

# Updated exploration model highlights immense discovery potential at Bramaderos

Latest geology, surface geochemistry and geophysics data strengthen Sunstone's belief in the project's substantial scope to host large porphyry gold-copper and epithermal gold systems

## Key Points

- Interpretation of regional datasets reinforces the high prospectivity of a broad suite of targets at Bramaderos
- The recent drill results together with other datasets are delivering a robust and predictive model to guide exploration
- Multiple targets identified for both porphyry gold-copper and epithermal gold
- Recent drilling at Bramaderos Main increases Sunstone's confidence that it will deliver on its discovery goals at Bramaderos
- Detailed soil sampling and ground magnetics surveys are in progress over several additional targets to prepare them for drilling
- Drilling at Limon is ongoing and further drilling is planned for Bramaderos Main to follow-up the highly encouraging drill results received to date from this initial program
- High grade gold being targeted at the West Zone epithermal target with the drill rig on site by the end of August. First hole to follow up on 6.9m at 12.7g/t gold within a broader interval of 30m at 3.6g/t gold in trench TR-LB06

Sunstone Metals Limited (ASX:STM) is pleased to provide an updated assessment of the strong exploration outlook at the Bramaderos project in southern Ecuador.

With the first few drill holes completed at Bramaderos Main and Limon, the concession-wide exploration data sets have undergone an iterative review.

Sunstone believes they underpin the Company's "bullish" view of the exploration potential within the greater Bramaderos Project. In short, they provide further evidence that Bramaderos is highly prospective for the discovery of porphyry gold-copper and epithermal gold systems.

The following series of images show Sunstone's exploration model based on geology, surface geochemistry and geophysics across the Bramaderos concession. These demonstrate that the Bramaderos concession contains numerous highly prospective porphyry gold-copper and epithermal gold systems.

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Sunstone Managing Director Malcolm Norris said:

“While still in its infancy, the exploration program at Bramaderos has delivered some extremely promising results. The grades and potential scale of the porphyry gold-copper systems are in line with our expectations at this very early stage of exploration.

“At Bramaderos Main we are defining a large gold-copper porphyry system and within that are domains of very compelling grades and widths. Exploration is a business of chasing these and understanding their geometry, which we are doing, and this increases our confidence that we will deliver on this early potential.

“We also have multiple other targets such as Limon that are undergoing drill testing as well. And we are eagerly awaiting the start of drilling at the high-grade West Zone epithermal gold target.

“We have an intense program of work planned, including ongoing drilling. We are well-funded to progress this work and we are fortunate to have multiple targets within our concession.”

Limon, Bramaderos Main and West Zone are in the initial drill test phase. Sunstone is a little over half way through its Phase 1 drilling program of 5,000m. Further drilling will be undertaken over the next 2-3 months at all three prospects as part of this initial Phase 1 program. Additional targets are being refined at Porotillo, Melonal, Gangue, Playas and El Espiritu.

### **Exploration Model:**

Integration of exploration datasets is delivering a robust and predictive model to guide exploration.

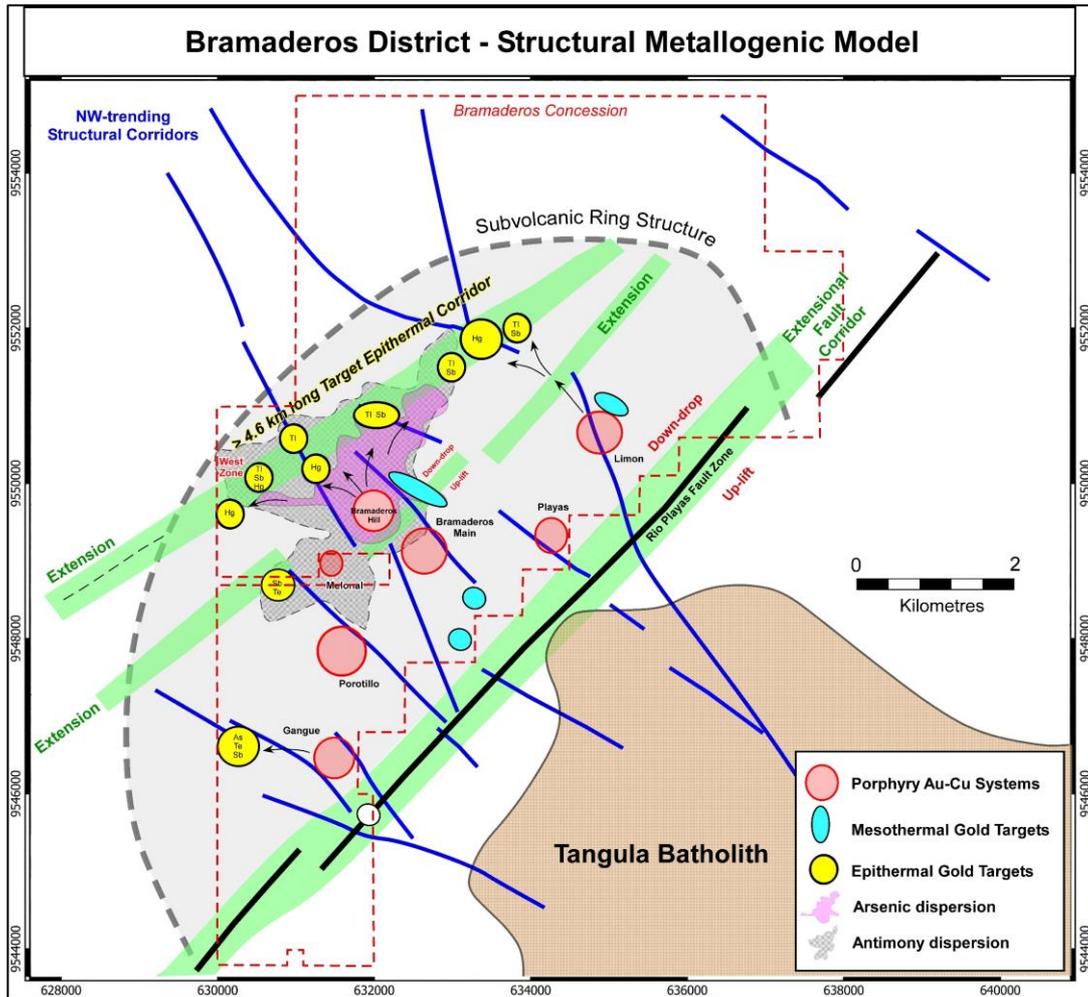
The Bramaderos concession lies within a geological setting that is typical of porphyry gold-copper and epithermal mineralisation environments. Interpretation of detailed topography and regional geology demonstrates a likely eroded granitic and volcanic domain forming a circular subvolcanic ring structure, which is dissected to the east by the Playas river (interpreted here as the Rio Playas Fault Zone) (Figure 1).

The relationship of this ring structure, with the mapped Tangula Batholith, structural mapping from magnetics and geochemical anomalies, and the location of known areas of mineralisation forms the basis for a predictive exploration model, with coincident features that support the definition of highly rated exploration targets.

At Bramaderos we have outcropping porphyry and epithermal mineralisation, and we have all the ingredients to support an optimistic view of the discovery potential.

Many targets have been defined. Three of these have been only partly tested with historical drilling and much of that testing is shown to be ineffective based on our recent exploration. Sunstone has tested 2 targets with only 2 drill holes each, and so are in the very early stages of this exploration program.

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**Figure 1:** Schematic image showing some key elements of the Bramaderos exploration model and targets for porphyry gold-copper (red), epithermal gold (yellow).

**Geochemistry:**

**Porphyry gold-copper targets**

Images of the distribution of copper and gold in soil samples across the entire concession show domains of elevated metal values that are prospective for gold-copper porphyry systems.

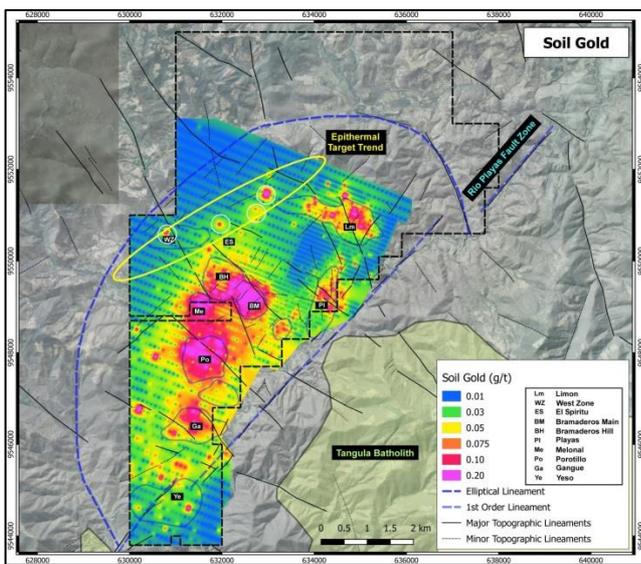
Figures 2, 3, 4 and 5 clearly display multiple targets defined in several datasets.

- Gold anomalism defines a 4.4km x 2.5km anomaly encompassing Bramaderos Main, Melonal, Porotillo and Gangue porphyry gold-copper targets
- Copper anomalism shows a very similar pattern to gold, and covers an area of 3.7km x 1.3km
- An additional strong copper anomaly is defined at the Playas target
- The weaker geochemical response at Limon is due to the target sitting below altered rock that comprises a 'lithocap'

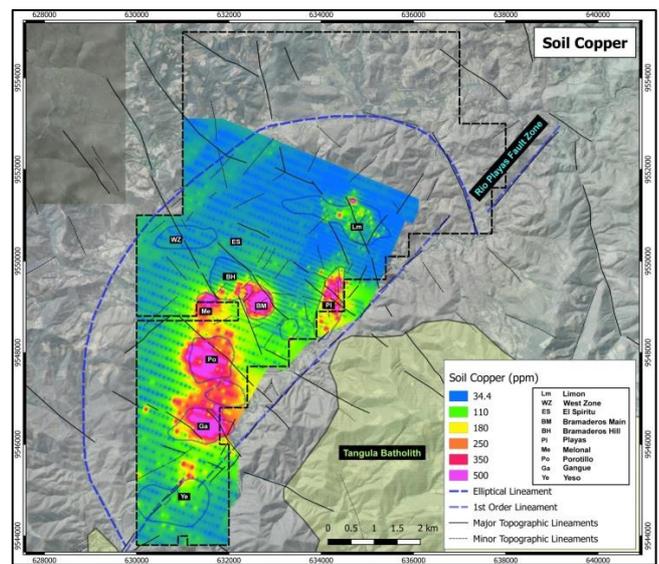
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- Other elements such as molybdenum, bismuth, selenium, tellurium, sulphur and manganese also define porphyry gold-copper targets through direct association with copper and gold, or through peripheral anomaly positions

The figures also show that within the Bramaderos concession there is an extensive domain that includes all porphyry gold copper targets – clearly defined in the Copper/Zinc image in Figure 4. This domain contains at least 6 porphyry targets. The copper-on-zinc ratio is commonly used to vector towards mineralised systems because copper is more common within those systems and zinc more common peripheral to those systems.

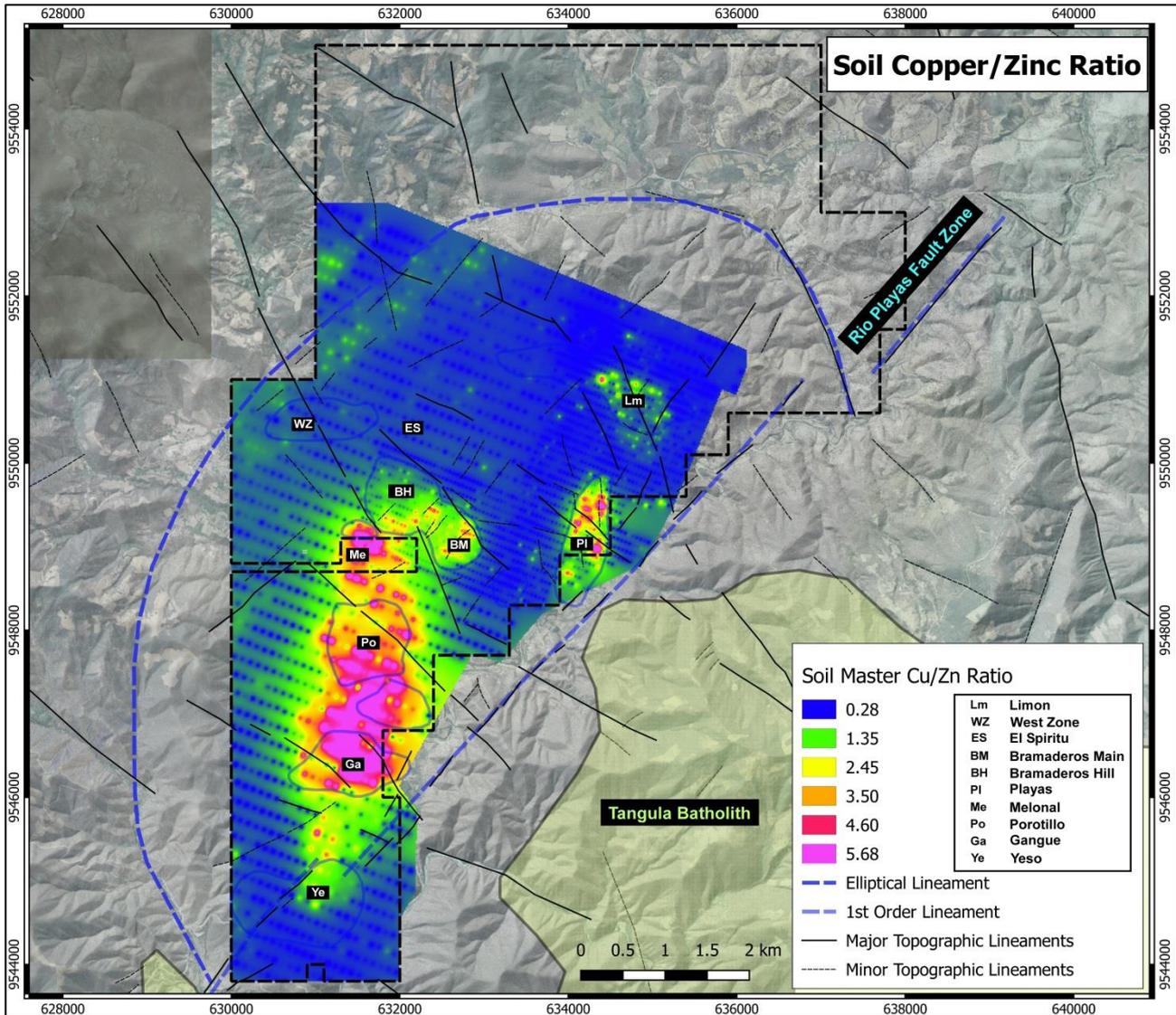


**Figure 2:** Gold anomalism in soils that define the cluster of porphyry systems at Bramaderos.



**Figure 3:** Copper anomalism in soils that define the cluster of porphyry systems at Bramaderos

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**Figure 4:** Copper-on-Zinc ratio defining strong targets clustering from Gangue to Bramaderos Main. Limon’s weaker signature is because the main target is buried.

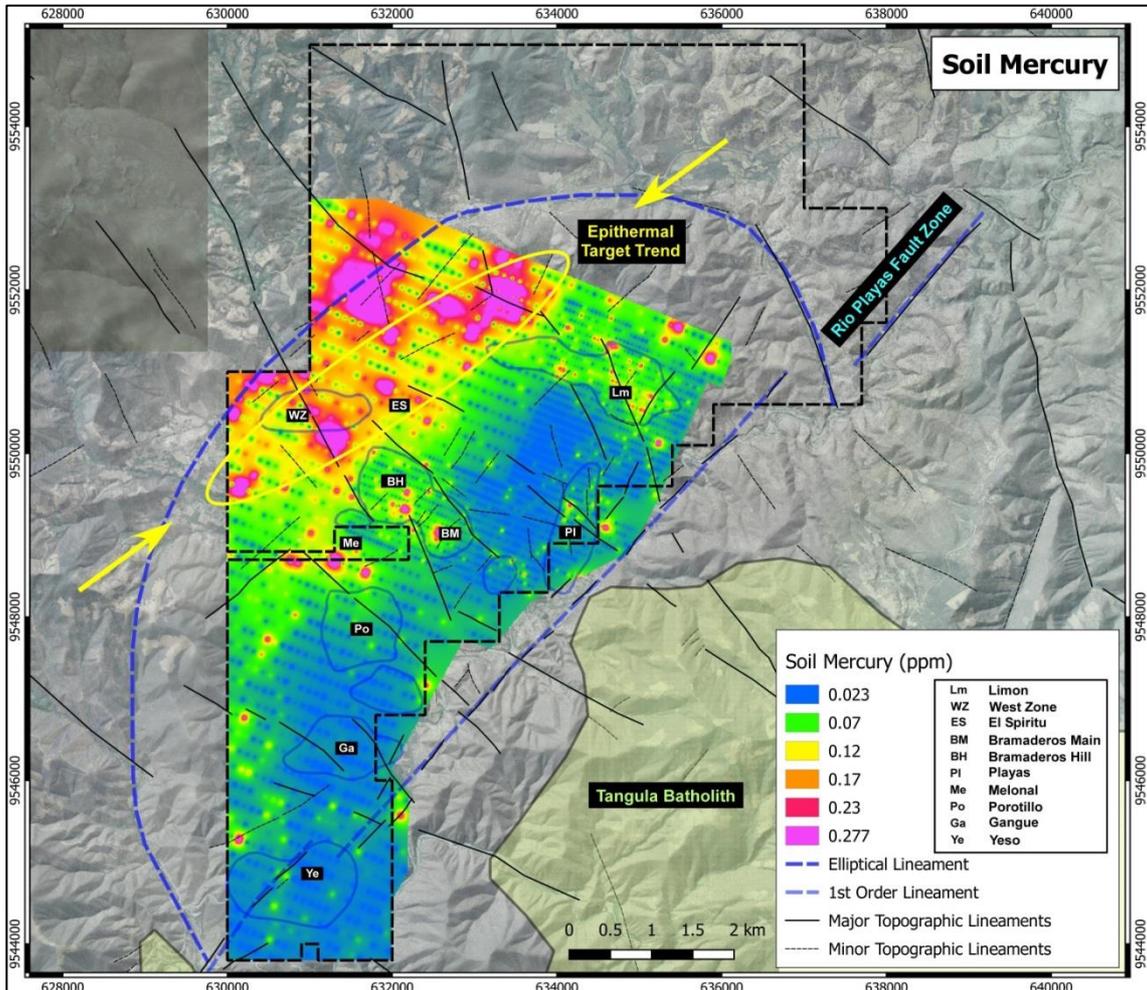
**Epithermal Gold targets**

West Zone is a high-grade epithermal gold target currently defined by surface mapping and trenching. Epithermal gold targets are typically geometrically smaller than porphyry targets, but of significantly higher grade. This is exactly the pattern we are seeing at West Zone and the first drill hole is due to commence in the next week and will follow up on 6.9m at 12.7g/t gold within a broader interval of 30m at 3.6g/t gold in trench TR-LB06 (see ASX announcement dated 8<sup>th</sup> November 2017).

Detailed interrogation of soil data has defined several other similar targets to West Zone that are currently being followed up. These additional targets are defined in multiple datasets. Figure 5 shows the NE-SW trending Epithermal Target Trend, defined in this case by elevated mercury and showing multiple targets along a corridor at least 4km long.

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Detailed soil sampling is in progress over these targets which are collectively referred to as the El Espiritu trend.



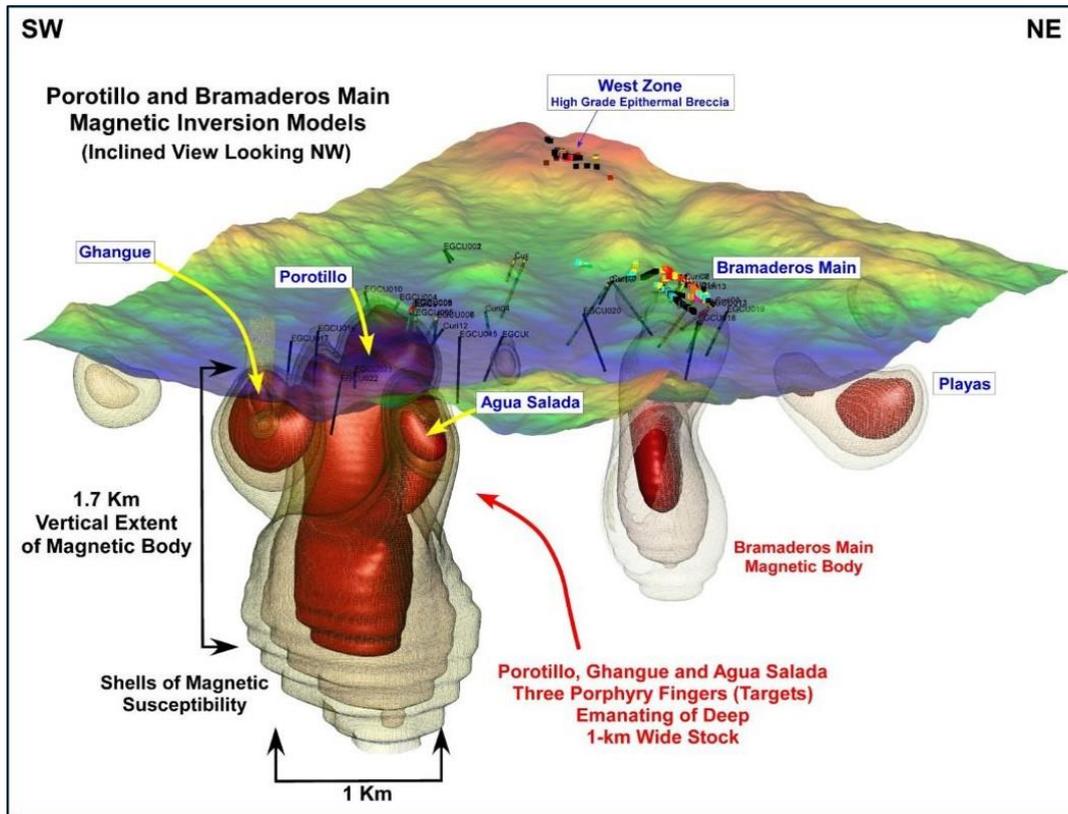
**Figure 5:** Soil geochemical image showing the >4km long epithermal gold trend. Note West Zone (WZ) is only 1 of multiple targets within this trend. This trend may be extended further to the northeast by the planned northern extension of the soil grid.

**Geophysics:**

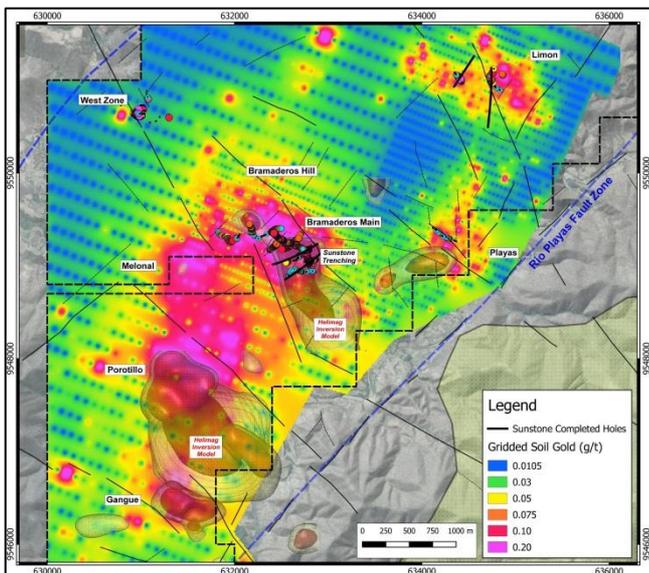
It has been established at Bramaderos Main that magnetic bodies correlate strongly with areas of porphyry gold-copper mineralisation, and that within those bodies higher grade domains exist that represent potential porphyry gold-copper deposits (Figures 6, 7 and 8).

Melonal, Porotillo, Gangue and Playas are highly rated on this basis and will be drill tested.

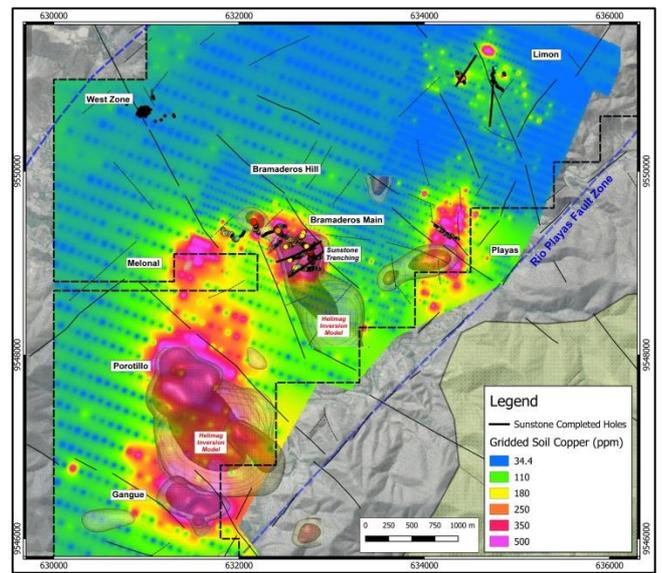
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**Figure 6:** 3-d view looking to NW showing the modelled magnetic bodies correlating with areas of porphyry gold-copper mineralisation at Bramaderos Main and the Porotillo-Gangue porphyry cluster



**Figure 7:** Gold anomalism in soils that define the cluster of porphyry systems at Bramaderos. The association between surface Au anomalism and underlying magnetic bodies is evident.



**Figure 8:** Copper anomalism in soils that define the cluster of porphyry systems at Bramaderos. The association between surface Cu anomalism and underlying magnetic bodies is evident.

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### About Sunstone Metals

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

1. **The Bramaderos Gold-Copper Project** where Sunstone has signed an earn-in agreement with TSXV listed Cornerstone Capital Resources (see ASX announcement dated 10<sup>th</sup> April 2017). The Bramaderos gold-copper project is located in Loja province, southern Ecuador, and is considered to be highly prospective for the discovery of large porphyry gold-copper systems, and high-grade epithermal gold systems. Historical exploration results from drilling at Bramaderos together with recent exploration by Sunstone and joint venture partner Cornerstone Capital Resources (TSXV:CGP) indicate multiple fertile mineralised systems with significant discovery potential.
2. **The Southern Finland Gold Project** includes the Satulinmäki gold prospect. Shallow diamond drilling was completed by the Geological Survey of Finland (GTK) during the period 2000-2005 and this was followed by a 7-hole diamond drilling program by Sunstone Metals in 2016. Intersections from GTK include 18m @ 4.1g/t Au from 50m downhole, including 3m @ 9.3g/t Au, and 4m @ 10.3g/t Au in drill hole R391. Intersections by Sunstone include 23.5m at 3.3g/t in SMDD007 and 2m at 10.5g/t in SMDD005. The Satulinmäki gold prospect is part of an earn-in JV with Canadian company Nortec Minerals, where Sunstone holds an ~82% interest, is funding on-going work, and has also acquired a significant land position, in its own right, in the district.
3. **The Scandinavian Lithium Project** includes the Kietyönmäki lithium prospect. Drilling by Sunstone has delivered 24.2m at 1.4% Li<sub>2</sub>O in a spodumene-bearing pegmatite. Kietyönmäki is also part of the JV with Nortec Minerals.
4. **Sunstone has a significant equity** interest of ~37.6% in Stockholm listed Copperstone Resources (COPP-B.ST) following the recent sale of the Viscaria Copper project.

### Competent Persons Statement

The information in this report that relates to exploration 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.

For further information, please visit [www.sunstonemetals.com.au](http://www.sunstonemetals.com.au)

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