13 DECEMBER 2022

Bramaderos Gold-Copper Project, Southern Ecuador

Initial Resource of 2.7Moz gold-equivalent* with large Exploration Target highlighting scope for substantial growth

Key Points

- **Initial Mineral Resource estimate (MRE) of 156Mt at 0.53g/t AuEq for 2.7Moz gold-equivalent***
- **The Resource is limited to the pit constrained Brama-Alba porphyry deposit, part of the large Bramaderos project in southern Ecuador; It does not include mineralisation outlined at several other targets within the Bramaderos concession, or at El Palmar in northern Ecuador**

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
Total	**156**	**0.35**	**0.11**	**1.3**	**0.53**	**2.7**

- 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.

- **Large initial Exploration Target of between 3.3Mozs and 8.6Mozs AuEq within 255 to 360Mt at a grade between 0.40 and 0.74g/t AuEq* (gold + copper) in addition to the Resource**
- **Initial Exploration Target has been estimated from only three (Brama-Alba extensions plus Melonal plus Limon targets) of several targets and focused on near-surface mineralisation**
- **Mineralisation in the MRE and Exploration Target is from surface, delivering potential for simple open pit mining extraction**
- **High confidence in growing the Resource and the Exploration Target as well as making additional discoveries across the Project**
- **Next steps are focussed on drilling at all porphyry targets at Bramaderos**
- **MD Malcolm Norris will provide an investor update today at 12 noon AEDT. The webinar can be accessed at:** https://www.bigmarker.com/read-corporate/Sunstone-Metals-ASX-STM-Investor-Webinar

Sunstone Metals Ltd (ASX: STM) is pleased to announce an initial **Mineral Resource estimate** (MRE) and an initial **Exploration Target** for the Bramaderos gold-copper porphyry project in southern Ecuador.

The initial MRE, from the Brama-Alba target only, reported in accordance with the JORC Code[1] is **156Mt at 0.53g/t AuEq (0.35g/t gold and 0.11% copper), for 2.7Mozs AuEq** (see Table 1 below for more detail). Preliminary pit optimisation was applied to the deposit to constrain the MRE and demonstrate the potential to be mined economically by open pit methods (Figures 4 & 5).

In addition, the initial Exploration Target, reported in accordance with the JORC Code consists of between approximately **255 and 360Mt at a grade between 0.40 and 0.74g/t AuEq[2] (gold + copper) for contained metal of between 3.3Mozs and 8.6Mozs AuEq** (see Table 2). **The Exploration Target range is in addition to the initial MRE**. 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.

Sunstone Managing Director Malcolm Norris said: "These results show that Bramaderos is heading towards being a very significant project with huge potential for growth.

"The size of the metal inventory, the fact it runs from surface, and the extent of the known mineralisation which sits outside the boundaries underpins a strong future for Bramaderos and Sunstone.

"It is important to note that these estimates are just the start. We are highly confident that ongoing drilling will continue to grow the size of the opportunity. We can see a clear line to a 5-10Moz AuEq resource for the project and our exploration program is focussed on delivering that.

"Our goal is to grow the metal resource inventory significantly by drilling more holes at all targets including Brama-Alba extensions, Melonal, Limon, Sandia, Porotillo, Playas, and Yeso.

"We have taken a somewhat conservative approach to the Exploration Target estimate and not considered porphyry gold-copper targets at several areas where Sunstone has not yet drilled. But we will drill those areas in 2023. We aim to deliver a globally significant gold-copper inventory across multiple nearby targets. This has been very efficient exploration with a discovery cost of A$9/oz on a gold equivalent basis".

Mr Norris said the results of preliminary metallurgical studies to produce a clean gold-copper-silver concentrate were positive and recent preliminary leach tests suggested that an even larger opportunity may present itself with leaching of low-grade material.

"Bramaderos is ideally located for a large mining development project," he said. "It is at ~1,000m above sea level, in proximity to the Pan-American highway, has adequate power supplies nearby from Ecuador's hydro-power grid, the project is also supported by nearby commercial airports and significant cities (Loja,

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[1] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).

[*]The gold equivalent calculation formula is AuEq(g/t) = (Au grade x Au price x Au recov / 31.1035) + (Ag grade x Ag price x Ag recov / 31.1035) + (Cu grade x Cu price x Cu recov / 100)) / (Au price x 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.

population 200,000) and has a supportive community keen to benefit from all that a responsible mining development brings".

The MRE is based on 53 drill holes (Figure 1; 48 drilled by Sunstone in the period June 2019 to October 2022, and 5 drilled by Ecuador Gold in 2007) for 27,338m of drilling, and 3,064 linear metres of trenching in 13 trenches.

International geological and mining consulting firm CSA Global, an ERM Group company, has prepared the initial MRE for the Brama-Alba gold-copper porphyry deposit. CSA Global completed a site visit, laboratory inspection, review of the Brama-Alba geological database and assessment of reasonable prospects for eventual economic extraction in preparation for MRE.

Early-stage metallurgical testwork has been completed on a range of mineralisation styles from the Brama-Alba gold-copper porphyry deposit. Studies were undertaken by Base Metallurgical Laboratories in Kamloops, British Columbia. The geology of other targets included in the Exploration Target show strong similarities to Brama-Alba (not uncommon in a clustered porphyry geological environment) and it is considered valid to apply metallurgical testwork results to these other areas when deriving a metal equivalent value.

Sighter metallurgical test work indicate that recoveries in excess of 85% for copper and 88% for gold can be achieved with a combined flotation and leach circuit when targeting a saleable concentrate grade of above 20% copper (see ASX release dated 19 July 2022).

Further test work, including alternative reagent and grind size regimes, will focus on improving recovery responses in a flotation-only circuit configuration to determine whether that configuration is feasible. Additional optimisation testing of the current flotation-leach selection, to further improve recoveries, will also be conducted.

Additional metallurgical testwork has also commenced analysing the potential for a supplementary heap leach flowsheet targeting material currently flagged as waste due to low copper sulphide content but carrying a gold tenor above the selected cut-off.

Table 1 - Mineral Resource estimate at various cut-off grades

Cut Off AuEq (g/t)	Tonnage (Mt)	AuEq (g/t)	AuEq (Moz)	Au (g/t)	Au (Moz)	Cu (%)	Cu Metal (Kt)	Ag (g/t)	Ag Metal (Moz)
0.2	176	0.50	2.8	0.33	1.9	0.10	180	1.2	7.0
0.3	**156**	**0.53**	**2.7**	**0.35**	**1.8**	**0.11**	**169**	**1.3**	**6.5**
0.4	117	0.59	2.2	0.40	1.5	0.12	138	1.4	5.1
0.5	75	0.68	1.6	0.46	1.1	0.13	97	1.4	3.5

Table 2 - 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
Limon	35	60	0.56	1.54
TOTAL	**255**	**360**	**3.3**	**8.6**

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	0.2	0.1	0.35
Melonal	150	200	0.25	0.1	0.4
Limon	35	60	0.33	0.1	0.5
TOTAL	**255**	**360**			**0.40**

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	0.6	0.12	0.8
Melonal	150	200	0.5	0.12	0.7
Limon	35	60	0.6	0.12	0.8
TOTAL	**255**	**360**			**0.74**

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

Summary of Material Information – Mineral Resources

Geology and Geological Interpretation

The deposit styles include intrusion related and stockwork hosted porphyry gold-copper systems plus epithermal gold-silver-polymetallic veins. The geological setting is a volcanic arc of Cretaceous age intrusions.

At least eight different intrusion phases exist spanning the entire mineralisation-alteration sequence with the main ore-bearing phases consisting of a large porphyry diorite intrusion and associated crystalline intrusion breccias.

The principal rock types are assigned to four broad units; (1) the pre-mineralisation sedimentary and dacitic to andesitic volcanic rocks; (2) three early-mineralisation intrusions; (3) two syn-mineralisation porphyry

intrusions and associated intrusion breccias spanning the alteration-mineralisation sequence; and (4) late-mineralisation intrusions, mill breccia dykes and post-mineralisation andesite dykes.

The MRE is wholly contained within a model which has been prepared to represent the mineralisation. A nominal 0.15 g/t gold cut-off grade was used to build the mineralisation model, with consideration of lithological and structural models which have been prepared for the project.

Sectional strings were created across strike of the deposit at 20m spacings. Given that drilling has been carried out at various angles, and not strictly on drill sections, a degree of interpretation was also required between the sectional strings. Extrapolation along strike was in the order of 30m, dependent on the perceived geological continuity.

Note that there are some intersections that are below 0.15 g/t Au within the stockwork model. The intention was to build a sensible geological model which represented the mineralisation and allow the grade interpolation to provide an appropriate level of smoothing within the model.

A weathering model was generated using Leapfrog Geo and follows the topography profile. Strongly weathered, moderately weathered and fresh zones were modelled.

In addition to the weathering model, an interpretation was made of the boundary between oxide and sulphide copper minerals. Oxide copper (mainly cuprite) is restricted to a shallow supergene blanket (~8-10m thick) in areas of mineralisation and extends further down along faults. This boundary allowed the removal of oxide material prior to resource reporting, given it is not likely to be recovered during processing.

Sampling and Sub-Sampling Techniques

Diamond core and trench sampling was adopted for the project.

For Sunstone holes, the routine sample procedure is to always take the half core to the right of the orientation line (looking down hole) or the cut line (in cases where the orientation line was not reliable). The drill core sampling was carried out using half core, generally at 1 to 2 m intervals.

Trench samples were collected at 1-2 m intervals using a portable cutting machine, hammer and chisel depending on the rock hardness, and then arranged in numbered plastic bags. Sampling intervals honour changes in lithology, weathering, alteration, mineralisation, and structural information.

Drill core and trench samples from Bramaderos were sent to the LAC y Asociados Cia. Ltda. sample Preparation Facility in Cuenca. The pulps were sent to the MSA Analytical Laboratory in Vancouver for gold and base metal analysis. The standard sample preparation for drill core samples (Code PRP-910) involves drying the sample, crushing to size fraction 70% < 2mm and splitting the sample to a 250 g portion for trenches and 1000 g for drill core using a riffle or Boyd rotary splitter. The 250/1000g sample is then pulverised to >85% passing 75 microns and then split into two 50g pulp samples.

Limited details on sampling and sub-sampling techniques used by Ecuador Gold are available. It is known, however, that half core samples were dispatched by bus to the Inspectorate sample preparation laboratory in Quito from where pulps were subsequently shipped to Peru for analysis.

Quality control (QC) data demonstrates acceptable sampling precision has been achieved for all reported elements.

Drilling and Trenching Techniques

All drilling completed at the project is diamond core.

Drilling commenced in the project area in 1999 and has been carried out in three phases as follows:

- Ecuanor S.A. completed 13 diamond holes (CURI01-13) from 1999 through 2000.
- Ecuador Gold completed 22 diamond holes (EGCU001-022) from 2006 through 2007.
- Sunstone completed 81 diamond holes (BMDD001-049, ESDD001-011, LMDD001-009, WZDD001-008, SADD001-002, MEDD001) from 2019 through 2022.

Ecuanor S.A. holes were not used in this MRE due to the absence of QC data and an apparent inconsistency when comparing the tenor of mineralisation with that observed in nearby recent holes.

Core sizes are not known for the Ecuador Gold holes.

Sunstone holes account for most of the data that informs this MRE. Holes were drilled either using HTW (70.9mm) or NTW (56mm). Drill core was oriented using a Reflex ACT II tool. Diamond core recovery data was measured for each drill run and captured in a digital logging software package. The data has been reviewed and core recovery was approximately 100% throughout. The drill hole database contains 81 holes, however only 50 holes fall within the immediate area of the MRE.

A total of 19 trenches were excavated by Sunstone from 2017 through 2019 using combination of handheld tools (pick and shovel) with depths up to 2m and a minimum width of 1m. A supervising geologist oversaw the excavations. Only 13 trenches fall within the immediate area of the MRE.

Location of Data Points

The grid system used is Geocentric Datum of Ecuador PSAD56 Zone 17 South.

A topographic digital terrain model (DTM) generated from DGPS data using the following equipment:

- 1x Sokkia 630RK Total Station with a precision of 6 seconds
- 3x Trimble R4 GNSS differential RTK with a precision of ± 2cm RTK.

Total Station methods were used for closed areas and GPS RTK for open areas.

All drill holes completed by Sunstone have been located (collars) using a DGPS. Downhole surveys were completed using a Reflex Gyro Sprint-IQ Gyroscope at 5 m intervals. Validation consists of measuring differences between the input and output measurements. The measurement is within the acceptable range when the maximum difference does not exceed 1%.

Trenches have been surveyed using a DGPS.

Collar location methods are not known for the Ecuador Gold holes. One survey record is available for each hole (at the collar). A single shot magnetic Pajari tool was used to measure the dip and azimuth at the collar.

Criteria used for Classification

The Mineral Resource has been classified following due consideration of all criteria contained in Section 1, Section 2 and Section 3 of JORC 2012 Table 1. The Mineral Resource has been classified as either Indicated or Inferred based on data quality, sample spacing, mineralisation continuity, confidence in the geological interpretations, estimation quality statistics, and metallurgical processing knowledge. No Measured material has been defined for the maiden Mineral Resource given both the absence of bulk sampling and insufficient drilling data to confirm geological and grade continuity between points of observation.

After considering data quality, data distribution, and geological and grade continuity, the following approach was adopted when classifying the Mineral Resource:

- Areas of the deposit were classified as Indicated where the deposit is tested on a pattern which approximates 25–50 m E by 25–50 m RL. Geological evidence is considered sufficient to assume geological and grade continuity between points of observation where data and samples are gathered. A wireframe was created to capture this area.

Areas of the deposit were classified as Inferred where drilling had been completed on a pattern which approximates 50–100 m E by a 50–100 m RL. Geological evidence is considered sufficient to imply but not verify geological and grade continuity.

Sample Analysis Method

Sunstone uses a Fire Assay gold technique for Au assays (FAS-111) and a four acid multi element technique (IMS-230) for a suite of 48 elements. FAS-111 involves Au by Fire Assay on a 30g aliquot, fusion and atomic absorption spectroscopy (AAS) at trace levels. IMS-20 is considered a near total 4 acid technique using a 20g aliquot followed by multielement analysis by ICP-AES/MS at ultra-trace levels.

Ecuador Gold used a 30g fire assay method for gold analysis, and a multi-element suite was analysed by a four acid multi element technique (IMS - 230).

QC data demonstrates acceptable analytical accuracy has been achieved for all reported elements, and there were no issues with carry-over contamination.

Estimation Methodology

A histogram of raw sample lengths was initially viewed for all data. This was completed to assist with the selection of an appropriate composite length. Sample data needs to be regularised (have equal support) prior to completing domain statistics to ensure there is no risk of introducing bias into the analysis. Generally, the composite length should be as close to the original sample length as possible to preserve the natural variability of the data. Based on the results a 2m composite length was chosen.

All data within the modelled mineralisation envelope was selected to compare sample types (trench versus diamond). Both sample types have similar Au populations and were therefore combined for resource estimation.

There is no apparent correlation between oxidation status and gold grade, and a decision was made to adopt soft boundaries between oxidation zones, meaning that block estimation within one oxidation zone could be informed by composites in other oxidation zones.

Two domains were used for grade estimation (Bramaderos and Alba).

CSA Global adopted the following approach when selecting a top cut for each element in each domain:

- The raw statistics were assessed.
- The log-probability plot was reviewed, and the upper part of the distribution was assessed. Grades which represented positions where changes in the slope of the plot occurred were initially considered as a potential top cut.
- The histogram was the reviewed. The point at which the number of samples supporting the high-grade tail diminishes was also considered as a top cut value. This was the primary method.

The 3D parent estimation block size selected for interpolation was 30m N, 30m E and 20mRL, with the parent block size being determined through kriging neighbourhood analysis, review of domain dimensions, drilling density and potential mining selectivity. Block sub-celling size was selected for appropriate volume fill within the mineralisation wireframes. No block rotation was applied.

Variography was completed using data within the mineralisation wireframe. A horizontal variogram fan was initially created to define the known strike of the mineralisation. The dip was then selected from the across-strike vertical fan and the plunge was selected from the dip-plane fan. Variogram models were then created in the direction of maximum continuity (plunge and major direction), orthogonal to the plunge in the plane of the reef (semi-major direction) and across-strike (minor direction).

The primary, secondary, and tertiary search ellipse dimensions represent approximately half of the variogram range, the full variogram range and five times the full variogram range respectively. The tertiary parameters were selected such that all the blocks are estimated. A minimum of 10 samples and a maximum of 20 samples per hole were used for the primary and secondary search passes. A minimum of 2 samples and a maximum of 10–14 samples per hole were used for the tertiary search pass.

Grade was interpolated into all blocks using ordinary kriging using a fixed ellipse consistent with the orientation of the overall domain.

The block model was then validated by comparing block model grades with drillhole composites on sections throughout the deposit. Block grades were found to reasonably reflect the drillhole data, with a degree of smoothing evident in the block model, which is expected given the change in support. Swath plots were created for northing, easting, and elevation slices throughout the deposit at 25m increments. Block mean grades compared reasonably well with the drillhole grades.

Archimedes density values were interpolated into the fresh domain using ordinary kriging. Inverse distance was used to interpolate density into the strongly weathered and moderately weathered domains.

Cut-off Grades

The MRE is reported above a cut-off grade of 0.3g/t AuEq. The cut-off grade was selected following consideration of the proposed mining method of open pit mining, and preliminary pit optimisation results. Tonnages were estimated on a dry basis.

Pit optimisation was implemented to allow constraints to be placed on reporting. Base case pit optimisation parameters utilised are tabulated below.

Parameter	Value	Unit
Au metal price	1800	US$/t
Cu metal price	9500	US$/t
Ag metal price	22	US$/t
Mining and Transport		
Mining cost	2.04	$/m^3 for ore
Mining losses	0	%
Mining dilution	0	%
Processing cost - ALL	6.66	$/t ore
Transportation cost	0.63	$/t ore
Sustaining Capital	0.60	$/t ore
Total Processing cost	**7.89**	**$/t ore**
Recovery - Copper	85	%
Recovery - Gold	89	%
Recovery - Silver	60	%
Rehabilitation of Waste Dump	0.1	$/t of waste
Pit slope	40	degrees
Density for Mineralisation	Variable in Block Model	t/m^3
Density for Waste	Variable in Block Model	t/m^3

Mining and Metallurgical Assumptions

In selecting the reporting cut-off grade, it has been assumed that the deposit will be mined using open pit methods.

Metallurgical test work has been completed and results indicate that excellent recovery can be expected for gold and copper. A gold equivalent value was calculated to allow the value from all elements to be combined into a single grade variable. Metallurgical recovery and commodity price assumptions are shown in the footnote on page 2. Metal prices were derived from forward price estimates.

Assessment of Reasonable Prospects for Eventual Economic Extraction

Clause 20 of the JORC Code (2012) requires that all reports of Mineral Resources must have reasonable prospects for eventual economic extraction, regardless of the classification of the Mineral Resource. The Competent Person deems that there are reasonable prospects for eventual economic extraction of mineralisation on the following basis:

- Mineralisation at Bramaderos is continuous and has been delineated by drilling over a strike length of approximately 1.2 km, while at Alba mineralisation is continuous for 0.2 km along strike. Given the broad widths of mineralisation, strip ratios will be low and minimal dilution and ore loss are expected.
- Access to power infrastructure.
- Metallurgical test work results were encouraging. Furthermore, metallurgical head assays indicated no interference from deleterious elements.

- Preliminary pit optimisation results show that the deposit has potential to be mined economically by open pit methods.
- There is significant potential for the discovery of additional Mineral Resource near Bramaderos. This will allow Sunstone to achieve economies of scale.

Exploration Target Methodology and Summary of Additional Material Information

The Exploration Target within the Bramaderos concession is estimated from 3 areas – the extensions to the Brama-Alba system that are not captured in the MRE, and mineralisation drilled at targets Melonal and Limon (Figure 2).

The Exploration Target does not include known porphyry mineralisation at Sandia, Porotillo, Playas, or Yeso. It was decided to not include these areas because Sunstone has not yet completed any or sufficient drilling in these areas. Some historical drilling has been completed at Porotillo. Further work in these areas will be undertaken and they are expected to contribute to an expanded Exploration Target in future.

Brama-Alba Extensions

Several areas of mineralisation have been identified outside of the area of the MRE. Further drilling is planned to assess the opportunity to move these areas into a future update of the MRE.

The MRE captured all material within a 'Mineralisation Wireframe', and within a pit. Some drill holes that intersected mineralisation are outside the mineralisation wireframe, and either within or outside the pit. Inadequate drilling exists in these areas to show continuity. Furthermore, the effect of the RPEE was to exclude 14% of material. This material has been captured in the Exploration Target.

Six domains were identified as having clear potential for additional mineralisation and these were reviewed either on a depth slice basis, or a block basis. Volumes were calculated and grade was assigned based on nearby data and on comparison with the overall Brama-Alba grade.

These areas have been included in an Exploration Target where more drilling is required to allow inclusion in a Mineral Resource estimate.

Melonal

The Melonal target is a continuation of the Brama-Alba system. It is geologically grouped with Brama-Alba. Recent drilling by Sunstone, and historical drilling from 2007, has confirmed that the Melonal target is mineralised, and that mineralisation is hosted in rocks the same as those drilled at the nearby Brama-Alba deposit. The mineralised rocks are coincident with a discrete sub-vertical magnetic anomaly measuring up to 400m in diameter, and with a vertical extent of over 1,000m. The Exploration Target for Melonal was considered to a depth of 500m. The Melonal target straddles the Sunstone Bram-01 concession and the Sunstone Bram-02 concession application that is currently progressing through the Ecuador Mines Ministry towards approval.

Limon

Sunstone has drilled 8 effective diamond holes at the Limon target. Mineralisation has been intersected in a number of holes. A trench was completed at Limon prior to drilling in an area of outcropping stockwork veining and minor secondary copper mineralisation. It returned 97m at 0.73g/t gold and 0.23% copper. A recent hole drilled under the trench has intersected similar stockwork veined intrusive and contains chalcopyrite.

Drilling at Limon has also intersected a high sulphidation system in holes LMDD004 and 006, which included intersections of 13.3m at 0.43% copper and 0.11g/t gold, within 59.6m at 0.16% copper. This target area will be further explored with several holes planned.

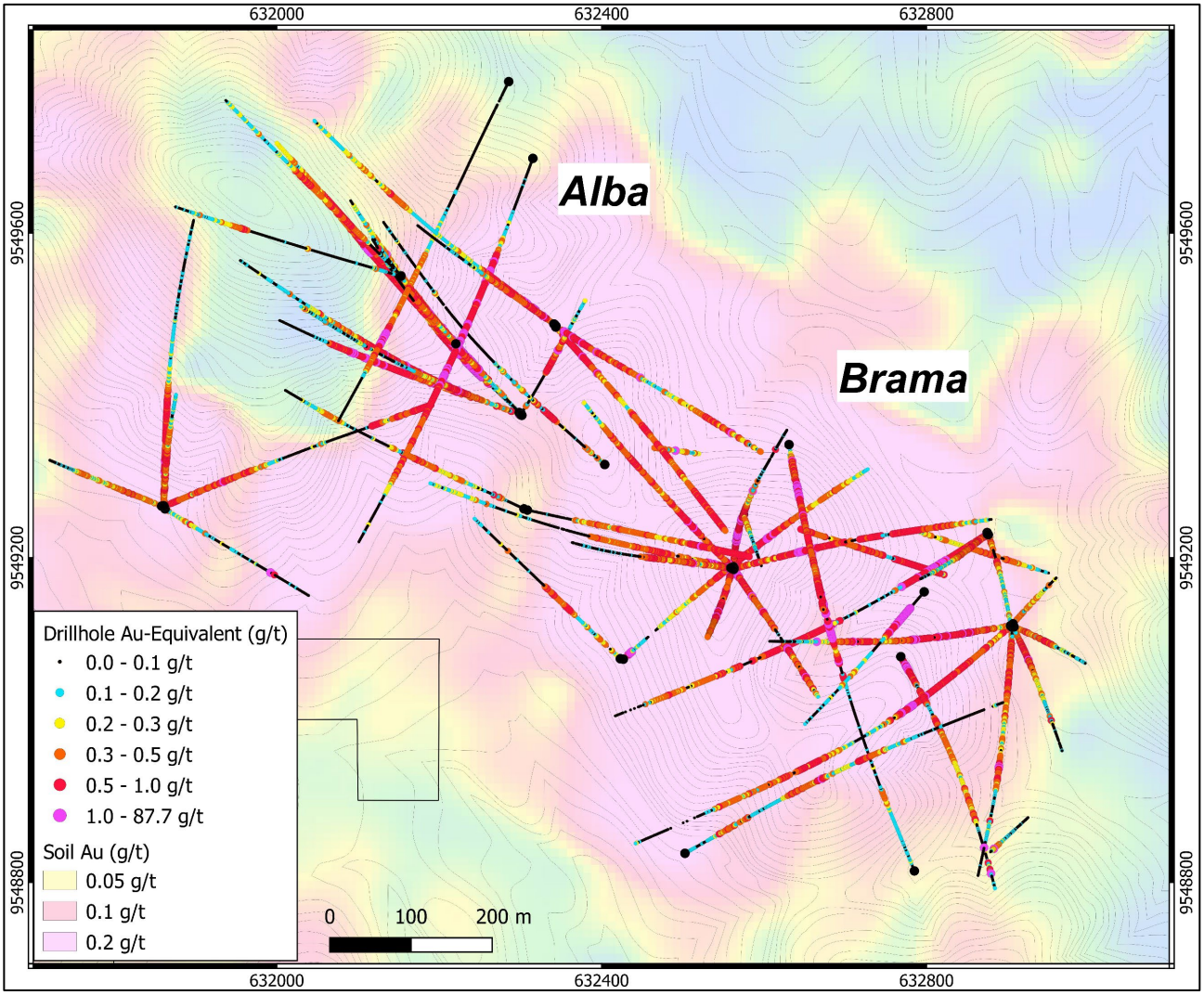

Figure 1: Brama-Alba drill status plan showing the status of Sunstone drilling for the MRE on a backdrop of gold-in-soil results.

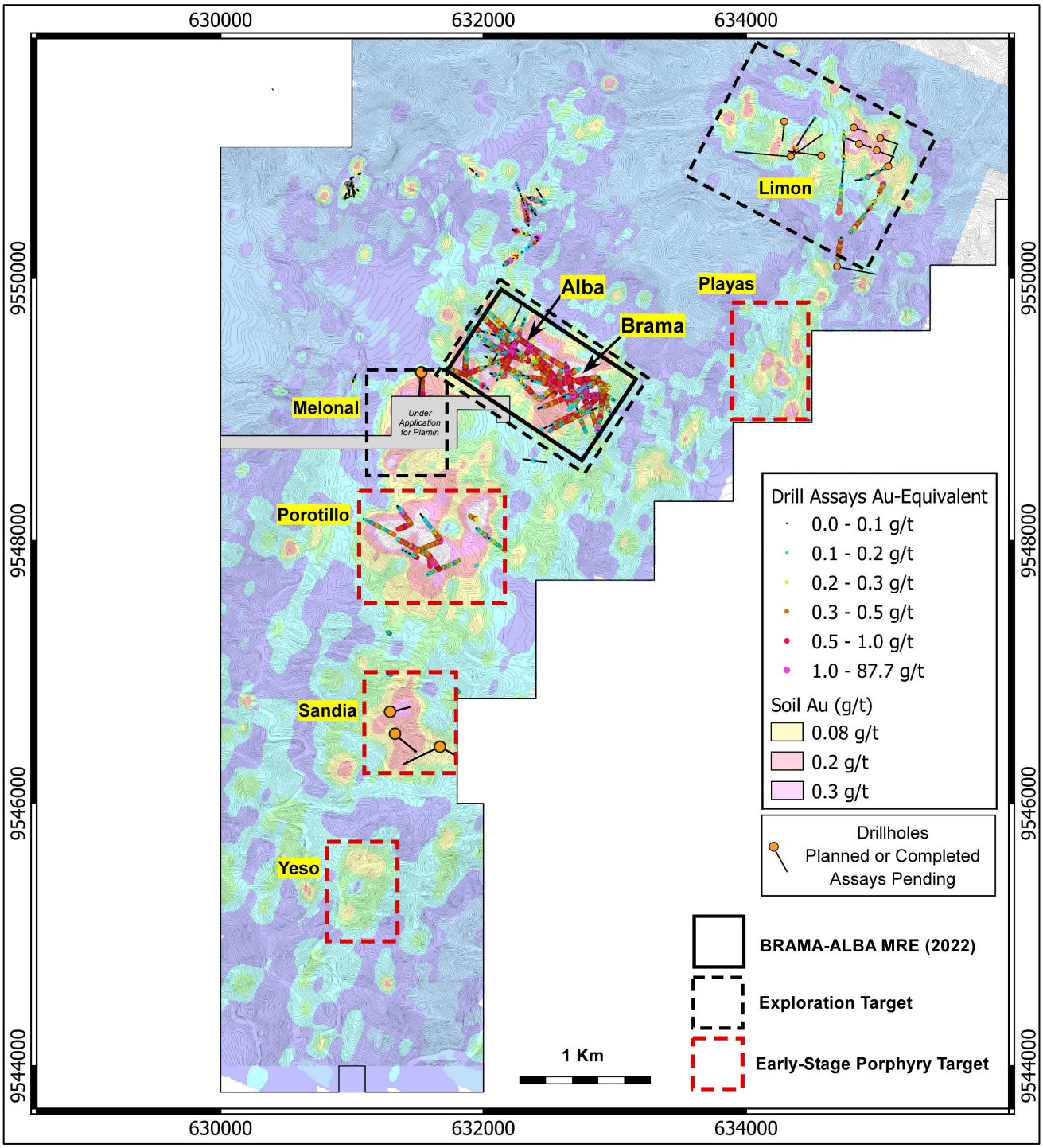

Figure 2: Bramaderos concession showing the area of the MRE at Brama-Alba, and the 3 areas that make up the Exploration Target at Melonal, Alba-Brama, and Limon, and the 4 additional targets that are at an early stage comprising Yeso, Sandia, Porotillo, and Playas.

The background image is gold-in-soil and highlights the potential scale increase to be delivered with more drilling at Bramaderos across several porphyry centres.

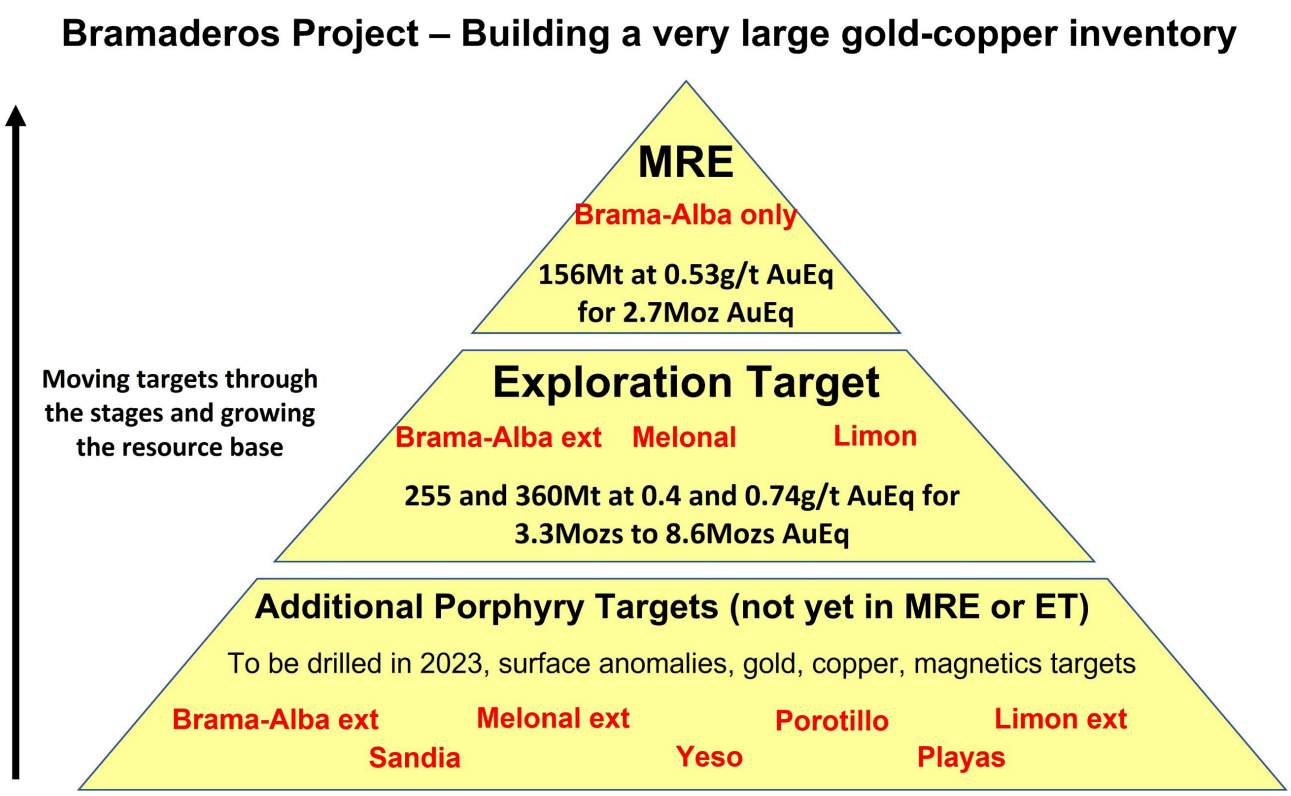

Figure 3: Summary of potential growth options for the Bramaderos project. Further drilling on multiple opportunities is expected to significantly grow the gold and copper inventory.

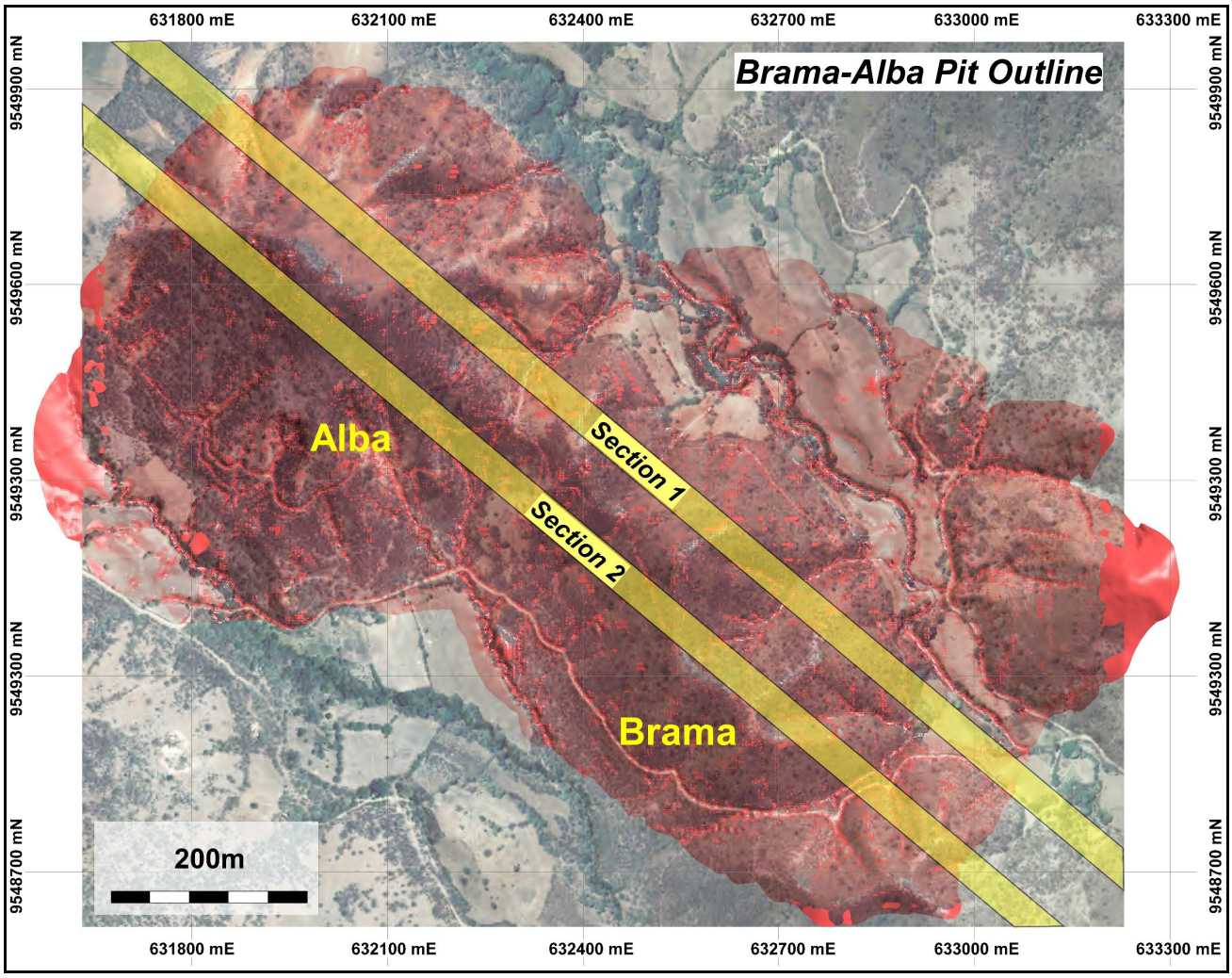

Figure 4: Plan view of Brama-Alba showing the pit outline and the location od 2 cross sections shown in Figure 5.

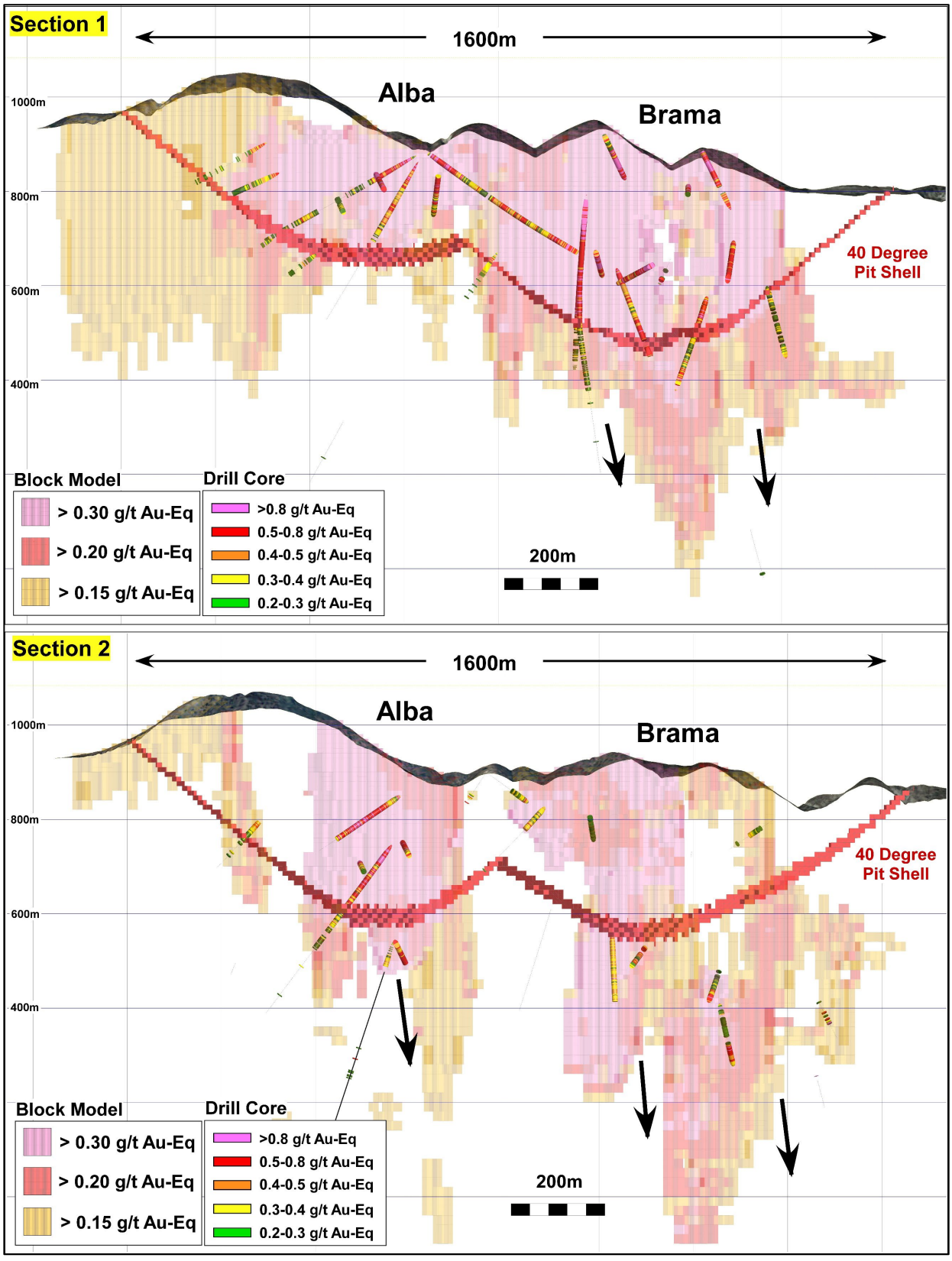

Figure 5: Cross sections from locations shown in Figure 4. The MRE is pit constrained. Material outside the MRE has been captured in the Exploration Target. Note higher grade domains as shown on drill hole plots cluster in the upper pit area.

Figure 6: Location of Sunstone's Bramaderos, El Palmar, and Verde Chico projects in Ecuador

ASX ANNOUNCEMENT

For further information, please visit www.sunstonemetals.com.au

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About Sunstone Metals

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

1. **The Bramaderos Gold-Copper Project** where Sunstone owns an 87.5% interest with TSXV listed Cornerstone Capital Resources 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.
2. **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.

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 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.

Mr Malcolm Norris, Managing Director of Sunstone Metals Ltd., has authorised this announcement to be lodged with the ASX.

JORC Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The sampling database for Bramaderos project (the Project) includes diamond drilling (DD) and trench data. Sampling in the Project area has been compiled from information collected under ownership of the companies listed below: • Sunstone Metals (2019 to 2022) • Ecuador Gold (2006 to 2007) • Ecuanor S.A. (1999 to 2000). Only datasets collected by Sunstone Metals and Ecuador Gold have been used in the preparation of the Mineral Resource estimate which is reported herein. Accordingly, only this data is summarised in this table. The vast majority of the data used in the Mineral Resource estimate was collected by Sunstone from 2019 through 2022. The Competent Person considers that the sampling techniques adopted are appropriate for the style of mineralisation.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	For drillhole data, half core is generally submitted for assay, however from 2019 through 2021, quarter core (rather than half core) was submitted as the primary sample. Samples are taken at 1–2 m intervals and honour different rock types, alteration zones and mineralised zones as defined by geologists. Core is cut along the longitudinal axis using a core saw. A duplicate sample was obtained by quartering the core sample. Trench sampling was carried out at 1–2 m intervals using a portable cutting machine or a hammer and chisel depending on rock hardness and honouring different rock types. Samples honour different rock types, alteration zones and mineralised zones as defined by geologists. A duplicate sample was obtained by quartering the primary trench sample.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g., '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 gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules)	Diamond drilling and trench sampling points have been guided by geological logging and mapping. Sunstone Metals The core samples from Brama-Alba were dried, crushed to 70% passing 2 mm, split (1 kg) and pulverised to 85% passing 75 microns. A 20 g portion of this sample was used for multi-element analysis (IMS-230) and a 30 g sample for Fire Assay Au (FAS-111). Trench samples adopted the same sample preparation and analytical techniques, with the

Criteria	JORC Code explanation	Commentary
	may warrant disclosure of detailed information.	exception that after crushing, the sample is split to a 250 g portion using a riffle or Boyd rotary splitter while drill core is split to 1 kg, **Ecuador Gold** Limited details on the logging, sample preparation and analytical methods used by Ecuador Gold are available. According to historical documentation, samples were sent to the Inspectorate sample preparation laboratory from where pulps were subsequently shipped to Peru for analysis. 30-gram fire assay methods were used for gold analysis, and a multi-element suite was analysed using the IMS-230 method.
Drilling techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	**Sunstone Metals** All drilling is diamond core. Holes have been drilled to various depths, up to 720 m. The diamond core was drilled delivering either HTW (70.9mm) or NTW (56mm) core. Drill core is oriented using a Reflex ACT II tool for bottom of hole. **Ecuador Gold** Drilling by Ecuador Gold is also diamond core drilling; however, the core sizes are not known.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	**Sunstone Metals** Drilling recoveries are recorded for diamond core samples as part of geotechnical logging. Diamond core recovery was measured for each drill run and captured in a digital logging software package. The data has been reviewed and core recovery was approximately 100% throughout. **Ecuador Gold** Core recoveries for the Ecuador Gold holes were not recorded but are likely to be very high.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Recovery of drill core is maximised by using drilling techniques and drilling fluids suited to the ground conditions. Core is sawn in half using a core saw.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No relationship between sample recovery and grade has been established.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	**Sunstone Metals** Drill hole logging is completed at the core shed by trained geo-technicians or geologists on a tablet or laptop directly into a Microsoft Excel based spreadsheet which has been designed for the project. Logging was carried out according to Sunstone's internal protocols and quality assurance

Criteria	JORC Code explanation	Commentary
		(QA) procedures which comply with industry standards. Logging is divided into two categories, namely geological and geotechnical. There is a corresponding operational procedure for the geological and geotechnical logging. A template with codes has been set up to ensure consistent collection of relevant geological information. Mineralisation, mineralogy, alteration, lithology, colour, structure, veining and weathering information are collected into different tables using standalone codes. Magnetic susceptibility and XRF readings for estimation elements are recoded in separate tables. The geologist completes mapping of the trenches by recording lithology, alteration, mineralisation and colour of each sample. The geologist also checks the collected samples with a hand lens to observe details of mineralisation or alteration that cannot be observed while mapping the trench. Sample numbers of the collected samples were clearly marked along the trench surface using aluminium plates for future reference. **Ecuador Gold** All drill core was logged using lithology codes specific to the project. Detail surrounding data entry/capture procedures in the field was not available.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is generally qualitative in nature. All core is stored at site and has been photographed in wet and dry conditions.
	The total length and percentage of the relevant intersections logged.	The drill holes and trenches are logged in full (100%), from start to finish of the hole or excavation.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	**Sunstone Metals** The routine sample procedure is to cut the core in half using a core saw to the right of the orientation line (looking down hole) or the cut line (in cases where the orientation line was not reliable). Half core (or quarter core from 2019 through 2021) was used to provide the samples that were submitted for assay. **Ecuador Gold** The routine sample procedure for core cutting was not recorded in the available reports.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Trench sampling was carried out by Sunstone Metals from 2017 through 2019. Trench samples were collected using a portable cutting machine hammer and chisel depending on the rock hardness.

Criteria	JORC Code explanation	Commentary
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	**Sunstone Metals** Drill core and trench samples from Brama-Alba were sent to the LAC y Asociados Cia. Ltda. Sample Preparation Facility in Cuenca, Ecuador for sample preparation. The standard sample preparation for drill core samples (Code PRP-910) is: Drying the sample, crushing to size fraction 70% <2 mm and splitting the sample to a 250 g portion by riffle or Boyd rotary splitter. The 250 g sample is then pulverised to >85% passing 75 microns and then split into two 50 g pulp samples. One of the pulp samples was sent to the MS Analytical Laboratory in Vancouver (Unit 1, 20120 102nd Avenue, Langley, BC V1M 4B4, Canada) for gold and base metal analysis. Sample preparation is carried out according to industry standard practices. **Ecuador Gold** Limited details on the sample preparation technique are available, however it is known that samples were sent to the Inspectorate sample preparation laboratory from where pulps were subsequently shipped to Peru for analysis.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	**Sunstone Metals** Sunstone use an industry standard QA programme. Certified Reference Materials (CRMs), blanks and field duplicates were introduced in the assay batches. For core samples, each quality control (QC) sample type was submitted at a rate of 1 in 28 samples. The results are reported along with the sample assay values in the final analysis report. For trench samples, CRMs, blanks and duplicates are submitted. CRMs correspond to every 50th sample while blanks correspond to the 25th and duplicate samples correspond to every 33rd sample. **Ecuador Gold** Ecuador Gold used an industry standard QA programme. CRMs, blanks and field duplicates were introduced in the assay batches.
	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.	**Sunstone Metals** For diamond core, the routine sample procedure is to always take the half/quarter core to the right of the orientation line (looking down hole) or the cut line (in cases where the orientation line was not reliable). Field duplicates were taken every 28th sample on average by quarter coring. For trench samples duplicate samples were taken ~ 1 in every 33 samples by quartering the primary sample

Criteria	JORC Code explanation	Commentary
		Once assay results are received the results from duplicate samples are compared with the corresponding routine sample to ascertain whether the sampling is representative. **Ecuador Gold** For diamond core, field duplicates were taken, however only limited data on how the core duplicates were collected.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered to be appropriate for the style of sampling undertaken and the grainsize of the material, and correctly represent the style and type of mineralisation.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	**Sunstone Metals** MS Analytical is an internationally accredited laboratory that has its internal procedures scrutinised in order to maintain their accreditation. MS Analytical is accredited to ISO/IEC 17025 2005 Accredited Methods. Sunstone Metals uses a fire assay gold technique for Au assays (FAS-111) and a four acid multi element technique (IMS-230) for a suite of 48 elements. FAS-111 involves Au by Fire Assay on a 30-gram aliquot, fusion and atomic absorption spectroscopy (AAS) at trace levels. IMS-20 is considered a near total 4 acid technique using a 20g aliquot followed by multi-element analysis by ICP-AES/MS at ultra-trace levels. The analysis techniques are considered suitable for this style of mineralisation. **Ecuador Gold** 30-gram fire assay methods were used for gold analysis, and a multi-element suite was analysed by IMS-230. The analysis techniques are considered suitable for this style of mineralisation.
	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.	Handheld XRF data, together with detailed geological logging, were used by Sunstone Metals as a guide to areas of potential mineralisation only. No geophysical tools were used to directly support the preparation of this Mineral Resource estimate.
	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.	**Sunstone Metals** CRMs, blanks and field duplicates are inserted in the sample stream at a rate of ~1/28 samples. The values of the CRM range from low to high grade and are considered appropriate to monitor performance of values near cut-off and near the mean grade of the deposit. Pulps and coarse rejects were also submitted to an umpire laboratory to further check the accuracy of the data. The QC results are

Criteria	JORC Code explanation	Commentary
		monitored, and performance issues are communicated to the laboratory if necessary. Following review of all the QC results that are available, the Competent Person considers that acceptable levels of precision and accuracy have been established. **Ecuador Gold** CRMs, blanks and field duplicates were inserted in the sample stream. Following review of all the QC results that are available, the Competent Person considers that acceptable levels of precision and accuracy have been established.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections have been verified by CSA Global Associate Tomasz Wawruch on behalf of the Competent Person.
	The use of twinned holes.	Twin holes have not been drilled and are not considered necessary given a high level of confidence exists in the dataset supporting this Mineral Resource estimate.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	**Sunstone Metals** Logging is completed by trained geo-technicians or geologists on a tablet or laptop directly into a Microsoft Excel based spreadsheet which has been designed for the Project. Logging is divided into two categories namely geological and geotechnical. There is a corresponding operational procedure for the geological and geotechnical logging. Logging is carried out at a core shed. A template with codes has been set up to ensure consistent collection of relevant geological information Mineralisation, alteration, lithology, structure, veining information are collected into different tables using standalone codes. Magnetic susceptibility readings and XRF for quantitative estimation elements are recoded in separate tables. Core is photographed in wet and dry conditions at the core shed. Core photographs are stored on the server for future reference. All the data is backed up on a server. **Ecuador Gold** Data was provided to CSA Global in an Access database in a clean format, however the data entry procedures at the time the data was collected are not known.

Criteria	JORC Code explanation	Commentary
	Discuss any adjustment to assay data	No adjustments were made to the analytical data, other than replacing below detection results with a value equal to half the detection limit.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	**Sunstone Metals** All the recent drill hole collars and trench profiles were located using a differential global position system (DGPS) with an accuracy of +5 cm horizontally and +10 cm vertically. Downhole surveys for the Project were completed by the drilling contractors using a Reflex Gyro Sprint-IQ Gyroscope. The downhole surveys are taken every 5 m down the hole and adjusted for magnetic declination. The data is digitally uploaded into the database from the instrument output files. Validation consists of measuring differences between the input and output measurements. The measurement is within the acceptable range when the maximum difference does not exceed 1%. The drill casing is held in situ until the gyroscope data has been verified and passes the maximum difference of 1% check. The data is verified using the IMDEX HUB-IQ online platform. When the information is accepted, it is entered into the company's spreadsheet designed to register individual borehole dip and azimuth data. In the case of exceeding the acceptable tolerance of up to 1%, the survey is repeated. **Ecuador Gold** Collar location methods are not known. A single shot Pajari tool was used to take one dip and azimuth measurement at the collar only. Accordingly, the hole paths for these holes are subject to some uncertainty.
	Specification of the grid system used.	The grid system used is Geocentric Datum of Ecuador PSAD56 Zone 17 South.
	Quality and adequacy of topographic control.	Sunstone provided a topographic digital terrain model (DTM) generated from DGPS data using the following equipment: • 1x Sokkia 630RK Total Station with a precision of 6 seconds • 3x Trimble R4 GNSS differential RTK with a precision of ± 2cm RTK. Total Station methods were used for closed places and GPS RTK for open places. The scale of the survey is 1:1000. The software used for data processing was Trimble Business Centre, Trimble Access, and Sokkia Link. Civil CAD, QGIS, Global Mapper, and Excel were used to generate figures and compile the data.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill spacing varies over the deposit area due to the steep terrain of the area. Typically, drilling is at approximately 50 m - 100 m spacings (along strike) and up to approximately 100 m down dip. However, many of the holes have been fanned to achieve the current drill spacing.
	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.	The Competent Person believes the mineralised domains have sufficient geological and grade continuity to support the classifications applied to the Mineral Resources given the drill pattern.
	Whether sample compositing has been applied.	Compositing was not applied at the sampling stage.
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.	The drilling has been undertaken at various orientations, given the steep terrain and the restriction in the location of the drilling platforms. The nature of the terrain has resulted in some drill holes being drilled oblique to the overall strike of the mineralisation. The mineralisation is intersected at various angles to the overall strike of the mineralised zone.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The relationship between the drilling orientation and the orientation of key mineralised structures is not considered to have introduced a sampling bias.
Sample security	The measures taken to ensure sample security.	**Sunstone Metals** Drill core trays were registered upon entering the camp area which is monitored by cameras and security agents. Sunstone Metals sampling procedures indicate individual samples were given due attention. Sample security was managed through sealed individual samples and sealed bags of multiple samples for secure delivery to the laboratory by permanent staff of the joint venture. **Ecuador Gold** Core boxes were stored briefly at the drill rig site during each drill shift before transport (1-2 km) by truck to the core shed at the main camp within the concession. The core shed was kept locked and under the guard of two employees. Samples were packed in double layer plastic bags, labelled, tied, and then sent to Catacocha (30 minutes by road) using Ecuador Gold's trucks and a driver accompanied by a company geologist. The samples were subsequently dispatched by bus to Quito

Criteria	JORC Code explanation	Commentary
		directly to the Inspectorate sample preparation laboratory.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sunstone Metal's sampling techniques and data have been audited multiple times by independent mining consultants during various project assessments. These audits have concluded that the sampling techniques and data management systems are consistent with industry standards. All historical data has been validated to the best degree possible and migrated into a database.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Bramaderos Exploration Concession (Concession Code 60000334) is located in the Loja Province of southern Ecuador and covers a total of 4,948 hectares. The concession was granted to La Plata Minerales S.A. ("PLAMIN") on 27 December 2016 for a period of 25 years. PLAMIN is a subsidiary of Sunstone Metals Ltd. The concession is subject to a Joint Venture between Cornerstone Capital Resources Inc. (12.5%) and Sunstone Metals Ltd. (87.5%). There are no declared wilderness areas or national parks within or adjoining the concession area. There are no established native title interests.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Exploration Concession is in good standing and no known impediments exist.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Historic exploration at Bramaderos was completed by various groups over the periods 1970-1984, 2001-2002 and 2004-2007. Most of the readily available historic data has been acquired and compiled into databases and a GIS project. Exploration by other parties has included stream sediment surveys, geological mapping, rock chip sampling (888 samples) and grid-based soil sampling (1324 samples), trenching and channel sampling (17 trenches), ground magnetic surveys (31-line kilometers), electrical IP surveys and diamond drilling (10,426 m).
Geology	Deposit type, geological setting and style of mineralisation.	The deposit style being explored for includes intrusion-related and stockwork hosted porphyry Au-Cu systems plus epithermal gold-silver-polymetallic veins. The setting at Brama-Alba is a volcanic arc setting of Cretaceous age intrusions. The lithology of the Brama and Alba deposits comprise at least eight different intrusion phases spanning the entire mineralisation-alteration sequence with the main ore-bearing phases consisting of a large porphyry diorite intrusion and associated crystalline intrusion breccias. The principal rock types at Brama/Alba are assigned here to four broad units; (1) the pre-mineralisation sedimentary and dacitic to andesitic volcanic rocks; (2) three early-mineralisation intrusions; (3) two syn-mineralisation porphyry intrusions and associated intrusion breccias spanning the alteration-mineralisation sequence; and (4) late-mineralisation intrusions, mill breccia dykes and post-mineralisation andesite dykes.

Criteria	JORC Code explanation	Commentary
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.	Exploration Results are not being reported.
	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.	Exploration results are not being reported.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.	Exploration results are not being reported.
	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.	Exploration results are not being reported.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Metal equivalent values are reported in the Mineral Resource table. Recovery assumptions are supported by metallurgical test work. Key information is provided below, with additional detail provided in the full technical report supporting the Mineral Resource estimate. • Metallurgical head assays further indicate no interference from deleterious elements is expected, with respect to concentrate quality. Deleterious elements are present in low concentrations and these elements are not anticipated to report to the concentrate phase in concentrations that will incur penalty charges. • Test work confirmed that the anticipated copper recovery equates to 85%, whilst the flotation-tail cyanidation route yielded an overall gold recovery of 89% when normalizing the results, for a target 20% copper concentrate grade. Silver recoveries are expected to be lower at around 60%. Work is ongoing.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Exploration Results are not being reported.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Exploration Results are not being reported.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Relevant maps and diagrams are included in the body of the announcement.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Exploration Results are not being reported.
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.	No substantive exploration data not already mentioned in this table has been used in the preparation of this Mineral Resource estimate, and the Exploration Target.
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	Sunstone Metals intend to complete additional drilling at Brama-Alba and nearby prospects. The aim of the Bramaderos drilling will be to increase confidence in the Mineral Resource estimate. Drilling at nearby prospects aims to discover additional Mineral Resources which will add to the Mineral Resource inventory and improve project economics. Metallurgical test work is ongoing.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Diagrams have been included in the body of this report.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	All geological data is collected in digital format using codes specifically designed for the Project. This data is downloaded to a central GeoBank database where data validation processes are implemented. Laboratory analysis results were received electronically directly from the laboratory and loaded straight into the database. Data extracted from the database was validated spatially using Micromine. The master database uses a back-end Microsoft SQL Server database, which is relational and normalised. The following data integrity categories exist: • Entity Integrity: No duplicate rows in a table, eliminated redundancy and chance of error. • Domain Integrity: Enforces valid entries for a given column by restricting the type, the format or a range of values. • Referential Integrity: Rows cannot be deleted which are used by other records. • User-Defined Integrity: Logging rules and validation codes set up by the company, preventing overlapping intervals or depths greater than end of hole etc.
	Data validation procedures used.	CSA Global completed numerous checks on the data. Absent collar data, multiple collar entries, suspect downhole survey results, absent survey data, overlapping intervals, negative sample lengths and sample intervals which extended beyond the hole depth defined in the collar table were reviewed. Minor validation errors were detected which were communicated to Sunstone Metals and corrected prior to the preparation of the Mineral Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	CSA Global Associate Tomasz Wawruch visited the site from 8 August through 12 August 2022 on behalf of the Competent Person. The site visit aimed to review activities relevant to local geology, operational procedures, drilling, logging, sampling, QA/QC, documentation of primary data, data entry procedures, and data storage. A review of the mechanical sample preparation process at the laboratory in Cuenca was also completed. The overall finding was that the site team have a good knowledge of the deposit geology, data collection procedures are consistent with industry good practise, and the sample preparation laboratory is fit for purpose.

Criteria	JORC Code explanation	Commentary
		An inspection of the primary laboratory, MSALABS in Langley, British Columbia, Canada, was conducted by CSA Global employee Pim Van Geffen on Wednesday 28 September 2022. The laboratory inspection was completed using Field Eagle inspection software, in collaboration with Lynda Bloom of Analytical Solutions Ltd. The inspection report was issued in six sections, structured as follows: 1. Description of Laboratory Facility 2. Sample Reception and Preparation 3. Fire Assay 4. Sample Digestion 5. Instrumentation 6. QA/QC Section. Sample Reception and Preparation is included mostly for completeness, as Sunstone Metals' samples from Ecuador are received as prepared pulps from the local preparation laboratory in Cuenca. The laboratory was found to be managed professionally and passed all areas of the inspection, with only a few minor observations of note. These are detailed in the full laboratory inspection report, which forms an Appendix to the full Mineral Resource report. None of these issues presented significant concerns about the quality of the analytical procedures.
	If no site visits have been undertaken indicate why this is the case.	Not applicable (see above)
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	A high level of confidence exists in the mineralisation interpretation.
	Nature of the data used and of any assumptions made.	The weathering model was generated by Sunstone Metals using logged weathering and snapping the strings to the drillholes and the topography using Leapfrog Geo. Three surfaces representing the strongly weathered, moderately weathered and fresh zones were identified from the logging. Peer review of the interpretations was completed by CSA Global. A 3D model the stockwork was created to encapsulate the mineralisation. Strings were digitised around the stockwork on each of the main drill sections and then linked to form a 3D solid model. Mineral Resources have not been reported outside this area. The mineralisation envelope was constructed using a nominal 0.15 g/t Au cut-off

Criteria	JORC Code explanation	Commentary
		grade in concert with logging data to encapsulate the porphyry-stockwork-style mineralisation.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Alternative interpretations are likely to moderately impact on the Mineral Resource estimate on a local, but not global, basis.
	The use of geology in guiding and controlling Mineral Resource estimation.	Geological logging of drill holes and limited mapping have been used to guide Mineral Resource estimation. The controls on the mineralisation are both lithological and structural, and this understanding has governed the resource estimation approach.
	The factors affecting continuity both of grade and geology.	Continuity of mineralisation is very good and is significantly controlled by the presence of a diorite unit. The central part of the diorite intrusion is mineralised while the outer margins are not. The tenor of mineralisation is variable within the central diorite and linked to vein intensity/deformation porosity.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The Mineral Resource at Bramaderos is contained within an area defined by a strike length of 1,200 m and depth extent of 400 m. The plan width is in the order of 250 m metres on average. The Alba mineralisation is continuous for 200 m along strike with an average width of 150 m and a depth extent of about 300 m. Mineral Resources are reported within a pit shell which was generated by CSA Global to demonstrate reasonable prospects for eventual economic extraction.
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Two main domains were interpreted (Brama and Alba). Soft boundaries were used between the different lithologies within the mineralisation envelope, following contact analysis. Mineralisation was assigned a field = “MINZON” code of 1 – Bramaderos and 2 – Alba. Top cuts were selected following statistical analysis, primarily reviewing log-probability plots and histograms. The point at which the number of samples supporting the high-grade tail diminishes was the primary method. Quantitative kriging neighbourhood analysis (QKNA) was undertaken to assess the effect of changing key kriging neighbourhood parameters on block grade estimates. Kriging efficiency and slope of regression were determined for a range of block sizes, minimum/maximum samples, search dimensions and discretisation grids. A three-pass search ellipse strategy was adopted whereby search ellipses were progressively increased if search criteria could not be met.

Criteria	JORC Code explanation	Commentary
		Ordinary kriging was adopted to interpolate Au, Cu, Ag and Mo grades into cells, with variogram rotations consistent with the search ellipse rotations. Inverse distance method was used to estimate As, Pb, Zn and S. The maximum extrapolated distance was approximately 30 m. Statistical analysis was completed using Supervisor software. All geological modelling and grade estimation were completed using Datamine software.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	No previous Mineral Resource estimates reported in accordance with the JORC Code were available for comparison. No previous mining has taken place at the project, and production data is not available to reconcile against the block model estimates.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding the recovery of by-products.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg. sulphur for acid mine drainage characterisation).	Metallurgical studies have indicated no issues are likely with deleterious elements. Inverse distance squared was used to interpolate S, Pb, Zn and As grades into the block model to support future mining studies.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	A 30 m E x 30 m N x 20 m RL parent cell size was used with sub-celling to 15 m E x 15 m N x 10 m RL to honour wireframe boundaries. The drillhole data spacing is highly variable but approximates 25–100 m along strike by 25–100 m down dip. The block size represents approximately half the drillhole spacing in the more densely drilled areas. The QKNA results supported a block size of 30 m x 30 m x 20 m.
	Any assumptions behind modelling of selective mining units.	No assumptions have been made regarding selective mining units.
	Any assumptions about correlation between variables.	No assumptions were made regarding correlation between variables.
	Description of how the geological interpretation was used to control the resource estimates.	Mineralisation models were constructed using a cut-off grade of 0.15 g/t Au in addition to consideration of logging information. The intention was to define the margins of the mineralisation. The lithological, alteration and structural controls were considered when interpreting the mineralisation model.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were selected following statistical analysis, primarily reviewing log-probability plots and histograms. The point on the histogram at which the number of samples supporting the high-grade tail diminishes was the primary method.

Criteria	JORC Code explanation	Commentary
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Drillhole grades were initially visually compared with block model grades. Domain drillhole and block model statistics were compared. Swath plots were then created to compare drillhole grades with block model grades for easting, northing and elevation slices throughout the deposit. The block model reflected the tenor of the grades in the drillhole samples both globally and locally.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis. No moisture data is available.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource reported above a cut-off grade of 0.3 g/t AuEq within a pit shell. The cut-off grade and pit shell were selected following a pit optimisation study.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	It was assumed that open pit mining methods will be employed. This is reasonable given the mineralisation is close to surface.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical recoveries been estimated following metallurgical test work. A number of metallurgical studies have been undertaken, which are detailed in the body of the detailed technical report which supports this Mineral Resource estimate. Results indicate excellent recoveries can be achieved via flotation for gold and copper (89% and 85% respectively). Silver recoveries are expected to be lower at around 60%. Work is ongoing. The metallurgical head assays further indicated that no interference from deleterious elements is expected, with respect to concentrate quality. Elements of interest are present in low concentrations and these elements are not anticipated to report to the concentrate phase in concentrations that will incur penalty charges.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of	Environmental considerations have not been considered in detail at the current stage of project development. It is therefore assumed that waste

Criteria	JORC Code explanation	Commentary
	the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	could be disposed in accordance with a site-specific mine and rehabilitation plan.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density determinations dominantly adopted the water displacement method. A total of 3,577 measurements were available within the immediate area for resource estimation, taken from drill core.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	No wax was applied to the sample segments selected from competent rock with no visible fractures while porous and weathered samples were coated with wax. 125 full diamond core segments were coated with wax while 3,452 samples were not waxed. Very limited voids exist hence the data is considered accurate.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Density values were interpolated into the fresh domain of the mineralised block model cells using ordinary kriging. Inverse distance was used to estimate density into the strongly weathered and moderately weathered domains of the mineralised zone. Composited density values were used for the interpolation. Estimation was confined to weathering domain boundaries. Variogram models and parameters determined from the QKNA were used to guide density interpolation process. Density estimation in the waste domain was completed in a similar way to the density interpolation in mineralised domain.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	The Mineral Resource has been classified following due consideration of all criteria contained in Section 1, Section 2 and Section 3 of JORC Code 2012 Table 1. The Mineral Resource has been classified as either Indicated or Inferred based on data quality, sample spacing, mineralisation continuity, confidence in the geological interpretations, quality of the grade estimations and metallurgical processing knowledge. No Measured material has been classified.

Criteria	JORC Code explanation	Commentary
	Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	Appropriate account has been taken of all relevant criteria including data quality, sample spacing, mineralisation continuity, confidence in the geological interpretations, quality of the grade estimations and metallurgical processing knowledge.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource appropriately reflects the Competent Person's views of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The current model has not been audited by an independent third party but has been subject to CSA Global's internal peer review processes.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	The Mineral Resource accuracy is communicated through the classification assigned to this Mineral Resource. The Resource has been classified in accordance with the JORC Code (2012 Edition) using a qualitative approach. All factors that have been considered have been adequately communicated in Section 1 and Section 3 of this table.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	The Mineral Resource statement relates to a global tonnage and grade estimate. Grade estimates have been made for each block in the block model.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No previous mining has taken place at the project, and production data is not available to reconcile against the block model estimates.