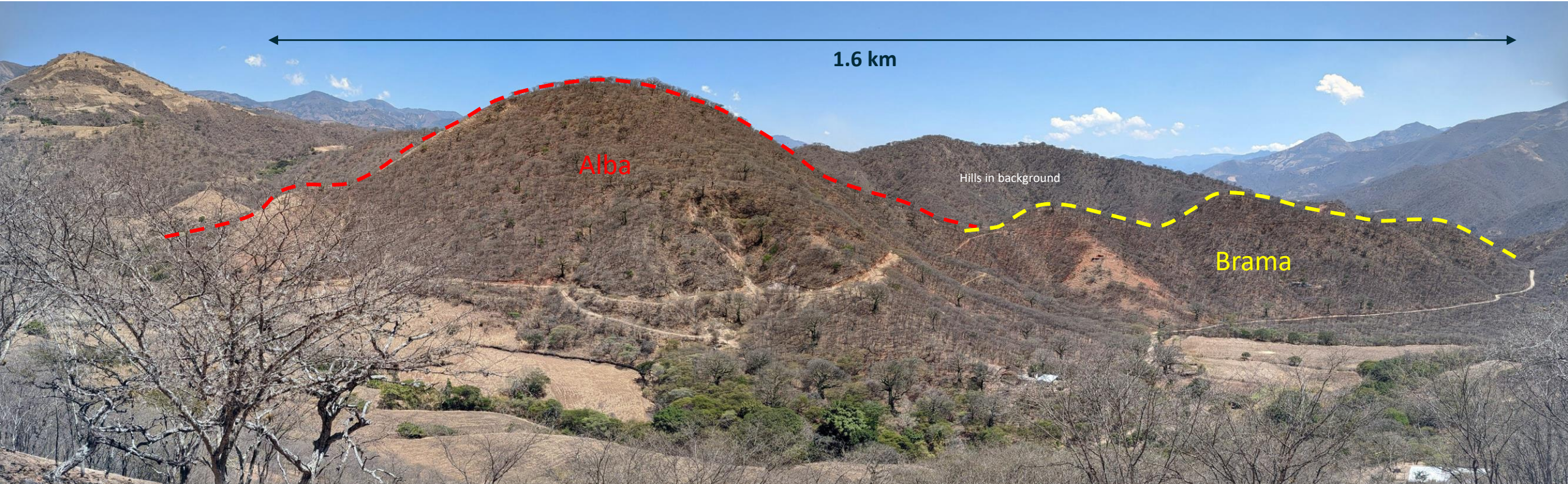
-- A reporting cut-off grade of 0.3 g/t AuEq was adopted.

--- Metal equivalent recovery assumptions are supported by metallurgical test work.

- See ASX announcement dated 13<sup>th</sup> December 2022 and slide 23 for detail
- Initial MRE – this is expected to grow; see discussion on Exploration Target and other targets
- Pit constrained, mineralisation from surface; **Brama-Alba porphyry systems only**
- MRE is based on data from 53 drill holes for 27,338m, and on 3,064 linear meters of trenching in 13 trenches
- Positive metallurgy (flotation and leach) and potential for additional heap leach opportunity
- 2.7Mozs AuEq\*
  - 1.77Mozs gold
  - 169 kt copper
  - 6.5Mozs silver

\*The gold equivalent calculation formula is  $AuEq(g/t) = (Au\ grade \times Au\ price \times Au\ recov / 31.1035) + (Ag\ grade \times Ag\ price \times Ag\ recov / 31.1035) + (Cu\ grade \times Cu\ price \times Cu\ recov / 100) / (Au\ price \times Au\ recov / 31.1035)$ . The prices used were US\$1,800/oz gold and US\$9,500/t copper and US\$22/oz silver. Recoveries are estimated at 89% for gold, 85% for copper, and 60% for silver based on metallurgical studies. In Sunstone's opinion all the elements included in the metal equivalents calculation have reasonable potential to be recovered and sold.

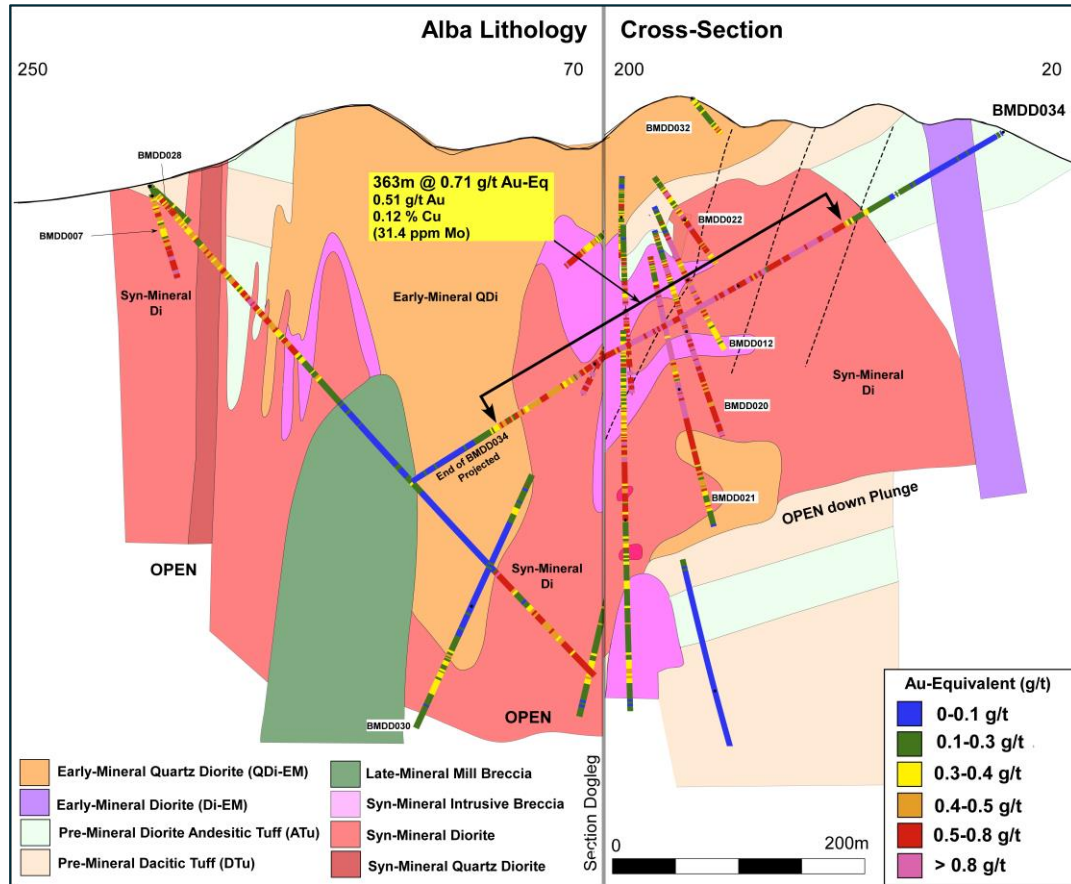
# Brama-Alba – mineralisation from surface



- View looking NE; December 2022
- 1.2km long mineralised system – so far
- Outcropping gold-copper
- Development would initially mine a hill – very low strip ratio
- Higher grade domains close to surface
- Many opportunities to grow resource, and define higher grades



# Brama-Alba – higher grade domains



- Large porphyry system, with some higher-grade domains
- BMDD034 – intersected 202m at 0.86g/t AuEq close to surface at Alba
- BMDD008 – intersected 302m at 0.73g/t AuEq close to surface at Brama
- BMDD012 – intersected 111m at 2.35g/t gold from 93m, including 7.2m at 27g/t gold from 124.8m at Alba

## For context .....

- Cadia East (Newcrest, NSW) underground Indicated MRE grades 0.78g/t AuEq
- Alpala (Cascabel, SolGold, Ecuador) planned underground development, Measured and Indicated, and Inferred MRE grades 0.84 and 0.49g/t AuEq respectively (also a high-grade core at 1.2 – 2.2g/t AuEq)
- Tandayama-America (Cascabel, SolGold, Ecuador) M&I MRE 528Mt at 0.57g/t AuEq
- Boddington (Newmont, WA) M&I MRE grades 0.7g/t AuEq
- Boda (Alkane, NSW) inferred MRE 624Mt at 0.51g/t AuEq
- Kaiser (Alkane, NSW) inferred MRE 270Mt at 0.54g/t AuEq

# Brama-Alba – initial Exploration Target

Exploration Target	Min. Tonnage (Mt)	Max. Tonnage (Mt)	Metal Content Min. AuEq (Mozs)	Metal Content Max. AuEq (Mozs)
Brama-Alba (excluding MRE areas)	70	100	0.79	2.57
Melonal	150	200	1.93	4.50
<b>Limon</b>	<b>35</b>	<b>60</b>	<b>0.56</b>	<b>1.54</b>
<b>TOTAL</b>	<b>255</b>	<b>360</b>	<b>3.30</b>	<b>8.60</b>

Exploration Target	Min. Tonnage (Mt)	Max. Tonnage (Mt)	Min. Grade Au (g/t)	Min. Grade Cu (%)	Min. Grade AuEq (g/t)
Brama-Alba (excluding MRE areas)	70	100	0.20	0.10	0.35
Melonal	150	200	0.25	0.10	0.40
<b>Limon</b>	35	60	0.33	0.10	0.50
<b>TOTAL</b>	<b>255</b>	<b>360</b>			<b>0.40</b>

Exploration Target	Min. Tonnage (Mt)	Max. Tonnage (Mt)	Max. Grade Au (g/t)	Max. Grade Cu (%)	Max. Grade AuEq (g/t)
Brama-Alba (excluding MRE areas)	70	100	0.60	0.12	0.80
Melonal	150	200	0.50	0.12	0.70
<b>Limon</b>	35	60	0.60	0.12	0.80
<b>TOTAL</b>	<b>255</b>	<b>360</b>			<b>0.74</b>

## 3.3 to 8.6Mozs AuEq

Comprising

2.1 to 6.6Mozs gold

255 to 432kt of copper

10.7 to 15.1Mozs silver

Within 255 to 360Mt of mineralised rock

Our aim is to grow the Bramaderos inventory to 10Mozs AuEq with further drilling

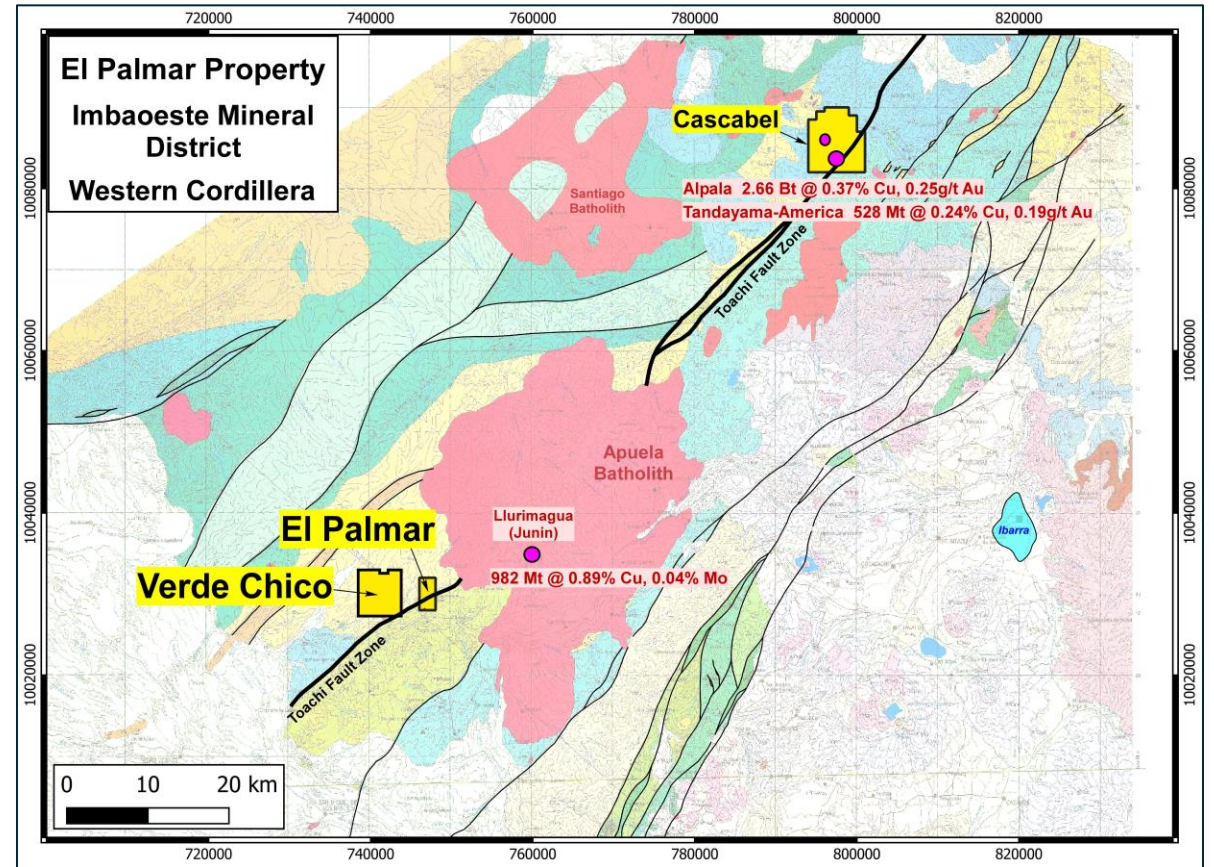
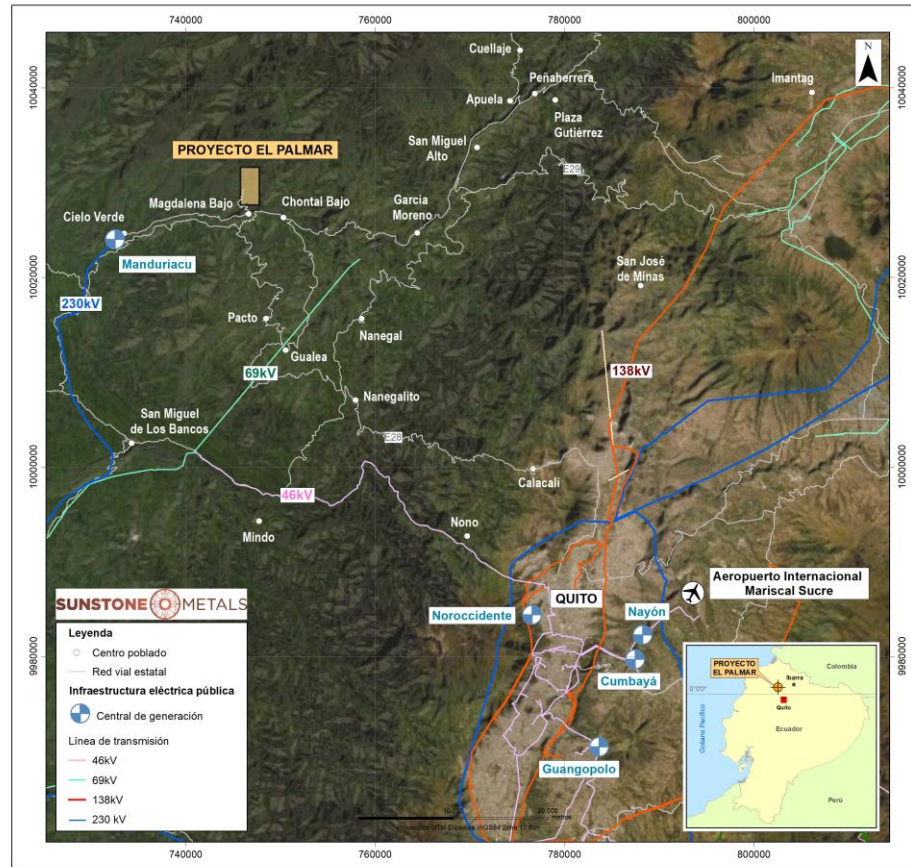
And to increase the grade, particularly to define domains of higher grade near surface mineralisation for the ‘front end’ of an operation

**Limon results will trigger a review and expected increase in the Exploration Target**

- Due to the effect of rounding, the total may not represent the sum of all components
- See ASX announcement dated 13<sup>th</sup> December 2022 and slide 23 for full details



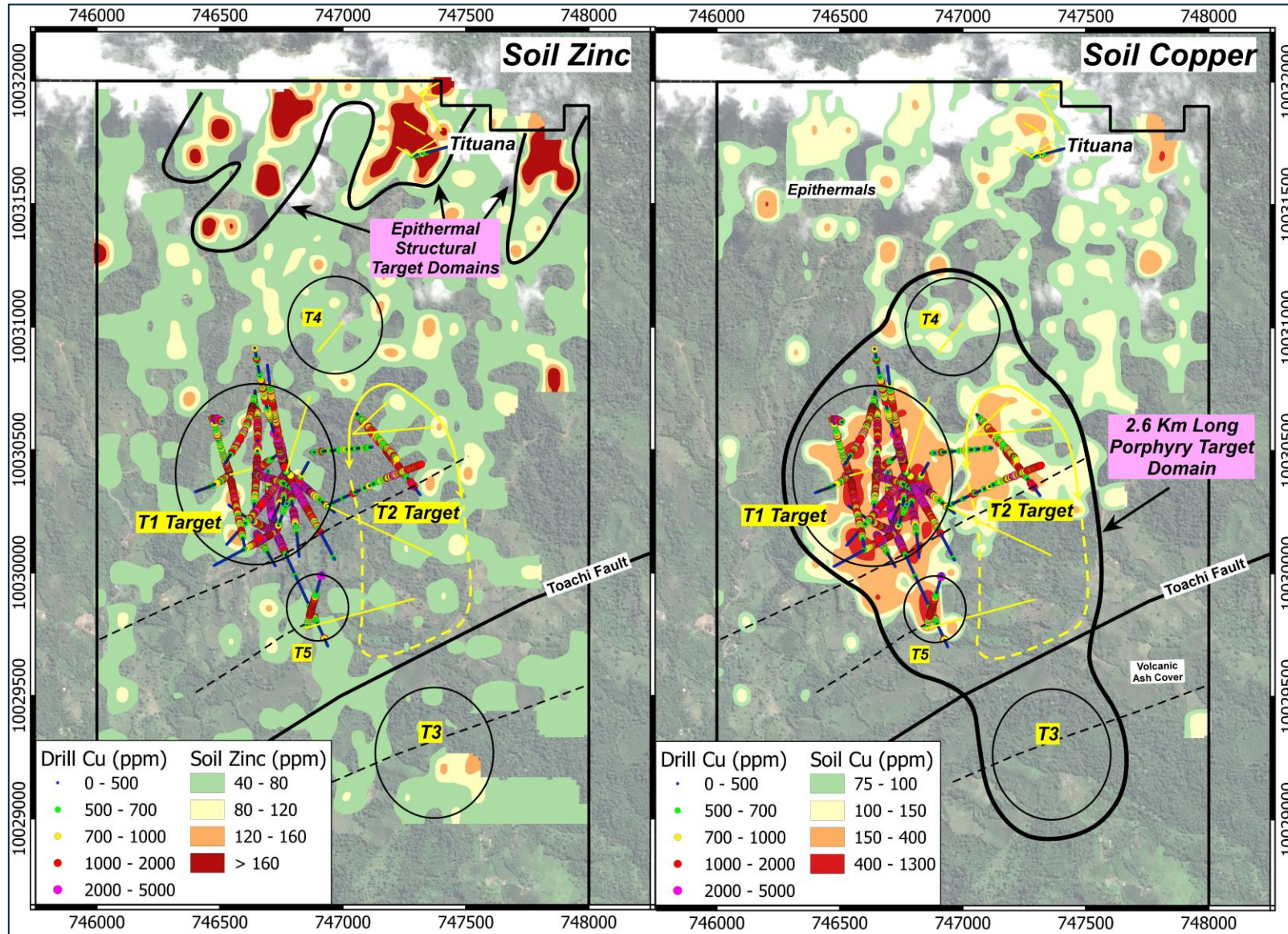
# El Palmar, northern Ecuador



- Highly prospective belt of rocks related to the Toachi Fault Zone
- To date includes the >2.7Bt Alpa copper-gold porphyry deposit at Cascabel, the >0.53Bt Tandayama-America copper-gold porphyry deposit at Cascabel, and the >1Bt Llurimagua copper-moly porphyry deposit
- Together with orthogonal structural control delivers target zones for porphyry mineralisation



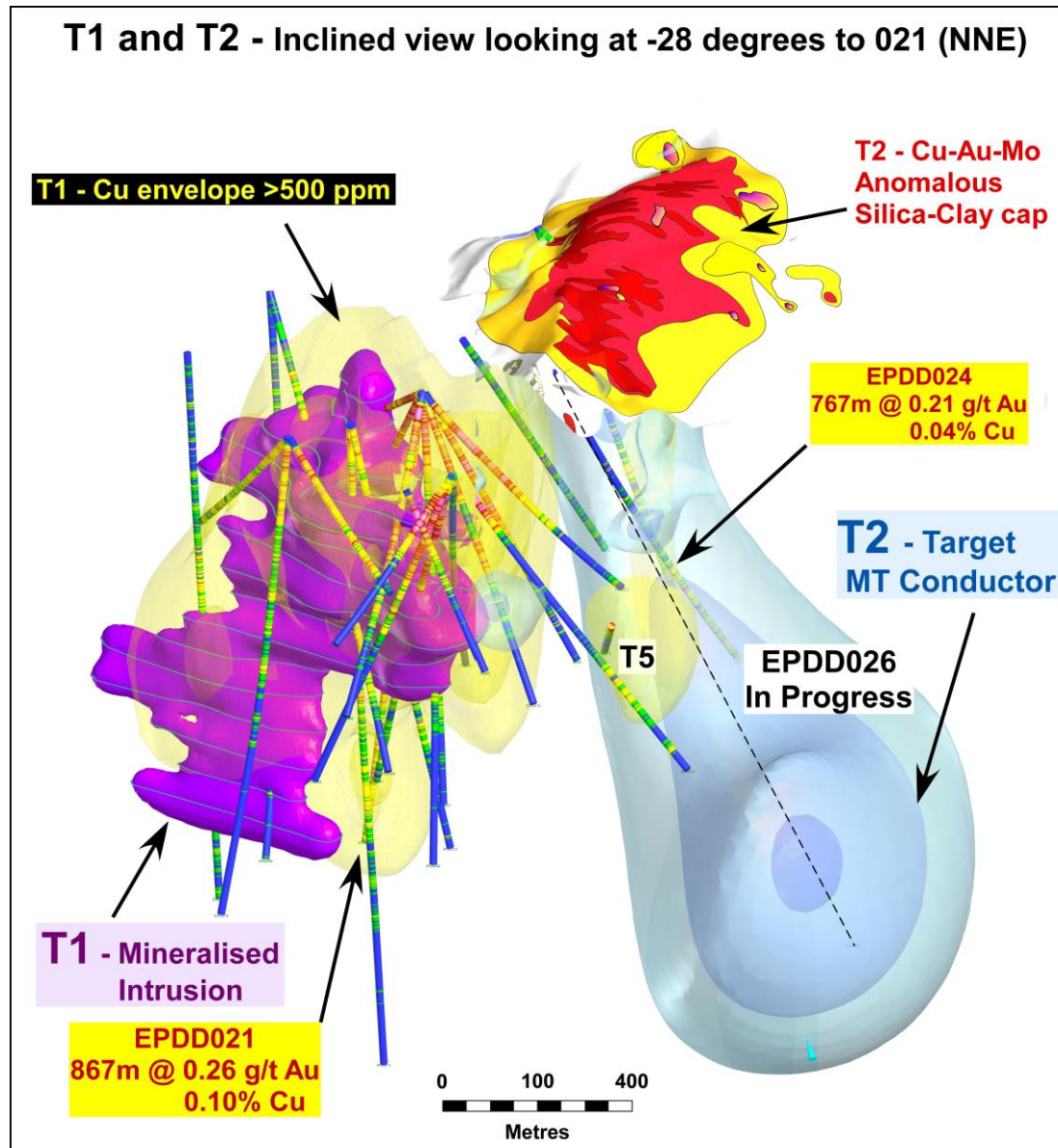
# El Palmar; multiple targets



- Mineralisation from surface
- **At T1**, gold-copper porphyry system with wide intervals (>400m) at >0.4g/t gold and 0.15% copper and including intervals of 100m – 170m of >0.7g/t gold and 0.2% copper (see ASX announcements 25<sup>th</sup> May 2022 and 7<sup>th</sup> October 2021)
- Currently drilling at **T2 and Tituana**
- 2.6km long cluster of porphyry targets identified to date; **T1 to T5**
- Plus, several epithermal targets in northern domain



# El Palmar; T1 and T2 gold-copper targets



## T1 target; original discovery in 2021

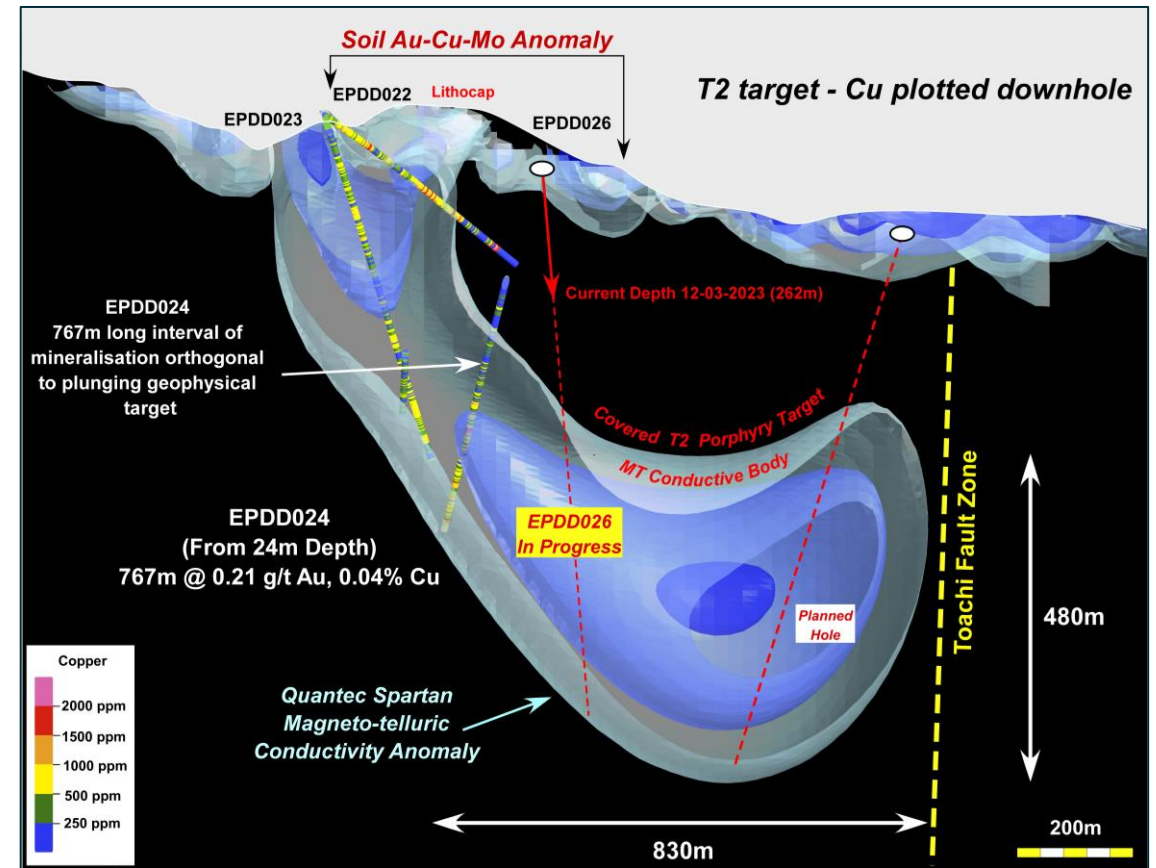
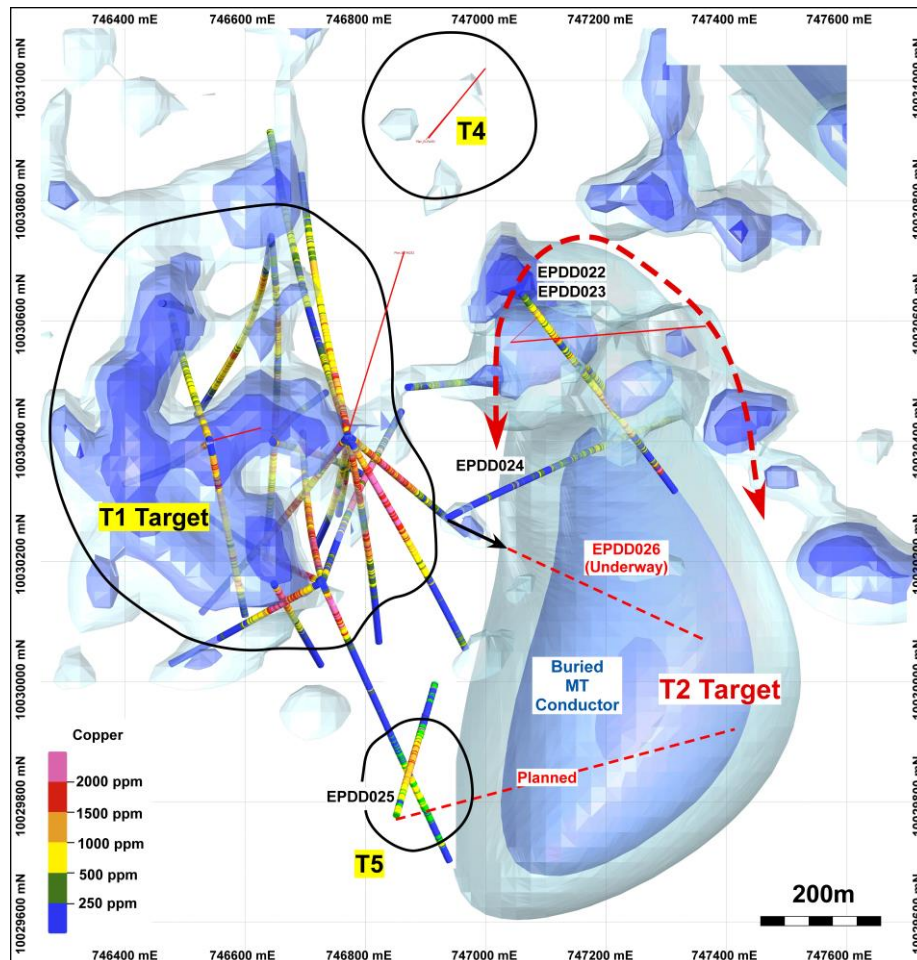
- Gold-copper porphyry deposit mineralised from surface
- Hole EPDD021 intersected mineralisation to a down hole depth of 872m;
  - 866.55m at 0.26g/t gold and 0.1% copper, including
  - Higher grade intervals such as 11.25m (from 501m) of 0.81g/t gold and 0.2% copper
- 3-D model being constructed to enable targeting of next round of drill holes

## T2 target; 3 holes drilled, 4<sup>th</sup> hole in progress

- Porphyry deposit, upper levels gold-copper
- Hole EPDD024 intersected 767m (from 24m) at 0.21g/t gold and 0.04% copper, with higher-grade gold in upper intervals and copper increasing with depth
- Hole EPDD026 in progress, approaching target zone

# El Palmar; T2 porphyry gold-copper target

- Mineralisation from surface; outcropping 220m long stockwork zone, epithermal overprint on porphyry
- Very significant MT conductivity anomaly, along trend from increasing copper response in EPDD024
- Bound by regionally significant Toachi fault – a controlling structure to mineralisation at Cascabel, 65km to NE
- Hole EPDD026 in progress and approaching target zone





# What's ahead

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- ✓ **2023 – deliver new discoveries at both El Palmar and Bramaderos**
- ✓ **Bramaderos**
  - **Limon drilling – follow-up to LMDD017 – will fundamentally change Bramaderos**
  - **Drill to grow Exploration Target**
  - **Drill to convert Exploration Target to Mineral Resources**
  - **Deliver additional discoveries** at Playas, Melonal, Limon, Porotillo
- ✓ **El Palmar**
  - **Deliver additional discoveries** through:
    - **Drill compelling T2 target** – first of 2 drill holes in progress, nearing target zone
    - **Drill other nearby porphyry targets** – T3 to T5
    - **Drill at epithermal targets** – Tituana ongoing, then several others
  - **Continue to drill and expand main mineralised area at T1** beyond 500 x 300m, and to depth
- ✓ **Advance early-stage exploration at Verde Chico**
- ✓ **Move drill rigs to highest priority targets across all projects**

# Competent Persons Statement

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## **Competent Persons Statement**

The information in this report that relates to Mineral Resources is based on information compiled by Mr Aaron Meakin. Mr Aaron Meakin is a full-time employee of CSA Global Pty Ltd and is a Member and Chartered Professional of the Australasian Institute of Mining and Metallurgy. Mr Aaron Meakin 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 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Aaron Meakin consents to the disclosure of the information in this report in the form and context in which it appears.

## **Exploration Target Competent Person**

The information in this report that relates to exploration results and exploration targets and results is based upon information reviewed by Dr. Bruce Rohrlach who is a member of the Australasian Institute of Mining and Metallurgy. Dr. Rohrlach is a full-time employee of Sunstone Metals Ltd and has sufficient experience which is 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 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Dr. Rohrlach consents to the inclusion in the report of the matters based on his information in the form and context in which it appears

*See ASX announcements*

- 29<sup>th</sup> March 2023 – Limon epithermal drilling results
- 16<sup>th</sup> March 2023 – Drilling commences at T2 porphyry target, El Palmar
- 18<sup>th</sup> January 2023 – Limon delivers porphyry discovery
- 13<sup>th</sup> December 2022 – Bramaderos MRE and Exploration Target
- 27<sup>th</sup> October 2022 – AGM Presentation
- 20<sup>th</sup> October 2022 – More wide intersections at Brama-Alba to support initial MRE
- 27<sup>th</sup> September 2022 – El Palmar drilling results and new target defined
- 30<sup>th</sup> August 2022 – Brama-Alba – best porphyry intersection to date
- 21<sup>st</sup> July 2022 – Corporate Presentation
- 19<sup>th</sup> July 2022 – Brama-Alba drilling, met test work, resource preparation
- 29<sup>th</sup> June 2022 – El Palmar drilling expands gold-copper discovery
- 21<sup>st</sup> June 2022 – Sunstone expands land position near El Palmar discovery
- 1<sup>st</sup> June 2022 – Brama-Alba, Large and with higher grade zones



# About Sunstone Metals

Sunstone has an advanced portfolio of exploration and development projects in Ecuador and Scandinavia. The portfolio comprises:

•**The Bramaderos Gold-Copper Project** where Sunstone owns an 87.5% interest with Cornerstone Capital Resources, a subsidiary of SolGold, holding 12.5% (see ASX announcement dated 10th April 2017, 28th August 2019, and 7 January 2020). The Bramaderos gold-copper project is located in Loja province, southern Ecuador, and is highly prospective for the discovery of large porphyry gold-copper systems, and high-grade epithermal gold systems. The Bramaderos concession is host to multiple fertile mineralised systems with significant discovery potential. The Brama-Alba deposit, within the Bramaderos concession contains an initial Mineral Resource estimate of 156Mt at 0.53g/t AuEq for 2.7Moz gold-equivalent\*. In addition to this is the Bramaderos project Exploration Target of between 3.3Moz and 8.6Moz AuEq within 255 to 360Mt at a grade between 0.40 and 0.74g/t AuEq (see ASX release dated December 13, 2022).

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The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement for the Mineral Resource estimate and Exploration Target referred to above and, that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource for the target area reported. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

\*The gold equivalent calculation formula is  $AuEq(g/t) = (Au \text{ grade} \times Au \text{ price} \times Au \text{ recov} / 31.1035) + (Ag \text{ grade} \times Ag \text{ price} \times Ag \text{ recov} / 31.1035) + (Cu \text{ grade} \times Cu \text{ price} \times Cu \text{ recov} / 100) / (Au \text{ price} \times Au \text{ recov} / 31.1035)$ . The prices used were US\$1,800/oz gold and US\$9,500/t copper and US\$22/oz silver. Recoveries are estimated at 89% for gold, 85% for copper, and 60% for silver based on metallurgical studies. In Sunstone's opinion all the elements included in the metal equivalents calculation have reasonable potential to be recovered and sold.

•**The El Palmar Copper-Gold Project** where Sunstone holds 70% of the highly prospective 800ha El Palmar gold-copper porphyry project in Ecuador. Sunstone can acquire 100% through a Staged Acquisition Agreement. A Staged Acquisition Agreement to acquire the nearby Verde Chico Project has also been signed. The El Palmar and Verde Chico gold-copper projects are located in Imbabura province, northern Ecuador, within the same geological belt that includes the giant Alpala, Tandayama-America and Llurimagua porphyry copper-gold and copper-molybdenum deposits.

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