# Latest strong trenching results provide more evidence of immense potential at Limon gold-copper porphyry target 

Result of 97.6 m at $0.71 \mathrm{~g} / \mathrm{t}$ gold and $0.23 \%$ copper is believed to be a window into an extensive gold-copper porphyry system at Limon, which is part of the Bramaderos project in Ecuador

Sunstone Metals Limited (ASX:STM) is pleased to announce more very strong gold and copper results from extensions to the trenching program at the Limon gold-copper porphyry target, within its Bramaderos GoldCopper Project in Ecuador (Figures 1, 2 and 3). For the initial results see ASX announcement dated $30^{\text {th }}$ April 2018.

Trench LM-01 was extended at either end and has intersected 97.6 m grading $0.71 \mathrm{~g} / \mathrm{t}$ gold and $0.23 \%$ copper, including $65.0 \mathrm{~m} @ 0.93 \mathrm{~g} / \mathrm{t}$ gold and $0.31 \%$ copper. Laterally, the trench sampled strongly altered rocks which overprint the underlying porphyry gold-copper signature.

Peak gold and copper assays, which have been reported previously, are 1.94 m at $1.20 \mathrm{~g} / \mathrm{t}$ gold and $\mathbf{1 . 2 5 \%}$ copper and 2.06 m at $1.74 \mathrm{~g} / \mathrm{t}$ gold and $0.41 \%$ copper from separate samples.

Sunstone Managing Director Malcolm Norris said the latest results provided more strong evidence of Limon's potential to host a major gold-copper porphyry system.
"These additional trench results from Limon, and their high degree of correlation with independent datasets is providing us with great confidence ahead of drilling," Mr Norris said.

The target definition has been greatly strengthened by multiple overlapping and complementary datasets that the Sunstone team has seen before in other porphyry exploration projects."

## Trenching details

The intensely altered 'lithocap' at Limon is typical of the higher-level rock alteration associated with porphyry gold-copper systems, and the strongly mineralised diorite, over which the trench was cut, is interpreted to be an outcropping window of a more extensive mineralised diorite body at depth.

Datasets have been integrated to determine the dimensions of the main target zone and an initial three drill holes have been planned that will test various aspects of the target.

Correlation of independent datasets is strong, and includes assessment of surface soil geochemistry, surface mapping of geology and alteration assemblages, and processed heli-magnetics (Figure 1).

The three initial planned drill holes at Limon are designed to test for underlying porphyry gold-copper mineralisation below areas of the lithocap, as well as simultaneously testing for shallow overprinting epithermal-style mineralisation in the eastern part of the target.

Key targeting criteria are the $1.5-\mathrm{km}$-long magnetic anomaly below the lithocap (Figure 1) as an interpreted magnetic core to the porphyry system within the copper anomalous outline, and proximity to areas of 'advanced argillic' alteration caused by fluids ascending off a porphyry intrusion at depth. The three drill holes

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are also sited in proximity to areas of quartz stockwork veining mapped at surface at points spread over 900m in extent, either in situ (Trench LM-01 or adjacent outcrops) or in hydrothermal breccia.

Figure 1 is a summary diagram that shows a selection of the integrated datasets and the location of the longsection and trench LM-01. Figure 2 shows an interpreted long-section at Limon. Figure 3 shows the location of the Limon target relative to the other Bramaderos Project targets.

Progress is being made towards the issuance of the Drill Permit for Bramaderos, with receipt of the Water Permit during April. The Change of Phase from early exploration to advanced exploration - a statutory requirement for drilling within the exploration concession, is expected imminently. Further details on the Company's upcoming drill program will be advised once the Drill Permit has been formally approved.


Figure 1: Diagram showing the location of trench LM-01 in the context of the greater Limon Prospect target. The extent of copper anomalism in soil sampling, and rock alteration typical of the higher levels of a porphyry gold-copper system, covers an area of $1.6 \mathrm{~km} \times 0.9 \mathrm{~km}$. Detailed modelling of heli-magnetics data has identified subtle but extensive magnetic anomalies that correspond with the target zone. Three proposed diamond drill holes are shown as black line traces. Line A-B shows the Figure 2 long section.


Figure 2: Long-section (oriented WNW-ESE; see Figure 1) through the Limon porphyry Au-Cu prospect, illustrating key geological features that suggest an extensive underlying mineralised porphyry gold-copper system below the leached clay-altered lithocap (illite). Strongly mineralised diorite outcrops as a window through an overlying and altered rhyodacite body.

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Figure 3: Bramaderos project showing the location of the gold-copper porphyry targets, and the West Zone epithermal gold system. The Limon target is located in the northern portion of the concession, and comprises a porphyry gold-copper target domain, with areas of epithermal overprint. The background image is from the recently completed detailed magnetics survey.

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## About Sunstone Metals

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

1. The Bramaderos Gold-Copper Project where Sunstone has signed an earn-in agreement with TSXV listed Cornerstone Capital Resources (see ASX announcement dated 10 April 2017). The Bramaderos goldcopper project is located in Loja province, southern Ecuador, and is considered to be highly prospective for the discovery of large gold-copper systems. Historical results from drilling at Bramaderos include wide intervals such as 260 m at $0.6 \mathrm{~g} / \mathrm{t} \mathrm{Au}$ and $0.14 \% \mathrm{Cu}$. Trenching results at the West Zone breccia include intersections at surface of up to 42 m at $3.7 \mathrm{~g} / \mathrm{t} \mathrm{Au}$. These results, together with the distribution of alteration, and large coincident gold-copper-molybdenum surface anomalies indicate multiple fertile mineralised systems with significant discovery potential.
2. The Viscaria Copper Project in northern Sweden has a completed Scoping Study (see ASX announcements dated $16^{\text {th }}$ December 2015 and $5^{\text {th }}$ April 2016) and is moving towards PFS and permitting to allow for mine development. Considerable exploration upside exists and low technical risk drill targets continue to be tested.
3. The Southern Finland Gold Project, includes the Satulinmäki gold prospect. Shallow diamond drilling was completed by the Geological Survey of Finland (GTK) during the period 2000-2005 and this was followed by a 7 -hole diamond drilling program by Sunstone Metals in 2016. Intersections from GTK include 18m @ $4.1 \mathrm{~g} / \mathrm{t}$ Au from 50 m downhole, including 3 m @ $9.3 \mathrm{~g} / \mathrm{t} \mathrm{Au}$, and 4 m @ $10.3 \mathrm{~g} / \mathrm{t}$ Au in drill hole R391. Intersections by Sunstone include 23.5 m at $3.3 \mathrm{~g} / \mathrm{t}$ in SMDD007 and 2 m at $10.5 \mathrm{~g} / \mathrm{t}$ in SMDD005. The Satulinmäki gold prospect is part of an earn-in JV with Canadian company Nortec Minerals, where Sunstone has fulfilled the requirements to earn an $80 \%$ interest, and has also acquired a significant land position, in its own right, in the district.
4. The Scandinavian Lithium Project, includes the Kietyönmäki lithium prospect. Drilling by Sunstone has delivered 24.2 m at $1.4 \% \mathrm{Li}_{2} \mathrm{O}$ in a spodumene bearing pegmatite. Additional earlier stage lithium opportunities are held in Sweden and Finland. Kietyönmäki is also part of the JV with Nortec Minerals.

## 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.

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## APPENDIX 1

The following Table and Sections are provided to ensure compliance with the JORC Code (2012 Edition)
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 results announced here are from trench rock chip samples. The sampling was carried out using saw-cut continuous channel samples from bedrock exposed in trenches. |
|  | - Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. | - Samples were taken as saw-cut channel samples along trenches to get a representative 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) may warrant disclosure of detailed information. | - Continuous rock channel sampling along trenches. Samples were collected along intervals ranging from 1.67 m to 2.14 m , and sample weights ranging from 2.5 kg to 11.93 kg . |
| 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). | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. Historical diamond drilling has been completed by previous explorers. |
| Drill sample recovery | - Method of recording and assessing core and chip sample recoveries and results assessed. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. The Sunstone-Cornerstone JV does have complete assay data from historical holes. Details of this drilling has been reported in publicly available NI 43-101 technical reports. |
|  | - Measures taken to maximise sample recovery and ensure representative nature of the samples. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. Channel samples were cut continuously along the trench walls or floor and so represent $100 \%$ recovery. |
|  | - 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. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. |
| 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. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. <br> - Trench-derived rock chip samples were logged into an Excel database that recorded lithology, alteration and mineralisation style and sampling details. |
|  | - Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. |
|  | - The total length and percentage of the relevant intersections logged. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. All channel samples were logged. |
| Sub-sampling techniques and sample preparation | - If core, whether cut or sawn and whether quarter, half or all core taken. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. Details of historical drilling data has been taken from assay databases and from NI 43-101 technical reports. |
|  | - If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. | - Trench derived rock chip samples collected (dry) and weighed between 2.5 kg and 11.93 kg . These were then |


| Criteria | JORC Code explanation | Commentary |
| :---: | :---: | :---: |
|  |  | sent to the sample preparation laboratory for processing as described below. |
|  | - For all sample types, the nature, quality and appropriateness of the sample preparation technique. | - Samples were sent to the LAC y Asociados Cia. Ltda. Sample Preparation Facility in Cuenca, Ecuador for sample preparation. The standard sample preparation for rock chip samples (Code PRP-910) is: Drying the sample, crushing to size fraction $70 \%<2 \mathrm{~mm}$ 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. Then 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. <br> - The sample preparation is carried out according to 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. <br> - Standards (Certified Reference Materials) or analytical blanks were submitted at a rate of 1 in 23 samples. Duplicate samples were also submitted in the main analytical batch. In addition, analytical duplicate (or check) assays were conducted on 1 in 18 samples. <br> - 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. | - Samples were collected in a manner that provided representative samples from each trench, and zones of different rock types or alteration within those trenches. <br> - 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 used assay method FAS-111 for gold and IMS-136-15g for a suite of 37 elements (including gold). FAS-111 involves Au by Fire Assay on a 30gram aliquot, fusion and atomic absorption spectroscopy (AAS) at trace levels. IMS-136-15g involves Aqua regia digestion of a 15 g aliquot followed by multi-element analysis by ICP-AES/MS at ultra-trace levels. <br> - 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. | - No other measurement tools/instruments were used. |
|  | - 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. | - 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. |

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| Criteria | JORC Code explanation | Commentary |  |
| :---: | :---: | :---: | :---: |
|  |  | - 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. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. |  |
|  | - Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. | - Sunstone sampling data were imported and validated using 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 measured along the length of the trench. |  |
|  | - Specification of the grid system used. | - Southern Ecuador projection parameters: |  |
|  |  | Parameter | Value |
|  |  | Reference Ellipsoid | International 1924 |
|  |  | Semi Major Axis |  |
|  |  | Inverse Flattening (1/f) |  |
|  |  | Type of Projection | $\begin{aligned} & \text { UTM Zone -17S (Datum } \\ & \text { PSAD56) } \end{aligned}$ |
|  |  | Central Meridian: | -81.0000 |
|  |  | Latitude of Origin | 0.0000 |
|  |  | Scale on Central Meridian | 0.9996 |
|  |  | False Northing | 10000000 |
|  |  | False Easting | 500000 |
|  | - Quality and adequacy of topographic control. | - The topographic control was compared against published maps and satellite imagery and found to be good quality. |  |
| Data spacing and distribution | - Data spacing for reporting of Exploration Results. | - The samples were collected over various intervals and spacing, but ranging from 1.67 m to 2.14 m along a trench. |  |
|  | - 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 data from these samples does not contribute to any resource estimate nor implies any grade continuity. |  |
|  | - Whether sample compositing has been applied. | - No sample compositing was done. |  |
| Orientation of data in relation to geological | - Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. | - Samples were collected to get a representative sample of intervals along trenches, but not sampled in any way to be independent and unbiased of structures. |  |
|  | - 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. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV. |  |
| Sample security | - The measures taken to ensure sample security. | - Sunstone sampling procedures indicate individual samples were given due attention. <br> - Sample security was managed through sealed individual samples and sealed bags of multiple |  |

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| Criteria | JORC Code explanation | Commentary |
| :--- | :--- | :--- | :--- |
|  |  | samples for secure delivery to the laboratory by <br> permanent staff of the joint-venture. <br> MS Analytical is an internationally accredited <br> laboratory that has all its internal procedures heavily <br> scrutinised in order to maintain their accreditation. <br> MS Analytical is accredited to ISO/IEC 17025 2005 <br> Accredited Methods. |
| Audits or reviews | - The results of any audits or reviews of sampling <br> techniques and data. | Sunstone's and Cornerstone's sampling techniques <br> and data have been audited multiple times by <br> independent mining consultants during various <br> project assessments. These audits have concluded <br> that the sampling techniques and data management <br> are to industry standards. <br> All historical data has been validated to the best <br> degree possible and migrated into a database. |

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 Bramaderos Exploration Concession is located in the Loja Province of southern Ecuador. The concession was granted to La Plata Minerales S.A. ("PLAMIN") in January 2017. PLAMIN is a subsidiary of Cornerstone Capital Resources Inc ("Cornerstone"). The concession is subject to a Joint Venture between Cornerstone Capital Resources Inc. and Sunstone Metals Ltd. 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. |
|  | - 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 Bramaderos Exploration Concession was granted to La Plata Minerales S.A. ("PLAMIN") in January 2017. PLAMIN is a subsidiary of Cornerstone Capital Resources Inc ("Cornerstone"). The Bramaderos Concession is subject to a Joint Venture between Sunstone Metals and Cornerstone. |
| Exploration done by other parties | - Acknowledgment and appraisal of exploration by other parties. | - The historic exploration was completed by various groups over the period 1970-1984, 2001-2002 and 20042007. 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 kilometres), electrical IP surveys and diamond drilling (10426m). |
| Geology | - Deposit type, geological setting and style of mineralisation. | - The deposit style being explored for includes intrusionrelated and stockwork hosted porphyry $\mathrm{Au}-\mathrm{Cu}$ systems plus low sulphidation epithermal veins and bulktonnage breccia-hosted epithermal gold mineralisation. The setting is a volcanic arc setting of Cretaceous age overprinted by Miocene age intrusions. |

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| 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: <br> a. easting and northing of the drill hole collar <br> b. elevation or RL (Reduced Level - elevation above sea level in metres) of the drill hole collar <br> c. dip and azimuth of the hole <br> d. down hole length and interception depth <br> e. hole length. | - Details of the samples discussed in this announcement are in the body of the text. <br> - Details of historical drill holes are included here and are taken from publicly available NI 43-101 technical reports. |
|  | - 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. | - No weighting averaging techniques were used. Intervals were calculated based on interval length multiplied by the grade, and then composited over appropriate intervals. <br> - 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. | - Intervals were calculated based on interval length multiplied by the gold grade, and then composited over appropriate intervals and averaged over the length. |
|  | - The assumptions used for any reporting of metal equivalent values should be clearly stated. | - Metal equivalents have not been applied. |
| 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. | - Drilling has not yet been undertaken by the SunstoneCornerstone JV |
|  | - 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'). | - Drilling has not yet been undertaken by the SunstoneCornerstone JV |
| 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 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 $1 \& 2$ above show individual rock chip and trench channel results and the composited intervals, and the location of trenching results relative to historical drill holes. |
| 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. | - Figures $1 \& 2$ above show individual rock chip channel results and the composited intervals. |
| Further work | - The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or largescale step-out drilling). | - The planned exploration program is outlined in the announcement. |

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| Criteria | JORC Code explanation | Commentary |
| :--- | :--- | :--- |
|  | $\bullet$ Diagrams clearly highlighting the areas of possible <br> extensions, including the main geological <br> interpretations and future drilling areas, provided this <br> information is not commercially sensitive. | $\bullet$ See Figure 3 which shows areas for further exploration. |

