13 DECEMBER 2021

El Palmar gold-copper discovery, northern Ecuador

Two highly promising satellite targets identified by strong soil sampling results

The anomalies sit immediately either side of the main El Palmar deposit, extending the overall target zone to 1.5km x 700m

Key Points

- **Soil sampling results have defined two priority targets for drilling immediately adjacent to the El Palmar discovery**
- **The south-east satellite anomaly returned significant copper, gold, and silver in soils coincident with a modelled magnetic body – the same scenario that defines the main El Palmar area**
- **The north-east satellite anomaly has returned metal anomalism interpreted to sit above a porphyry system that correlates well with a deeper modelled magnetic body which appears connected to the main El Palmar body at depth**
- **Stockwork veining has also been mapped during the soil sampling program at various locations, helping underpin Sunstone's strong confidence in the prospectivity of the targets**
- **The satellite targets significantly grow the scale of the opportunity at El Palmar, with the cluster of targets now defined over an area of 1.5km x 700m (from a previous 700m diameter target), and likely to increase in size as further work continues**
- **At the high-grade Alba gold target on the Bramaderos Project in southern Ecuador, drilling of the fourth hole is underway**
- **Drilling to date has intersected similar alteration to that seen in the first hole, which delivered visible gold and 29.2m at 7.68g/t gold within 111m at 2.35g/t gold**
- **Sunstone is well funded with ~A$18m in cash and equities**

Sunstone Metals Ltd (ASX: STM) is pleased to announce strong soil sampling assays which confirm that the El Palmar project in northern Ecuador (Figure 8) comprises a growing cluster of gold-copper mineralised porphyry deposits.

Sunstone MD Malcolm Norris said the latest results again highlighted the significant upside at El Palmar.

"We are clearly on to a big system with immense potential," Mr Norris said.

"We are already generating new drilling targets which we are confident will expand the mineralisation envelope. The presence of stockwork mineralisation at surface, together with copper and gold anomalies in soil associated with magnetic bodies which are comparable to the main El Palmar discovery is very encouraging."

Drilling of hole EPDD008 at the main El Palmar target is underway. The second drilling rig has arrived at the project and commenced hole EPDD009 which will test the deep magnetic targets (Figure 3).

"In 2022 we will turn our attention to drill testing the satellite targets," Mr Norris said. "We have considerable upside to unlock at El Palmar."

The El Palmar auger soil sampling program is covering several additional targets surrounding the main El Palmar target with the aim of advancing these to the drill testing stage (Figures 1 & 6). In addition to the two satellite targets reported here, an additional five satellite targets will be covered by auger soil sampling in the first quarter of 2022 (Figure 6).

Sunstone is acquiring a 100% interest in the El Palmar Project and currently holds 51% under the Staged Acquisition Agreement signed on 12 August 2020 (see ASX announcement dated 12 August 2020).

The project is located in northern Ecuador in the vicinity of the 1Bt Llurimagua copper-molybdenum porphyry deposit and in the same regional structural belt that hosts the 2.6Bt Alpala copper-gold deposit within the Cascabel project (Figures 7 & 8).

Exploration Details

Detailed geological mapping and rock chip sampling is being undertaken in parallel with the soil sampling and is continuing to identify multiple areas of interest within the El Palmar concession.

The south-east satellite target area comprises a bullseye magnetic anomaly with coincident surface soil copper, gold, and silver (Figures 2 & 3). This area also has had some historical surface rock chip sampling (25 samples) which delivered 60m of 0.33g/t gold and 0.12% copper. The target area has been expanded with recent mapping and sampling which identified additional areas of oxidised stockwork veined diorite (Figure 5) visually similar to the host rocks of mineralisation at the main El Palmar drilling area.

The north-east satellite target has been modelled as a deeper magnetic body, possibly linked to the main El Palmar magnetic body (Figure 4). The surface geochemistry is anomalous in silver, lead and zinc and other typically 'high level' porphyry pathfinder elements interpreted to represent the upper alteration zone of a porphyry system. This interpretation is shown very clearly in Figure 3 where the significance of the NE satellite target becomes very obvious.

The soil sampling has also identified a new Eastern Anomalous Zone, with coincident gold and copper and molybdenum (porphyry signature) results, which expands the size of the overall El Palmar target (Figure 2). This area will be further investigated

Bramaderos – Southern Ecuador - Alba gold target

Sunstone is continuing to drill test the high-grade Alba gold target at Bramaderos in southern Ecuador. The fourth hole is underway. Drilling to date has intersected similar alteration to that seen in the first hole that delivered visible gold and 29.2m at 7.68g/t gold within 111m at 2.35g/t gold (see ASX announcement dated 18 November 2021).

Sunstone's cash and equity investments remain strong at ~$18m, allowing expanded exploration activities at both El Palmar and Bramaderos.

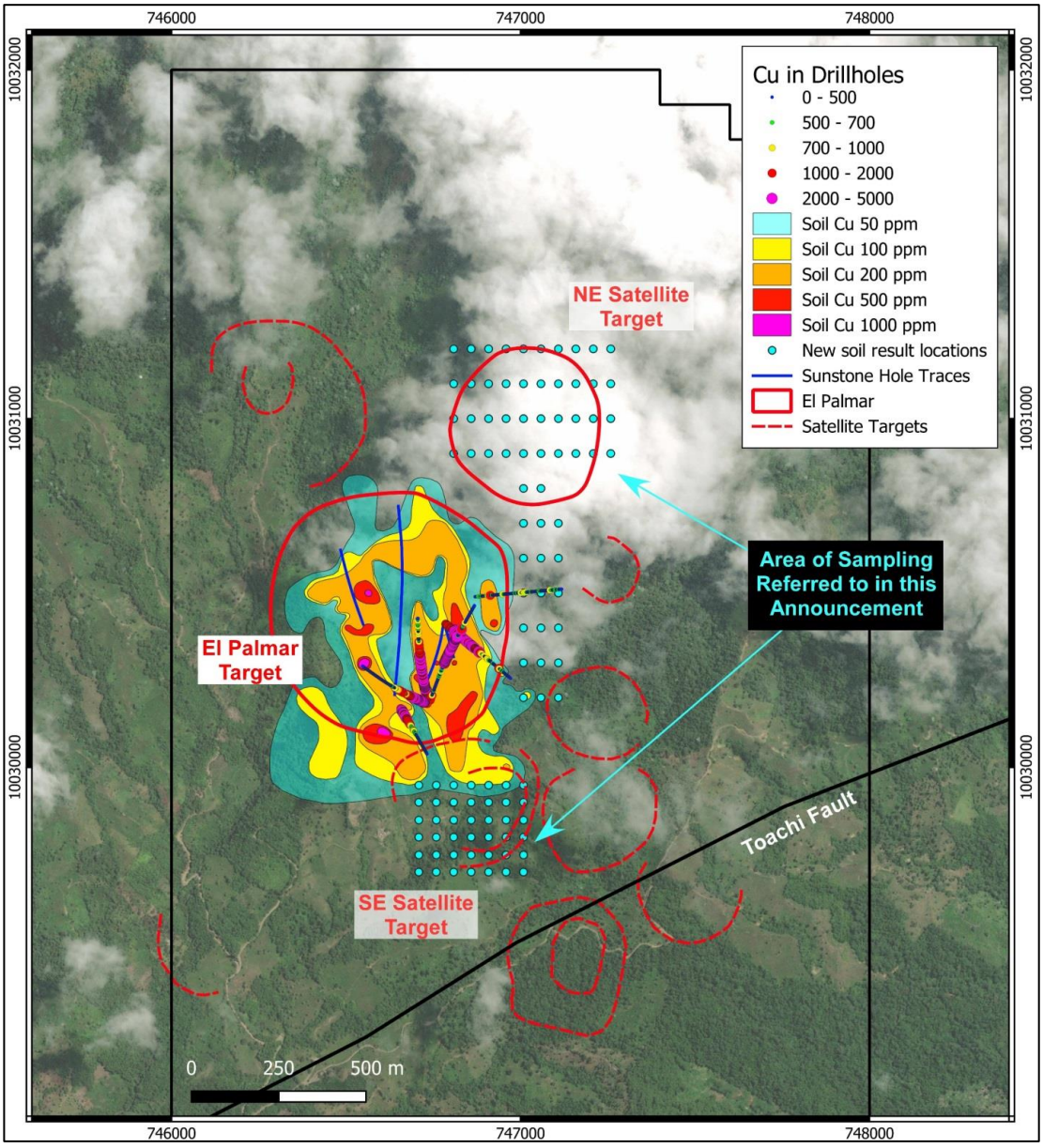

Figure 1: Soil sampling grid showing the location of the satellite targets relative to the main El Palmar target and drilling status.

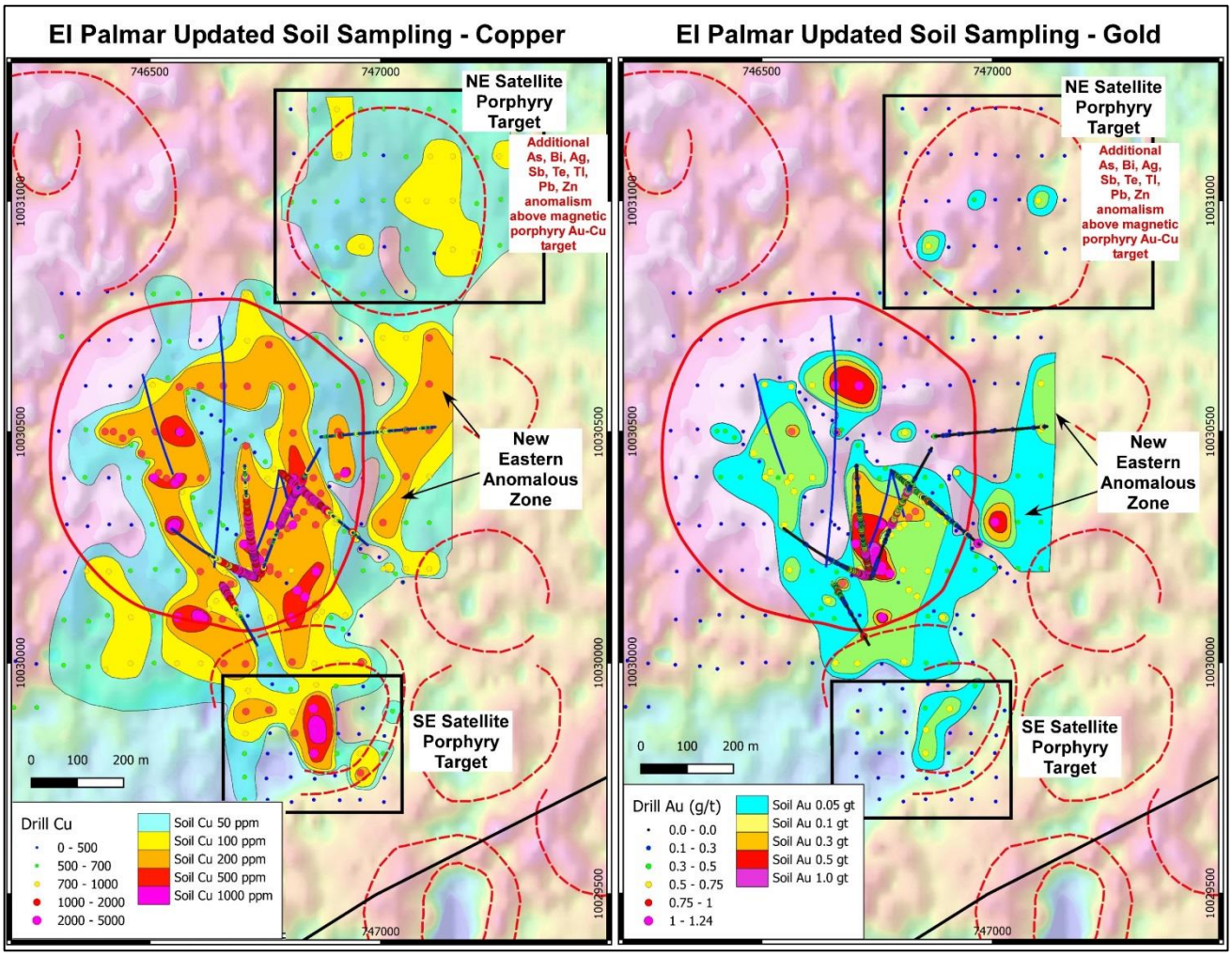

Figure 2: A composite image showing copper and gold soil anomalism over magnetics with the SE and NE satellite targets highlighted. Note also the development of an additional Eastern Anomalous Zone, which expands the size of the El Palmar target areas.

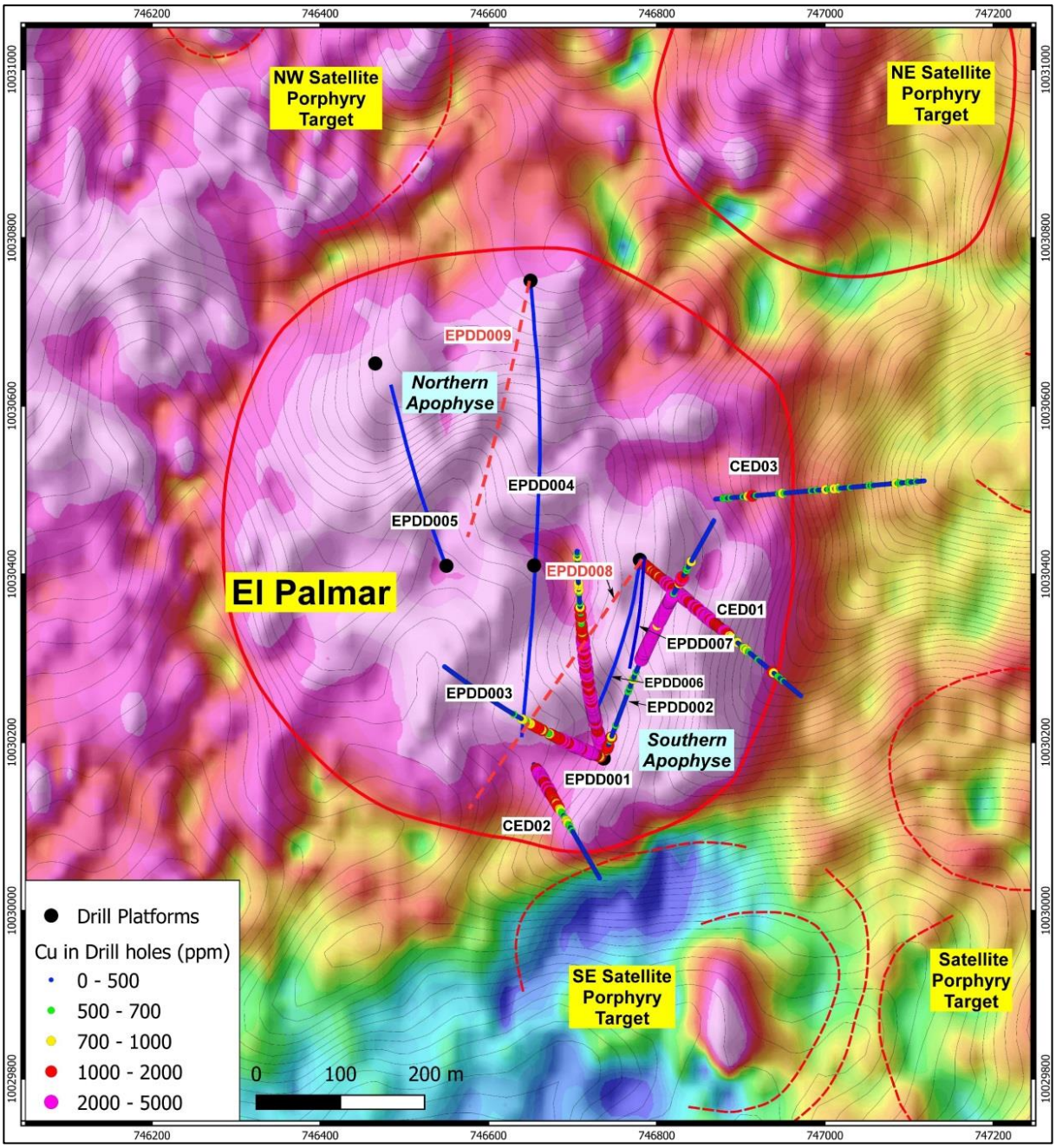

Figure 3: Magnetics image showing the main El Palmar anomaly, measuring ~700m diameter, and the SE and NE porphyry targets. Note the bullseye magnetic anomaly at the SE target which now corresponds to the area of anomalous gold and copper from the soil sampling program. Also shown are the locations of the current drill holes, EPDD008 – targeting the SW extent of drilled mineralisation in holes 1 and 3, and EPDD009 - targeting the deep magnetic anomaly.

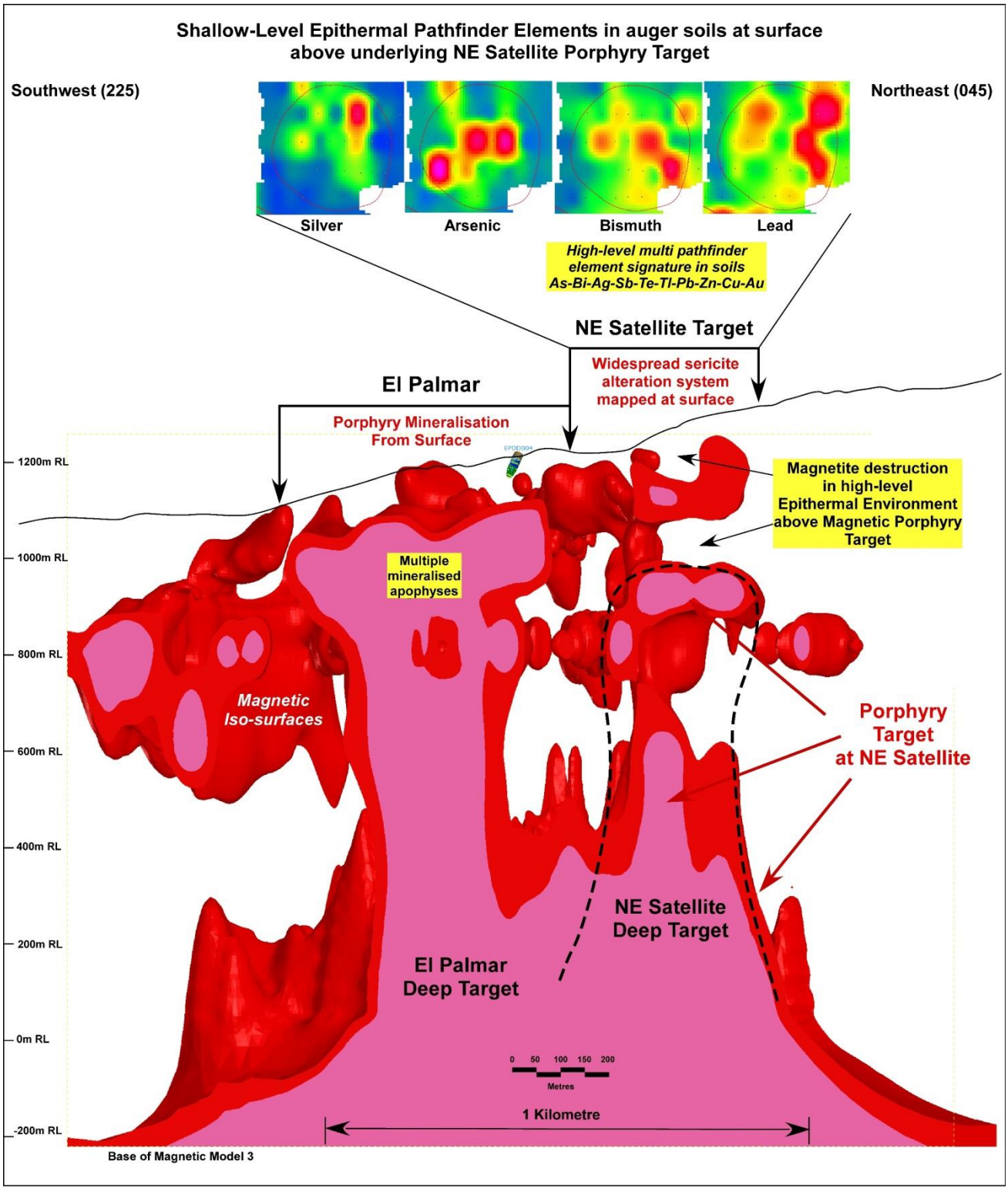

Figure 4: Cross section through the NE satellite target showing the significance of the 'high level' pathfinder element anomalism in soils overlying a buried magnetic body which links to the main El Palmar magnetic body.

Figure 5: Photograph of magnetite stockwork veining in outcrop from the SE satellite anomaly

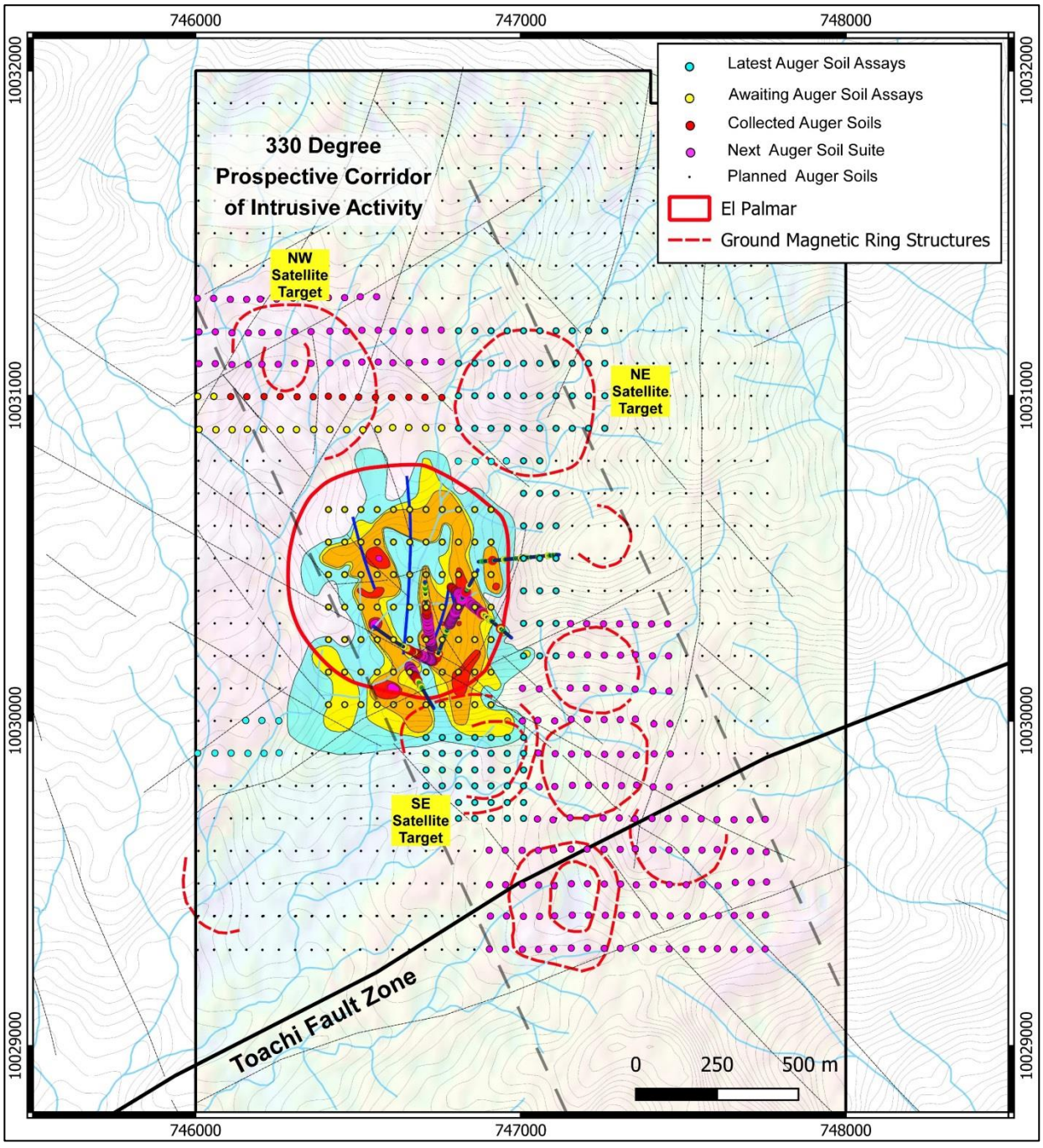

Figure 6: Status of soil sampling at El Palmar. A cluster of circular magnetic features contained within a 2.5 km long NNW trending structural domain are being covered with grid soil sampling.

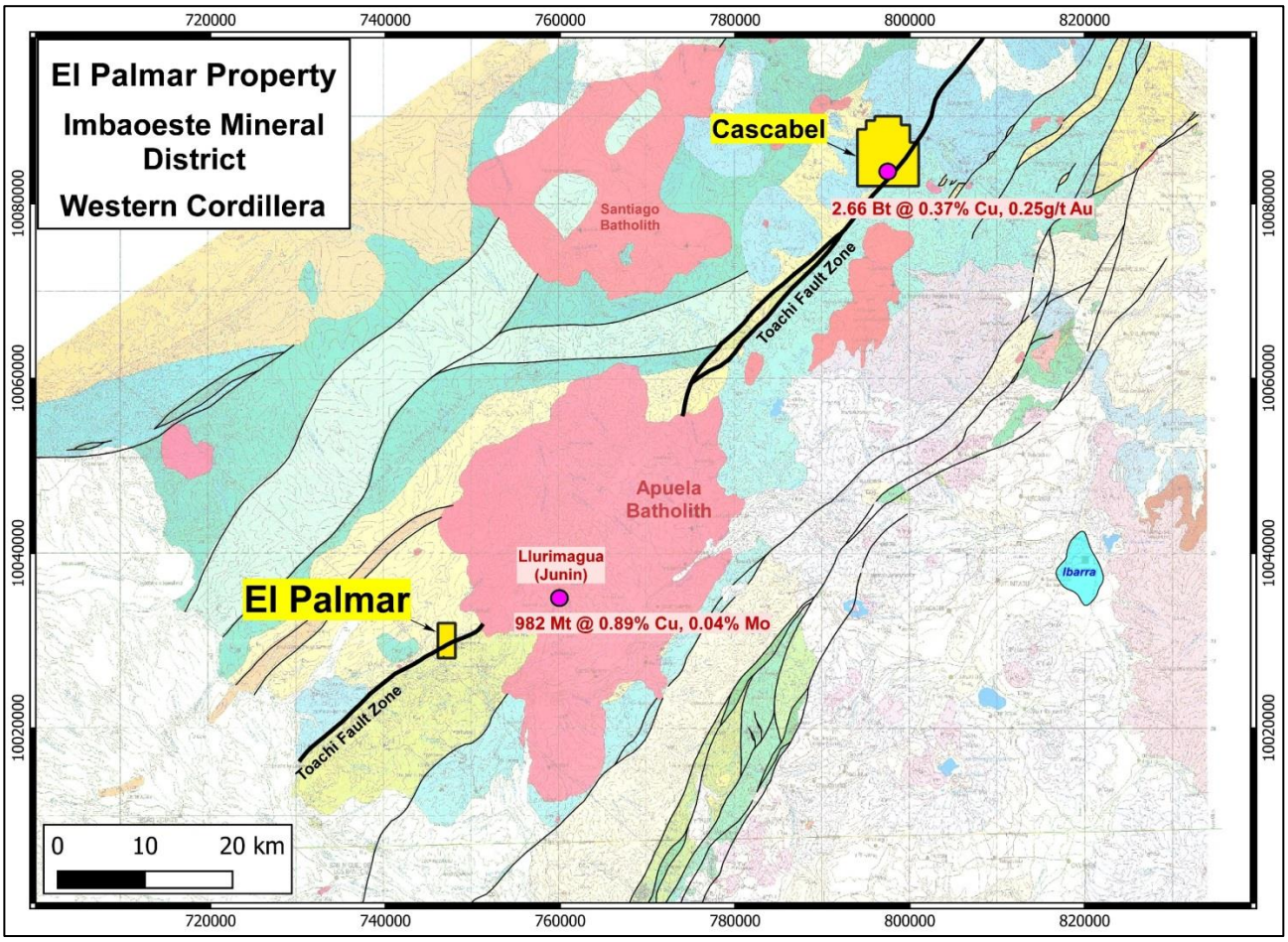

Figure 7: Location of the El Palmar project relative to the giant Llurimagua and Alpala (Cascabel) porphyry deposits, and the Toachi fault system.

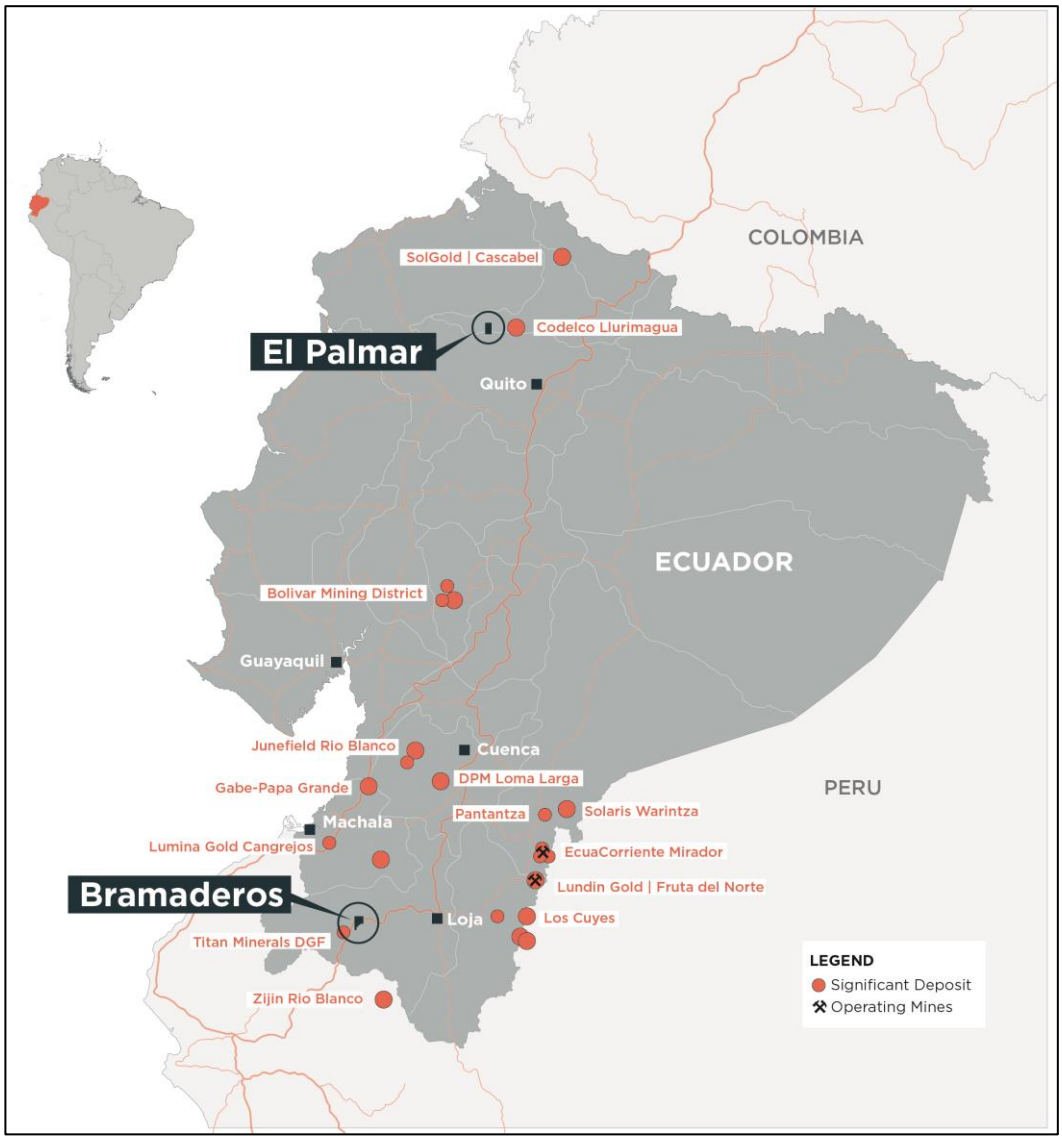

Figure 8: Location of the El Palmar project in northern Ecuador, and the Bramaderos Project in southern Ecuador.

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

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About Sunstone Metals

Sunstone has an advanced portfolio of exploration and development projects in Ecuador and Scandinavia. 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. 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 El Palmar Copper-Gold Project** where Sunstone holds 51% of the highly prospective 800ha El Palmar gold-copper porphyry project in Ecuador and can acquire 100% through a Staged Acquisition Agreement. The El Palmar gold-copper project is located in Imbabura province, northern Ecuador, within the same geological belt that includes the giant Alpala and Llurimagua porphyry copper-gold and copper-molybdenum deposits.
3. **Sunstone has a large equity interest** in Stockholm listed Copperstone Resources (COPP-B.ST) following the sale of the Viscaria Copper project to Copperstone in 2019.
4. **The Finland Lithium Project** includes the Kietyönmäki lithium prospect. Drilling by Sunstone has delivered 24.2m at 1.4% Li2O in a spodumene-bearing pegmatite. The project is a JV with Nortec Minerals. As announced on 5 May 2021, a Letter of Intent has been signed to sell the Finland Lithium 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.

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

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 downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*	• The historical results announced here are from soil samples from El Palmar. The soil sampling is undertaken with a hand-held augur which penetrates soft cover and samples the uppermost weathered bedrock. A geologist is on site with the sampling teams to determine that the correct sample horizon has been sampled.
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• Soil samples are collected on a 100m x 50m grid and infill is undertaken where appropriate.
	• *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) may warrant disclosure of detailed information.*	• Soil sampling points have been guided by interpretation of magnetics data and geological mapping. The soil samples from El Palmar were dried, crushed to 70% passing 2mm, Split 1000g and pulverised to 85% passing 75microns. A 20g portion of this sample was used for multi-element analysis (IMS-230) and a 30g sample for Fire Assay Au (FAS-111).
Drilling techniques	• *Drill type (eg 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).*	• The El Palmar target is currently being drilled by Sunstone Metals. The results from this announcement relate to soil samples only.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• Not applicable to this announcement.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• Not applicable to this announcement.
	• *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.*	• Soil samples and surface rock chip samples are logged for lithology, weathering, structure, mineralogy, mineralisation, colour, and other features. Recent logging and sampling for the El Palmar project were carried out according to Sunstone's internal protocols and QAQC procedures which comply with industry standards.
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.*	• Soil samples and surface rock chip samples are logged for lithology, weathering, structure, mineralogy, mineralisation, colour, and other features.
	• *The total length and percentage of the relevant intersections logged.*	• Not applicable to this announcement.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	• Not applicable to this announcement. This announcement does not relate to drill core.
	• *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.*	• Auger soil and surface rock chip samples. Samples were dried in the laboratory.
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• Auger soil samples were analysed by ALS Labs in Vancouver. Samples were crushed and split with 250 grams pulverized to 200 mesh (Method - R200-250). Analysis on drill core was undertaken on a sample split. • The sample preparation is carried out according to

Criteria	JORC Code explanation	Commentary
		industry standard practices using highly appropriate sample preparation techniques.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	• Sunstone used an industry standard QAQC programme involving Certified Reference Materials "standards" and blank samples, which were introduced in the assay batches. • Standards (Certified Reference Materials) or analytical blanks were submitted at a rate of 1 in 28 samples. • The check or duplicate assay results are reported along with the sample assay values in the final analysis report.
	• *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.*	• Once assay results are received the results from duplicate samples are compared with the corresponding routine sample to ascertain whether the sampling is representative.
	• *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 at the exploration stage.
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 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. • This analysis technique is 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.*	• A handheld "Niton" XRF instrument is used on site for verification of anomalous metal values and to assist with the geological logging and mineral identification. No specific data from this instrument are referenced in this announcement.
	• *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• Standards, blanks and duplicates are inserted ~1/28 samples. The values of the standards 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. • The check sampling results are monitored, and performance issues are communicated to the laboratory if necessary.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• Procedure checks have been completed by the Competent Person for exploration results for this announcement.
	• *The use of twinned holes.*	• Twin holes have not been drilled in these areas.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• Sunstone sampling data were imported and validated using Access and Excel.
	• *Discuss any adjustment to assay data.*	• Assay data were not adjusted.
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.*	• Sample co-ordinates are located by GPS and for trench samples measured along the length of the trench.
	• *Specification of the grid system used.*	• Ecuador projection parameters: **Parameter** | **Value**

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Reference Ellipsoid</td><td>International 1924</td></tr>
<tr><td>Semi Major Axis</td><td></td></tr>
<tr><td>Inverse Flattening (1/f)</td><td></td></tr>
<tr><td>Type of Projection</td><td>UTM Zone -17S (Datum PSAD56)</td></tr>
<tr><td>Central Meridian:</td><td>-81.0000</td></tr>
<tr><td>Latitude of Origin</td><td>0.0000</td></tr>
<tr><td>Scale on Central Meridian</td><td>0.9996</td></tr>
<tr><td>False Northing</td><td>10000000</td></tr>
<tr><td>False Easting</td><td>500000</td></tr>
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</td></tr>
<tr><td></td><td>• Quality and adequacy of topographic control.</td><td>• The topographic control was compared against published maps and satellite imagery and found to be good quality.</td></tr>
<tr><td rowspan="3">Data spacing and distribution</td><td>• Data spacing for reporting of Exploration Results.</td><td>• Soil samples are collected on a 100m x 50m grid, with infill sampling undertaken where appropriate.
• Surface rock chip samples are taken at various locations where outcrops are found.</td></tr>
<tr><td>• 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.</td><td>• The data from these samples does not contribute to any resource estimate nor implies any grade continuity.</td></tr>
<tr><td>• Whether sample compositing has been applied.</td><td>• No sample compositing was done.</td></tr>
<tr><td rowspan="2">Orientation of data in relation to geological structure</td><td>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</td><td>• Soil sampling grid orientations were appropriate for the interpreted geology providing representative samples.
• Rock chip locations were appropriate for the interpreted geology providing representative samples.</td></tr>
<tr><td>• 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.</td><td>• No sampling bias is expected at this stage.</td></tr>
<tr><td>Sample security</td><td>• The measures taken to ensure sample security.</td><td>• Sunstone 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.
• ALS is an internationally accredited laboratory that has all its internal procedures heavily scrutinised in order to maintain their accreditation. ALS is accredited to ISO/IEC 17025 2005 Accredited Methods.</td></tr>
<tr><td>Audits or reviews</td><td>• The results of any audits or reviews of sampling techniques and data.</td><td>• Sunstone’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 are to industry standards.
• All historical data has been validated to the best degree possible and migrated into a database.</td></tr>
</table>

TABLE 1 – Section 2: 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 El Palmar property is located in Imbabura province and is held by an Ecuadorian registered company 'Goex'. Due diligence to date show that there are no wilderness areas or national parks or areas of environmental significance within or adjoining the concession area. There are no native title interests. • Sunstone and Goex have entered into a Staged Acquisition Agreement where Sunstone may earn up to 100% based on defined milestones.
	• *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 El Palmar exploration concession was granted in 2003 and is held 100% by Goex. • Sunstone owns 51% of GOEX
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The historic exploration at El Palmar was completed by various groups over the period 1990's, 2007-2008, 2011-2012 and GOEX (2012 to 2020). 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, some local soil sampling, channel sampling and limited diamond drilling (3 holes).
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The deposit style being explored for includes intrusion-related and stockwork hosted porphyry gold-copper systems plus epithermal gold-silver-polymetallic veins. The setting at El Palmar is a volcanic arc setting of Miocene age intrusions.
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:* *a. easting and northing of the drill hole collar* *b. elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* *c. dip and azimuth of the hole* *d. down hole length and interception depth* *e. hole length.*	• Details of the samples discussed in this announcement are in the body of the text. • See Figures 1, 2 & 5 for the location of historical drilling at El Palmar.
	• *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.*	• Information included in announcement.
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.*	• Weighted averages were not calculated for these soil samples. • No grade cut-offs were applied.
	• *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.*	• No aggregating of intervals undertaken at this stage.

Criteria	JORC Code explanation	Commentary
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Metal equivalents are not presented.
Relationship between mineralisation widths and intercept lengths	• *If the geometry of the mineralisation with respect to the drill-hole angle is known, its nature should be reported.*	• The geometry of the mineralisation relative to surface anomalies and drilling is not completely known at this stage of exploration. .
	• *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').*	• True widths of mineralised lodes are not known at this stage.
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.*	• See Figures 1, 2 & 5 for maps showing distribution of samples.
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.*	• Figures 1, 2, 3 & 5 above shows the current interpretations of geology.
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.*	• Figure 1, 2, 3 & 5 above shows various datasets that are being used to identify target areas and to guide current and future drilling.
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).*	• The planned exploration program is outlined in the announcement.
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• See Figures 1, 2 & 5 which show areas for further exploration.