



LION ONE ANNOUNCES COMPLETION OF CSAMT SURVEY AT TUVATU

North Vancouver, B.C., June 21, 2023 - Lion One Metals Limited (TSX-V: LIO) (OTCQX: LOMLF) (ASX: LLO) ("Lion One" or the "Company") is pleased to announce that it has completed a CSAMT (Controlled Source Audio-frequency Magnetotellurics) survey at its 100% owned Tuvatu Alkaline Gold Project in Fiji.

Highlights:

- 14 new CSAMT survey lines were completed, including 7 across the main Tuvatu deposit area.
- 3 lines from the 2019 CSAMT survey were extended.
- Station density has doubled from 100 m in the 2019 survey to 50 m in the 2022-23 survey.
- Line spacing has halved from an average of 560 m in 2019 to an average of 300 m in 2023.
- A total of approximately 33 line-kms were surveyed (11 km in 2022 and 22 km in 2023).
- CSAMT processing and interpretation is expected to be complete in July; increased resolution of the CSAMT data will be used to generate high quality drill targets across the Navilawa caldera.

Lion One Chairman and CEO Walter Berukoff commented: "We're thrilled to have completed our CSAMT survey and we eagerly await the results of the survey, which we hope to have available later in July. The 2019 survey was invaluable in helping us to discover the feeder zone underlying Tuvatu and led us directly to the 500 Zone, where we intersected 75.9 m of 20.86 g/t Au.¹ The 2022-2023 survey will complement the 2019 survey and will dramatically improve survey resolution across the property, where we have already identified numerous exciting and untested prospects. The CSAMT data will help us to identify and refine drill targets underlying those prospects and we look forward to drill testing select targets later in 2023."

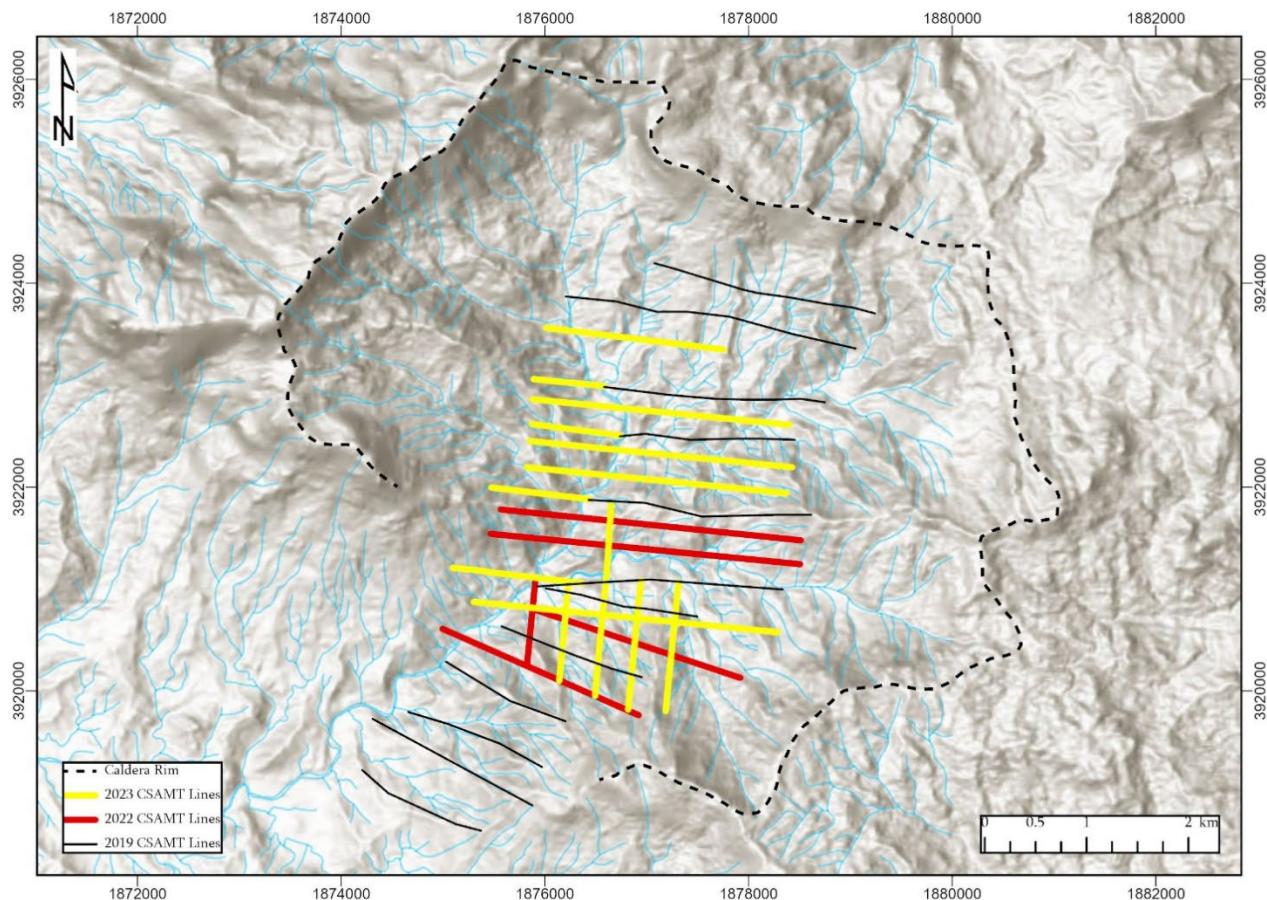


Figure 1. Location of 2022-2023 CSAMT Survey Lines.

¹ Refer Company news release dated 6 June 2022.



CSAMT Overview

CSAMT is a ground geophysical method used for obtaining information about subsurface resistivity in a survey area. It measures the electrical resistivity of rocks down to depths of approximately 1.2 to 1.5 km, which is much deeper than alternative resistivity techniques. The survey identifies areas of bedrock with contrasting electrical properties, often due to variations in lithology, porosity, or alteration. Abrupt changes in resistivity occur when two rock types with differing resistivity characteristics are juxtaposed against one another, or when an area is highly fractured and allows groundwater to penetrate resistive rocks thereby producing an area of lower resistivity. CSAMT surveys are highly beneficial in identifying subsurface structures, such as lithological contact zones, faults, and fracture systems, especially if these are deep-rooted structures.

In alkaline gold deposits such as Tuvatu, it is these deep-rooted structures that provide the conduits for fluid flow to rise up in the earth's crust and in which gold is deposited. When interpreting CSAMT data, the main focus is on steep resistivity gradients that may indicate the presence of such structures. CSAMT surveys are the pre-eminent geophysical tool in identifying mineralized structures and drill targets in alkaline gold deposits.

2022-2023 Survey

Lion One's 2022-2023 CSAMT survey was designed to complement the 2019 survey by adding infill and extension lines to the previous survey area. The 2019 survey was moderate to widely spaced, with line spacing ranging from 300 m to 800 m, and station spacing every 100 m. Line and station spacing has improved significantly across the Navilawa Caldera following the 2022-2023 CSAMT survey, with line spacing ranging from 100 m to 400 m, and station spacing only 50 m apart on all new lines (Figure 1). The increased line and station density will provide greater resolution across the property and will assist in refining and generating new drill targets in the caldera.

The 2022-2023 CSAMT survey was conducted by Zonge Engineering and Research Organization of Adelaide, Australia. The 2022 portion of the survey was completed on October 8th, 2022 and the 2023 portion was completed on June 10th, 2023. A total of 33 line-km were surveyed, with 11 km completed in 2022 and 22 km completed in 2023. In addition to the 22.5 line-km surveyed in 2019, Lion One has now surveyed a total of 55.5 line-km of CSAMT across the Navilawa Caldera. Notably, the 2022-2023 survey included 5 survey lines oriented north-south across the main Tuvatu deposit, providing a high-density grid of coverage across the Tuvatu area. This will provide high-quality resistivity data for the Tuvatu deposit and all near-mine exploration targets, such as the West Zone.

Lion One has also identified numerous regional prospects throughout the Navilawa Caldera, with multiple surface samples returning grades of over 100 g/t Au (Figure 2). One of the goals of the 2022-2023 CSAMT survey was to improve coverage and understanding of the structural architecture underlying these prospects, some of which are located on the edge of the 2019 survey lines where results can be less reliable. The 2022-2023 infill and extension lines will dramatically improve survey resolution and reliability in these areas and will help refine drill targets underlying those prospects.

The 2022-2023 CSAMT survey was originally planned for 2021 but was delayed by the COVID-19 pandemic. The 2022-2023 survey was completed under budget.

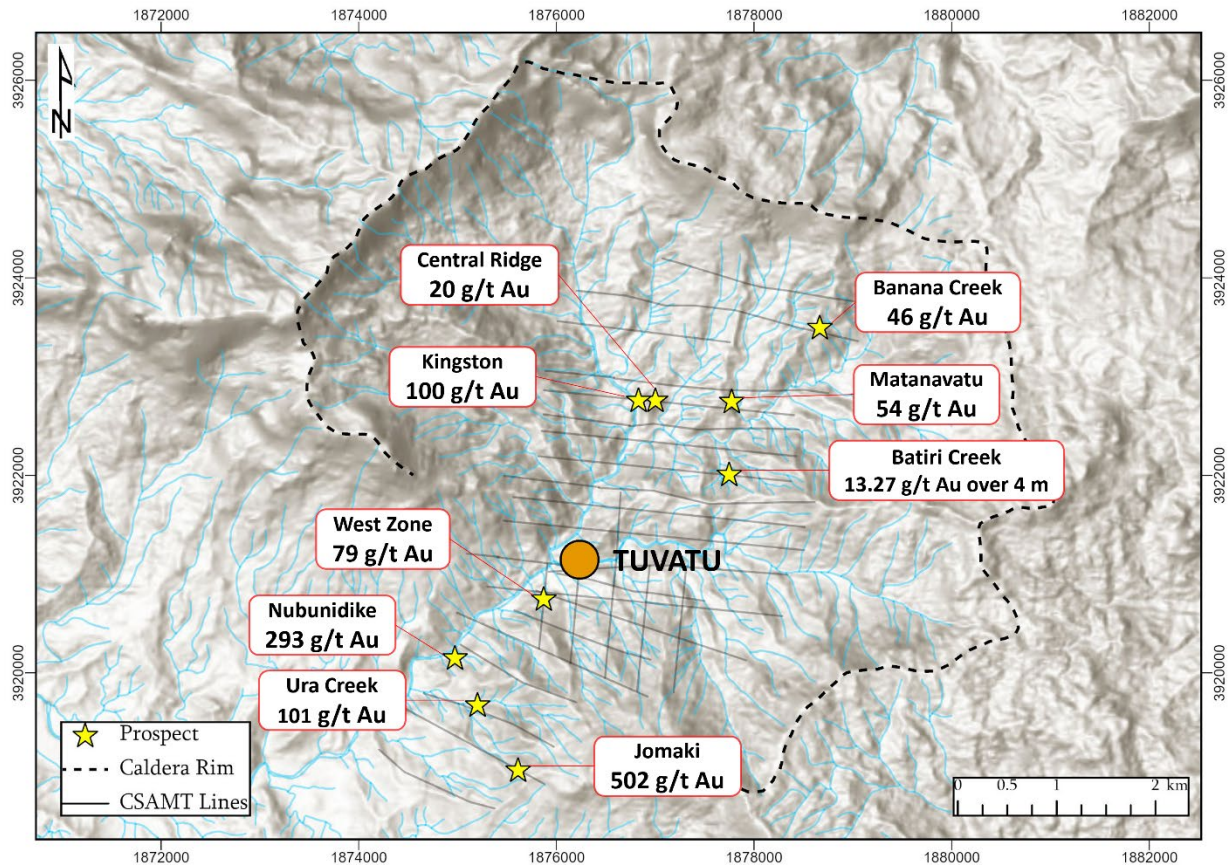


Figure 2. Select Regional Prospects. Select regional prospects covered by the CSAMT survey area. The goal of the CSAMT survey is to define high resolution structures underlying these prospects and to thereby identify high priority drill targets. All grades shown are peak results from surface samples, either rock chips or channel samples. Refer to the November 16th, 2022 news release and the April 22nd, 2022 technical report for full contextualization of data.

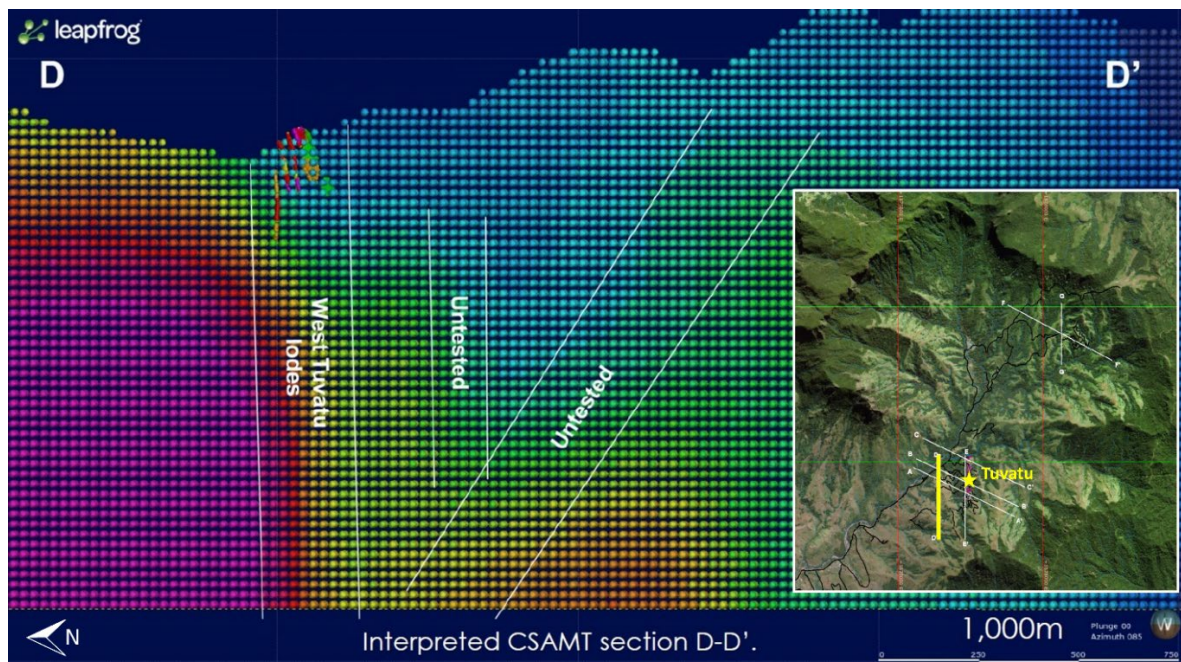


Figure 3. Example 2019 CSAMT Interpretation, West Zone. The 2019 CSAMT survey identified several resistivity gradients in the area of the West Zone which may indicate a potential new feeder zone. The 2022-2023 CSAMT infill and extension lines in this area will increase resolution and help to refine drill targets in the West Zone. Warm colors indicate areas of high resistivity, cool colors indicate areas of low resistivity. Inset map shows the location of this interpretation section in relation to the Navilawa caldera, with the D-D' line highlighted in yellow and the main Tuvatu deposit indicated by the star. The 2019 survey, including this figure, is the subject of a news release dated February 6, 2020.



About Tuvatu

The Tuvatu Alkaline Gold Project is located on the island of Viti Levu in Fiji. The January 2018 mineral resource for Tuvatu as disclosed in the technical report "Technical Report and Preliminary Economic Assessment for the Tuvatu Gold Project, Republic of Fiji", dated September 25, 2020, and prepared by Mining Associates Pty Ltd of Brisbane Qld, comprises 1,007,000 tonnes indicated at 8.50 g/t Au (274,600 oz. Au) and 1,325,000 tonnes inferred at 9.0 g/t Au (384,000 oz. Au) at a cut-off grade of 3.0 g/t Au. The technical report is available on the Lion One website at www.liononemetals.com and on the SEDAR website at www.sedar.com.

Qualified Person

In accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101"), Sergio Cattalani, P.Geo, Senior Vice President Exploration, is the Qualified Person for the Company and has reviewed and is responsible for the technical and scientific content of this news release.

About Lion One Metals Limited

Lion One's flagship asset is 100% owned, fully permitted high grade Tuvatu Alkaline Gold Project, located on the island of Viti Levu in Fiji. Lion One envisions a low-cost high-grade underground gold mining operation at Tuvatu coupled with exciting exploration upside inside its tenements covering the entire Navilawa Caldera, an underexplored yet highly prospective 7km diameter alkaline gold system. Lion One's CEO Walter Berukoff leads an experienced team of explorers and mine builders and has owned or operated over 20 mines in 7 countries. As the founder and former CEO of Miramar Mines, Northern Orion, and La Mancha Resources, Walter is credited with building over \$3 billion of value for shareholders.

On behalf of the Board of Directors of Lion One Metals Limited

"Walter Berukoff", Chairman and CEO

Contact Investor Relations

Toll Free (North America) Tel: 1-855-805-1250

Email: info@liononemetals.com

Website: www.liononemetals.com

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This press release may contain statements that may be deemed to be "forward-looking statements" within the meaning of applicable Canadian securities legislation. All statements, other than statements of historical fact, included herein are forward-looking information. Generally, forward-looking information may be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "proposed", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases, or by the use of words or phrases which state that certain actions, events or results may, could, would, or might occur or be achieved. This forward-looking information reflects Lion One Metals Limited's current beliefs and is based on information currently available to Lion One Metals Limited and on assumptions Lion One Metals Limited believes are reasonable. These assumptions include, but are not limited to, the actual results of exploration projects being equivalent to or better than estimated results in technical reports, assessment reports, and other geological reports or prior exploration results. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of Lion One Metals Limited or its subsidiaries to be materially different from those expressed or implied by such forward-looking information. Such risks and other factors may include, but are not limited to: the stage development of Lion One Metals Limited, general business, economic, competitive, political and social uncertainties; the actual results of current



research and development or operational activities; competition; uncertainty as to patent applications and intellectual property rights; product liability and lack of insurance; delay or failure to receive board or regulatory approvals; changes in legislation, including environmental legislation, affecting mining, timing and availability of external financing on acceptable terms; not realizing on the potential benefits of technology; conclusions of economic evaluations; and lack of qualified, skilled labour or loss of key individuals. Although Lion One Metals Limited has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. Accordingly, readers should not place undue reliance on forward-looking information. Lion One Metals Limited does not undertake to update any forward-looking information, except in accordance with applicable securities laws.



JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <i>Nature and quality of sampling (eg 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.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘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 (eg submarine nodules) may warrant disclosure of detailed information.</i> 	<ul style="list-style-type: none"> No sampling reported in this release other than reference to samples previously reported by the Company. Refer to company releases dated 6 June 2022, 15 November 2022 and the Company’s technical report 29 April 2022.
Drilling techniques	<ul style="list-style-type: none"> <i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).</i> 	<ul style="list-style-type: none"> No drilling reported in this release, other than reference to previous reported results.
Drill sample recovery	<ul style="list-style-type: none"> <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i> 	<ul style="list-style-type: none"> No drilling reported in this release, other than reference to previous reported results.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> Measures taken to maximise sample recovery and ensure representative nature of the samples. 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. 	
Logging	<ul style="list-style-type: none"> 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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> No drilling reported in this release, other than reference to previous reported results.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. 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. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> No drilling reported in this release, other than reference to previous reported results.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. 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. 	<ul style="list-style-type: none"> No drilling reported in this release, other than reference to previous reported results. <p>CSAMT Geophysics CSAMT geophysics is undertaken by a qualified geophysical survey company—Zonge Engineering and Research Organization. Zonge constructs and calibrates its own equipment.</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <i>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.</i> 	<p>CSAMT survey lines are shown at variable spacing based on access and geological targets and as shown in the body of the release. Sample station spacing is 50m along line. With modelling of controlled and natural source, and based on results from the 2019 survey, the Company understands that CSAMT can cause predictions of resistivity and resistivity/conductivity contrasts from the near survey to >1000m.</p>
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> No drilling reported in this release, other than reference to previous reported results.
Location of data points	<ul style="list-style-type: none"> <i>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.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i> 	<p>CSAMT Geophysics</p> <ul style="list-style-type: none"> All line locations are surveyed by qualified mine surveyor Coordinates are relative to Fiji Map Grid.
Data spacing and distribution	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <i>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.</i> <i>Whether sample compositing has been applied.</i> 	<p>CSAMT Geophysics</p> <ul style="list-style-type: none"> Station spacing is 50m
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>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.</i> 	<p>CSAMT</p> <ul style="list-style-type: none"> The CSAMT is designed to be orthogonal to a general N-S orientation of principal structures. However, several other structural orientations are present.
Sample security	<ul style="list-style-type: none"> <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> No sampling reported in this release other than reference to samples previously reported by the Company.



Criteria	JORC Code explanation	Commentary
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of sampling techniques and data.</i> 	CSAMT Geophysics Geophysical data (CSAMT) is reviewed and processed by Zonge Engineering and Research Organization of Adelaide, Australia. The Company uses independent consultant, Thomas Weis, of Colorado to process the data and conduct interpretations.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <i>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.</i> <i>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.</i> 	<ul style="list-style-type: none"> •The Tuvatu Project is situated in Fiji on granted Mining License SML62. Lion One has a 100% interest in the tenement. The area surrounding Tuvatu is also held by Lion One and includes four Special Prospecting Licenses (SPL1283, 1296, 1465 and 1512). Lion One has 100% interest in these tenements. •The tenements are in good standing and no known impediments exist. •Standard government royalties apply. In addition a royalty of 1.5% of gold revenue is payable to Laimes Global Inc.
Exploration done by other parties	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> • The tenement area has been previously explored by a number of other companies and has been referenced in a number of Lion One news releases and independent technical reports. The details are not applicable to reporting of these results.
Geology	<ul style="list-style-type: none"> <i>Deposit type, geological setting and style of mineralisation.</i> 	<ul style="list-style-type: none"> •Tuvatu deposit is one of several alkaline gold systems situated along the >250 km Viti Levu lineament in Fiji. •Most of the mineralization is hosted by late Miocene to early Pliocene monzonite which has intruded the late Oligocene – middle Miocene volcanic breccias. •The Tuvatu deposit is structurally controlled and occurs as a series of sub- vertical lodes, shallow dipping lodes and stockworks. Individual “lodes” can have strike length more than 500 m and vertical extent often only limited by the depth of drilling; and range from less than 1 m to 9 meters in width.

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> The mineralogy is predominantly quartz, pyrite, and occasional base metal sulphides. A proportion of gold occurs as fine free gold or intimately associated with pyrite and telluride minerals.
Drill hole Information	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> No drilling reported in this release, other than reference to previous reported results.
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none"> No drilling or sampling reported in this release, other than reference to previous reported results.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. 	<ul style="list-style-type: none"> No drilling reported in this release, other than reference to previous reported results.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i> 	
Diagrams	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Diagrams within the body of the release.
Balanced reporting	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> No drilling or sampling reported in this release, other than reference to previous reported results.
Other substantive exploration data	<ul style="list-style-type: none"> <i>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.</i> 	CSAMT Geophysics <ul style="list-style-type: none"> The 2023 CSAMT survey follows on from the 2019 CSAMT survey. The results of the 2019 survey have been previously presented by the Company in various presentations and technical reports. The 2023 CSAMT survey has been completed, but has not yet been processed and interpreted. Results will be presented following receipt of processed and interpreted information.
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> The Company is continuing with further regional exploration as well as drilling and underground development at the Tuvatu Gold Deposit. The CSAMT geophysics is part of a regional targeting program.



Remaining Sections "Section 3 Estimation and Reporting of Mineral Resources", "Section 4 Estimation and Reporting of Ore Reserves" not applicable to this release.