# LION ONE ANNOUNCES RECORD GOLD PRODUCTION AT TUVATU, INCREASES PLANT EXPANSION, EXPANDS SURFACE FOOTPRINT SOUTH OF TUVATU, UPDATES TECHNICAL REPORT

**North Vancouver, B.C., July 1, 2024 - Lion One Metals Limited** (TSX-V: LIO) (OTCQX: LOMLF) (ASX: LLO) **("Lion One" or the "Company")** is pleased to report record preliminary gold production at Tuvatu for the month of June and significantly expands the surface gold-in-soil anomaly to the south of Tuvatu. The company also announces an increase in the planned mill expansion to 600-700 TPD, and files an updated NI43-101 compliant Technical Report with an effective date of June 24, 2024.

Gold production at Tuvatu has steadily increased since the completion of mill commissioning in December 2023/January 2024. A step change in production occurred in June following the commencement of mechanized production. The total gold recovered for the month of June up to and including June 24th is approximately 1370 oz of gold, with projected gold recovered of approximately 1700 oz for the month.

Soil sampling to the south of Tuvatu has revealed a 650 m extension of anomalous gold at surface. High-grade gold in soil results were recovered along a north-south corridor directly south of and along strike from the known deposit at Tuvatu. The gold anomaly is coincident with wider arsenic, lead, and zinc anomalies, which are known pathfinders for gold, thereby widening the potential footprint of the gold mineralization. The Tuvatu deposit has a north-south strike length of approximately 950 m. The southern soil extension therefore represents a potential 70% increase in the overall strike length of Tuvatu. These soil results are a significant discovery at Tuvatu and represent a prime target for near-mine exploration and resource expansion. They highlight the potential for more discovery both near-mine at Tuvatu and regionally throughout the Navilawa Caldera.

The planned mill expansion has been increased to 600-700 TPD. The current pilot plant operation has a name plate capacity of 300 TPD, and the originally planned expansion was to 500 TPD. The expansion has now been increased to 600-700 TPD, which represents a doubling of the name plate capacity at Tuvatu. The expansion is expected to be complete in mid-2025.

**Highlights:**

- **Record gold production for the month of June**
- **Consistent month-over-month increase in gold production since January 2024**
- **650 m high-grade gold-in-soil anomaly extension to the south of Tuvatu**
- **Coincident arsenic-, lead-, and zinc-in-soil anomalies**
- **Potential 70% increase in strike length of Tuvatu**
- **Increased planned mill expansion to 600-700 TPD**

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**Figure 1. Gold Dore Bars Poured at Tuvatu.** Gold doré bars poured for the June 25th, 2024 gold sale.

**Gold Production**

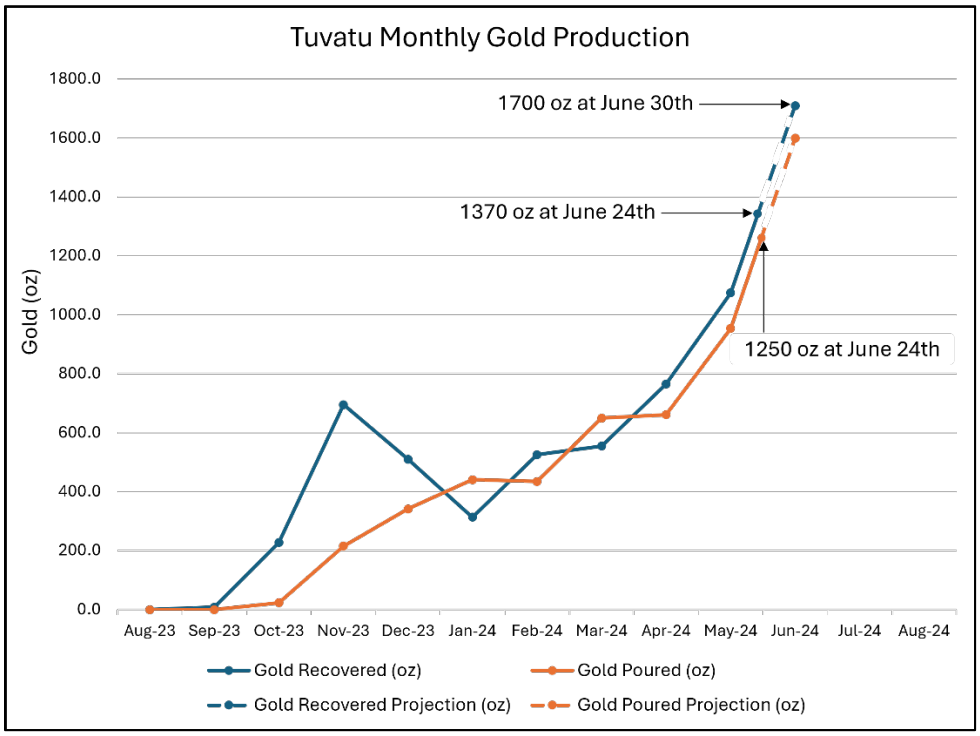


**Figure 2. Tuvatu Monthly Gold Production.** Gold recovery and production has increased steadily at Tuvatu as mining and processing activities have ramped up during the pilot plant phase of operations. Projected gold recovery for June is approximately 1700 oz with approximately 1370 oz recovered as of June 24th.

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Gold production at Tuvatu has steadily increased since the first gold pour in October 2023 and the completion of mill commissioning in December 2023/January 2024. Record gold production of approximately 1700 oz is projected for June 2024, with 1370 oz of gold already recovered as of June 24th, 2024. This is a step change increase in production from previous months and is a result of the onset of mechanized production mining at Tuvatu.

During the period from October 2023 to May 2024, the majority of the material mined at Tuvatu was development material, with limited production material resulting from handheld mining methods. Mechanized production mining commenced in mid-May with the first long hole stope blast occurring on May 18th, as reported in the June 5, 2024 news release. The proportion of production material being processed at Tuvatu has therefore increased in May and June, with further increases expected as the mine continues to develop.

Long hole stoping is ongoing both in Zone 2 and in Zone 5. In Zone 2, where the deposit is characterized by a large stockwork zone of mineralization, the mining widths are 10 m to 12 m wide. In Zone 5, where the deposit is characterized by high grade narrow vein mineralization, the mining widths are 0.9 m to 1.2 m wide.

**Plant Expansion**

Mill throughput at Tuvatu has also increased steadily from January to June 2024. The current name plate capacity of the Tuvatu processing plant is 300 TPD. As a result of improved efficiency initiatives, the plant is now capable of operating sustainably at over 400 TPD. This has resulted in steadily increased tonnage from February to May with a record throughput of over 11,000 tonnes in May. Mill throughput in June is projected to be over 10,000 tonnes (Figure 3).

The Tuvatu processing plant is a modular processing plant that was originally planned for a staged expansion up to 500 TPD. As a result of the successful mining operations and the increased throughput achieved at the 300 TPD capacity, the company is now planning to expand plant operations from 300 TPD directly to 600-700 TPD. This is expected to double mill throughput and production at Tuvatu. The plant expansion is anticipated to be complete in mid-2025.

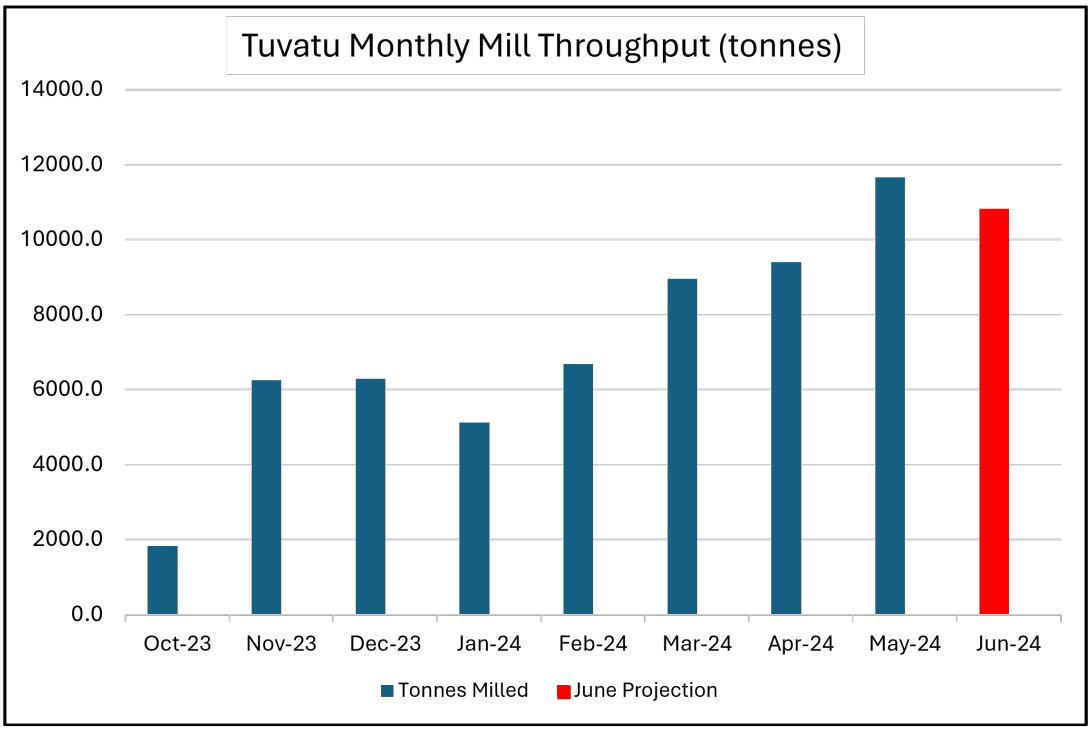


**Figure 3. Tuvatu Monthly Mill Throughput.** Mill throughput at Tuvatu has steadily increased since the first gold pour in October 2023. A significant increase in production was achieved from February to May as a result of the successful implementation of debottlenecking and efficiency improvement initiatives at the plant.

**Soil Sampling and Gold Extension**

As part of Lion One's regional exploration program, a near-mine soil sampling program has been completed. The soil program is divided into two halves: the West Grid and the East Grid (Figure 4). The West Grid encompasses the area immediately to the West of Tuvatu, including the West Zone, as well as the area immediately to the south of Tuvatu. The East Grid encompasses the area immediately to the east of Tuvatu.

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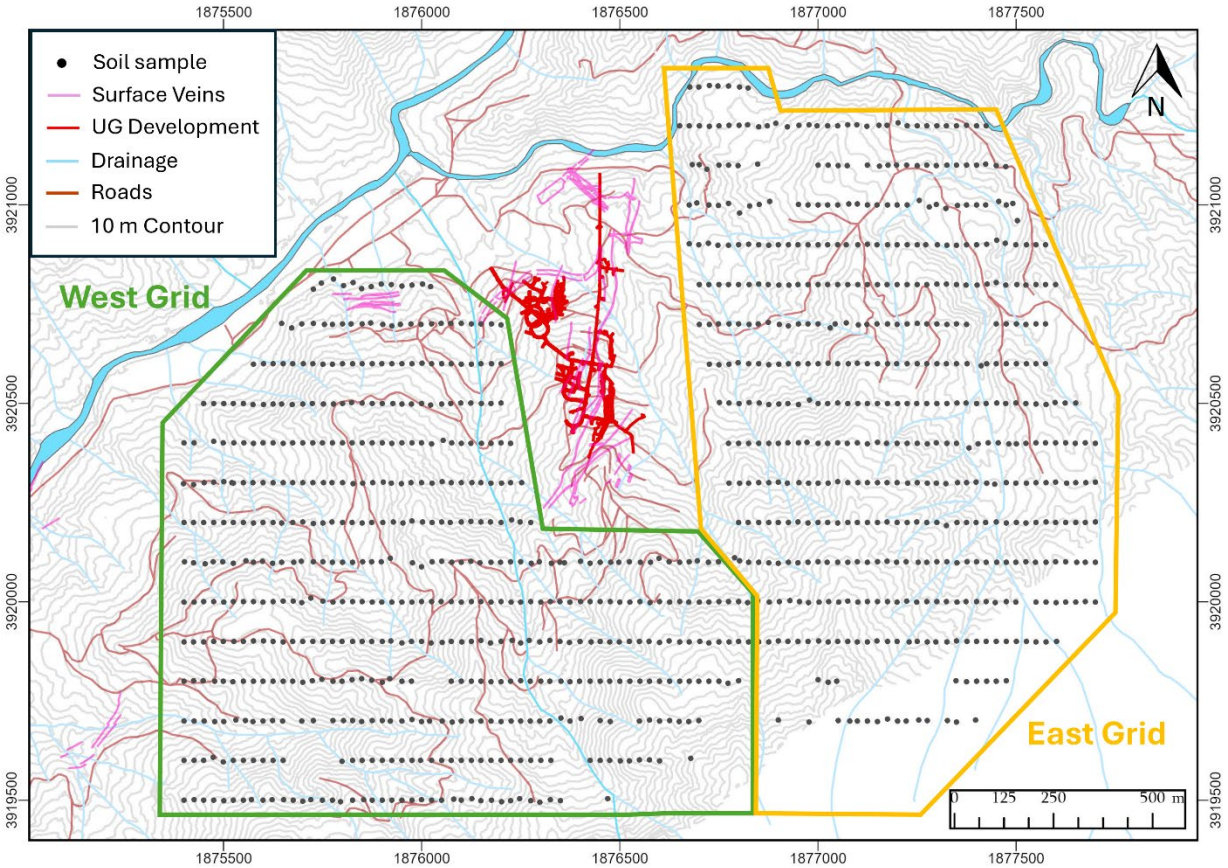


**Figure 4. Tuvatu Soil Sample Locations.** The 2024 near-mine soil sample program is divided into two sections – a West Grid and an East Grid.

The soil sampling program consisted of 25 m spacing between samples and 100 m spacing between sample lines. Samples were collected from the B or C horizon of the soil profile by means of hand auger with extension rod. A total of 549 samples were collected across 14 lines in the West Grid, with a total of 521 samples collected across 17 lines in the East Grid, for a total of 1070 samples across both grids. Assay results from the West Grid have been received whereas those from the East Grid are still outstanding. Peak gold assay results returned from the West Grid are 1.66 g/t, 0.65 g/t, 0.57 g/t, and 0.51 g/t gold, which are significantly above background values and are considered very high-grade for soil samples. A total of 19 samples returned gold assays above 0.1 g/t gold. This compares favourably to the Tuvatu deposit itself, which is associated with a 0.05 g/t surface gold-in-soil anomaly from historic auger soil surveys. Soil assay results above 0.1 g/t gold are available in Table 3 in the appendix.

Assay results from the West Grid indicate a clear 650 m long north-south gold anomaly immediately to the south of and along strike from the known mineralization at Tuvatu. The Tuvatu deposit has a known strike length of 950 m and therefore these results indicate a potential 70% increase in the strike length of Tuvatu. The gold-in-soil anomaly is coincident with wider arsenic, lead, and zinc anomalies, all of which are known pathfinders for gold, thereby increasing the strength of the anomaly. These soil results are a new discovery at Tuvatu and represent a prime target for near-mine exploration and resource expansion. Making such a significant discovery in close proximity to Tuvatu highlights the potential for more discovery both near-mine at Tuvatu and throughout the Navilawa Caldera. Strong gold soil assay results were also

observed in the West Zone.

In 2023 Lion One upgraded the multi-element assay capacity at its Nadi laboratory. This increase in capacity has enabled Lion One to incorporate widespread soil sampling into its exploration program. Throughout 2024 and 2025 further soil sampling campaigns will be completed targeting extensions of Tuvatu, as well as gold only and copper-gold targets throughout the Navilawa caldera.

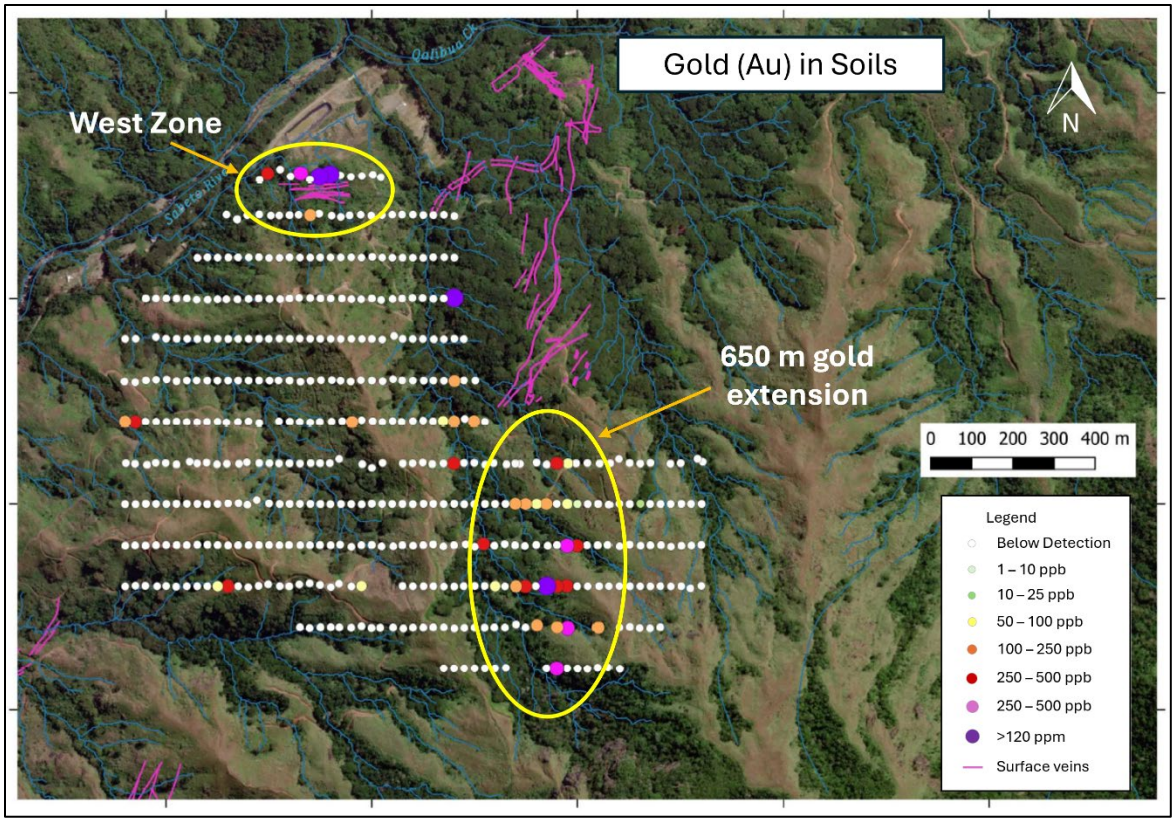


**Figure 5. Gold Soil Assay Results, West Grid.** The gold assay results from the West Grid soil sampling program reveal a clear 650 m long north-south anomaly directly south of and along strike from the Tuvatu deposit. This represents a potential 70% increase in the strike length of Tuvatu and is a prime target for near-mine exploration and resource expansion. Strong gold results are also observed in the West Zone.

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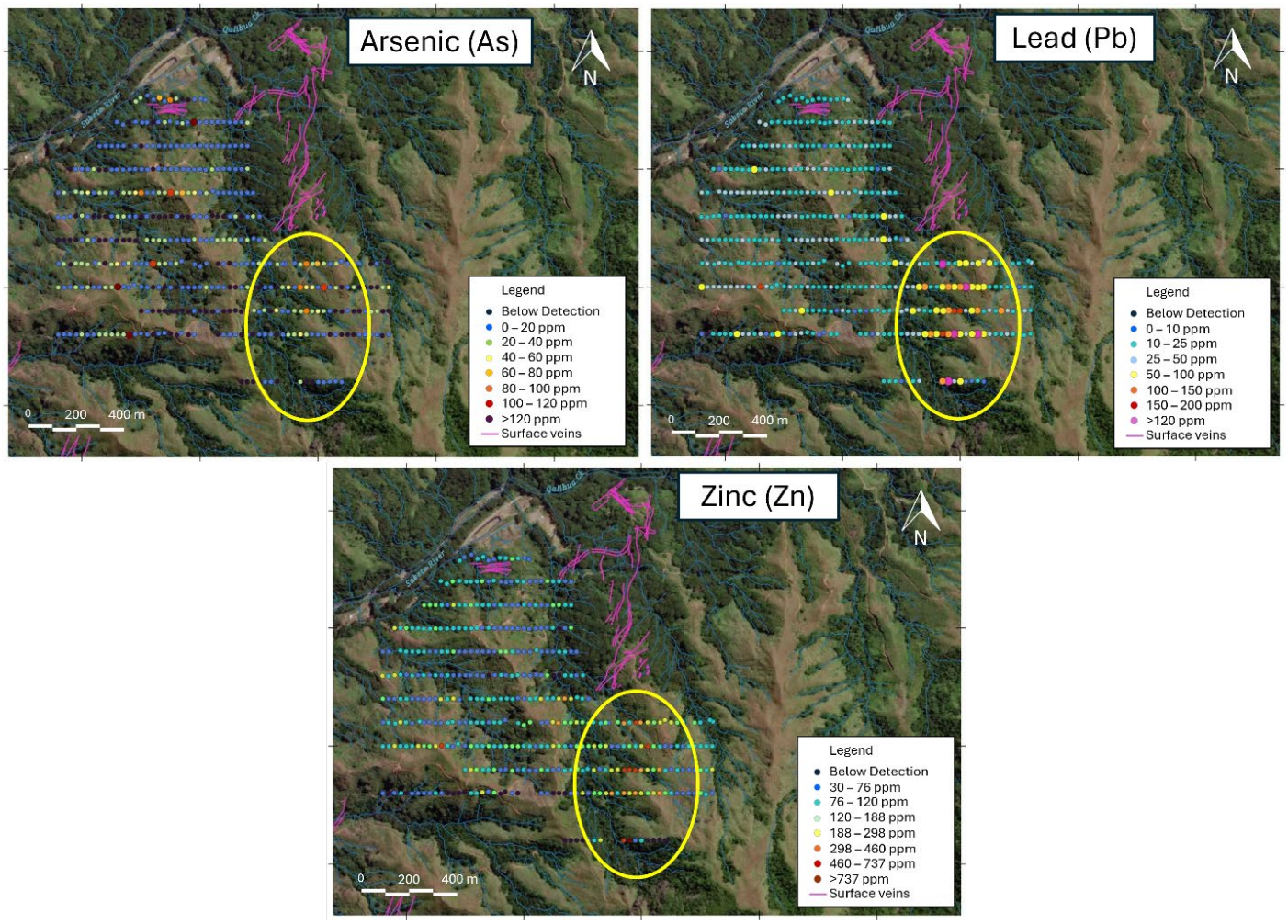


**Figure 6. Arsenic, Lead, and Zinc Soil Assay Results, West Grid.** The arsenic, lead, and zinc assay results from the West Grid soil sampling program also reveal a strong north-south anomaly directly south of and along strike from the know deposit at Tuvatu.

It is important to note that the gold assays reported here exhibit a binary grade distribution whereas a bell curve distribution would be expected to result from a soil sample grid. Low grade gold assay results appear to be under-represented in the soil survey and an investigation is underway to determine if this is due to higher than expected detection limits in the lab. The under-representation of gold assays has been highlighted by the failed detection of low grade QAQC Samples (0.016 and 0.049 g/t Certified Reference Material). Higher grade QAQC samples performed successfully with respect to accuracy and precision indicating that the high gold in soil values are valid. Duplicate samples will be sent to ALS Australia to determine the low-grade gold results. With a bell curve distribution of gold assay results it would be expected that the gold anomalies presented in Figure 5 would broaden out with low grade results, similar to the arsenic, lead, and zinc anomalies seen in Figure 6.

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**NI 43-101 Technical Report**

Lion One Metals has SEDAR-filed an updated NI 43-101 Technical Report for Tuvatu with an effective date of June 24, 2024. An independent mineral resource estimate (MRE) has been carried out for gold contained in the portion of the Tuvatu Property that is currently being developed and mined. The effective date of the MRE is March 25, 2024, and is based on a drillhole dataset in csv format, 69 wireframes representing mineralized veins and zones in the Tuvatu deposit, as well as underground development as of March 24, 2024, all in dxf format and all provided by Lion One. Two wireframes representing satellite mineralization around Zones Two and Five that were not captured by the wireframes for those zones were provided by Lion One on April 05, 2024.

The drillhole database, including pre-Lion One drilling, contained 7,592 collar locations and 240,002 assays for gold. Some samples fall outside the limits of the MRE, and their exclusion resulted in a useable data set of 233,703 assays. Assays for sludge (69) and face (channel) samples (6,205) were removed from the data set. The sludge samples were removed because the source location of their assay values cannot be established with sufficient accuracy for use in an MRE. The face samples were removed because attempts to reconcile estimated resources against mined resources within Zone Two resulted in an overestimation of gold present when face samples were included in the dataset. A further 30 samples were removed because they had anomalously long lengths and were either of unidentified source or had not been sampled. The resultant imported dataset included 1,288 collars and 233,703 gold assays. All sample data used for the MRE was obtained from drill core samples (85%) and reverse circulation cuttings (15%).

The estimated tonnes and ounces of gold represented by the Underground Development were subtracted from the estimated tonnes and ounces of gold estimated for the 69 Domains and the net (depleted) resource within the 69 Domains is reported as the current MRE. The resource within the Outside Domains is reported separately. Blocks were classified as Indicated or Inferred. For the 69 Domains, classification was carried out using all composites for all 69 domains. Classification of the Underground Development was carried out using composites for only that domain. In both cases, interpolation was by $ID^2$. The Outside Domains were classified as Inferred. The search ellipse for the Indicated class is of the same dimensions as that used for the first interpolation pass for most domains. The Inferred classification was designed to capture all blocks in each domain that fall outside the Indicated category.

Table 1 summarizes the Tuvatu MRE for the 69 Domains by Class. The left-hand columns of the table show the gross tonnes and ounces within the 69 Domains, the central columns show the tonnes and ounces in the Underground Development, and the right-hand columns show the resources in the 69 Domains net of the tonnes and ounces in the Underground Development. The base case is taken as 3 g/t and is highlighted. Table 2 shows the resource in the Outside Domains. The 3 g/t base case is highlighted.

**Table 1. Tuvatu 69 Domains Mineral Resource Estimate Summary Net of Underground Development**

| CutOff Au g/t | Classification | 69 Domains Gross | | | Underground Development | | | 69 Domains Net | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Au g/t | Tonnes | Ounces | Au g/t | Tonnes | Ounces | Au g/t | Net Tonnes | Net Ounces |
| 4 | Indicated | 9.95 | 500,000 | 160,000 | 5.00 | 8,000 | 1,300 | 10.05 | 492,000 | 159,000 |
| 4 | Inferred | 9.47 | 958,000 | 292,000 | 5.22 | 2,000 | 300 | 9.50 | 956,000 | 292,000 |
| 3 | Indicated | 8.41 | 655,000 | 177,000 | 4.44 | 14,000 | 2,000 | 8.48 | 642,000 | 175,000 |
| 3 | Inferred | 7.61 | 1,388,000 | 340,000 | 4.43 | 3,000 | 500 | 7.62 | 1,384,000 | 339,000 |
| 2 | Indicated | 6.89 | 880,000 | 195,000 | 3.84 | 19,000 | 2,300 | 6.97 | 861,000 | 193,000 |
| 2 | Inferred | 5.99 | 2,023,000 | 389,000 | 4.23 | 4,000 | 500 | 5.99 | 2,019,000 | 389,000 |

**Table 2. Tuvatu Mineral Resource Summary for Outside Domains**

| CutOff Au g/t | Classification | Aug/t | Tonnes | Ounces Au |
|---|---|---|---|---|
| 4 | Inferred | 11.72 | 8,000 | 3,000 |
| 3 | Inferred | 9.32 | 11,000 | 3,000 |
| 2 | Inferred | 7.47 | 15,000 | 4,000 |

a) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
b) There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves.
c) Mineral Resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.
d) The base case is based on a 3 g/t Au cutoff and cost estimates for mining of US$56/tonne, processing of US$56/tonne and G&A of US$25/tonne; gold recovery of 80%; and a three-year trailing gold price of US$1,973/ounce.
e) Mineral Resource tonnage and grades are reported as undiluted.
f) The effective date of the mineral resource estimate is March 25, 2024

The MRE in the NI 43-101 Technical Report was prepared independently by Gregory Z. Mosher, P. Geo. with cooperation and information from Lion One geologists. Other portions of the Technical Report were prepared by Darren Holden, Ph.D., FAusIMM and William J. Witte, P.Eng. Messrs. Mosher, Holden and Witte have read and approved this news release, and consent to the inclusion in this news release of the matters based on form and context of the June 24, 2024 "NI 43-101 Technical Report and Mineral Estimate Tuvatu Gold Project."

The Technical Report is available for download from SEDAR and from the company's website.

**Competent Persons Statement**

The information in this report that relates to mineral exploration at the Tuvatu Gold Project is based on information compiled by the Lion One team and reviewed by Alex Nichol, who is the company's Vice President of Geology and Exploration. Mr Nichol is a Member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken, 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' (JORC code). Mr Nichol has read and approved this news release and consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

**Lion One Laboratories / QAQC**

Lion One adheres to rigorous QAQC procedures above and beyond basic regulatory guidelines in conducting its drilling, sampling, testing, and analyses. The Company operates its own geochemical assay laboratory and its own fleet of diamond drill rigs using PQ, HQ and NQ sized drill rods.

Diamond drill core samples are logged and split by Lion One personnel on site and delivered to the Lion One Laboratory for preparation and analysis. All drill samples are pulverized at the Lion One lab to 85% passing through 75 microns and gold analysis is carried out using fire assay with an AA finish. Samples that return grades greater than 10.00 g/t Au are re-analyzed by gravimetric method, which is considered more accurate for very high-grade samples.

For soil samples, 2 samples (A & B) of 2 kg each are taken using a hand auger at each sampling site. The A- sample is then dried and sieved using -80 stainless steel mesh at the Lion One Laboratory and assayed for gold and multi-element. Each batch of 50 samples will have one specific low-grade CRM, one blank and one duplicate. The B duplicate sample is retained for further testing.

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Due to the elevated gold detection limits observed at the Lion One laboratory (not suitable for less than 100 part per billion analysis), a sub-set of the soil campaign will be sent to ALS in Australia. The sub-set will be based on the area defined by the multi-element soil anomaly as defined by the associated pathfinder elements (As, Cu, Pb, Te and Zn). The Lion One lab can test a range of up to 71 elements through Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES), but currently focuses on a suite of 23 important pathfinder elements with an aqua regia digest and ICP-OES finish.

**About Lion One Metals Limited**

Lion One Metals is an emerging Canadian gold producer headquartered in North Vancouver BC, with new operations established in late 2023 at its 100% owned Tuvatu Alkaline Gold Project in Fiji. The Tuvatu project comprises the high-grade Tuvatu Alkaline Gold Deposit, the Underground Gold Mine, the Pilot Plant, and the Assay Lab. The Company also has an extensive exploration license covering the entire Navilawa Caldera, which is host to multiple mineralized zones and highly prospective exploration targets.

**On behalf of the Board of Directors,**

Walter Berukoff, Chairman & CEO

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***Neither the TSX-V nor its Regulation Service Provider accepts responsibility or the adequacy or accuracy of this release***

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## Summary of Mineral Resource Estimate Reporting Criteria

As per ASX Listing Rule 5.8 and the 2012 JORC reporting guidelines, a summary of the material information used to estimate the Mineral Resource is detailed below.

### Geology and Geological Interpretation

Tuvatu is identified as an alkalic epithermal gold deposit that is comprised of structurally controlled veins and stockwork zones that are contained in a monzonite intrusive hostrock – the Navilawa Monzonite. The Navilawa Monzonite is dated at 4.85 Ma, and intrudes both the Nadele Breccia (26 to 12 Ma) and the Sabeto Volcanics (5.5 to 4.8 Ma). The Sabeto Volcanics unconformably overlie the Nadele Breccia and form high ridges and cliffs along the periphery of the Navilawa Caldera. The overall Navilawa intrusive complex is elongated in a northeast orientation with late small intrusive stocks and dykes, dominantly composed of micromonzonite, striking dominantly in a N-S to NE-SW direction.

Sixty-nine (69) separate domains have been modelled as part of the Tuvatu mineral resource estimate; all but two, URW 1-1 and URW 1-2, are interpreted as narrow, generally steep-dipping veins; URW 1-1 and URW 1-2 are stockworks. The veins are grouped into five geographic zones: 2, 5 (including the previously separate 500), SKL, Tuvatu and H lodes, and the Western or Plant Site

Significant intercepts of gold mineralization exist outside the 69 modelled domains, in particular peripheral to Zones 2 and 5, where there is insufficient data to support a geological interpretation of those mineralized intercepts. Therefore, instead of domains based on geological interpretation, this mineralization was constrained using a gradeshell threshold of 0.5 g/t gold over four (4) meters. The resultant volumes are designated the Outside Domains.

### Analytical Techniques

From 2008-2019, with exception noted below, half-core samples were dispatched to the ALS sample preparation facility in Suva, Fiji. Samples were first crushed and pulverized at Suva prior to analysis at ALS Minerals, an independent and qualified analytical laboratory in Brisbane or Townsville, Australia. Gold was determined by fire assay and silver by aqua regia digestion and AAS finish. Select samples were assayed for multi-element using aqua regia methods. Consistent with industry standard practice, standard reference samples and blanks and additional control methods are used to ensure quality control.

During the 2016 to 2017 drilling program, some samples were sent to Vatukoula Gold Mines laboratory for analysis. The pulps of any samples analyzed at Vatukoula and returning gold results greater than 1 g/t Au were then sent to ALS Minerals in Australia for check analysis.

From December 2019, drill samples were processed in Lion One's own laboratory (Waimalika, Fiji). Drill samples were crushed and pulverized at Waimalika, gold was determined by fire assay (30 g charge) and Ag, As, Cu, Fe, Pb, Se, Te, V, and Zn were routinely analyzed by a three-acid digestion and inductively coupled plasma optical emission (ICP-OES) spectroscopy finish. Samples returning greater than 0.5 g/t Au or 0.5% Cu, Pb, or Zn were sent to ALS Minerals (Townsville) for check analysis. The high base metal samples were also fire assayed providing a check of gold analysis below 0.5 g/t Au.

Beginning mid-2023, the Lion One laboratory purchased and deployed a new ICP analyzer. Since then, all samples returning greater than 0.5 g/t Au, in addition to being submitted to ALS Minerals (Townsville) for Au analysis check by fire assay, were also analyzed in-house for a suite of pathfinder elements by ICP-OES, including Ag, Al, As, Ca, Co, Cr, Cu, Fe, K, Mg, Mo, Ni, P, Pb, S, Sc, Se, Sr, Te, Ti, V, Zn and Zr.

### Grade Capping

Cumulative frequency plots of composite gold values were generated for each modelled domain to determine whether capping of gold grades was appropriate for that domain. Capping was not applied to most domains as there is no discernible break in the cumulative frequency trend line. In several domains capping levels were modified following the initial resource estimation because the block model average gold values were either obviously higher or lower than the corresponding declustered composite grades.

### Bulk Density

The dataset included 4,801 bulk density measurements in units of grams / centimeter$^3$. These values were imported into Genesis and partitioned by domain. The spatial distribution of the bulk density measurements was not sufficient to support the interpolation of density measurements into the block model so average values were calculated for each domain. For those domains for which no values were available, the global average bulk density (2.61 g/cm$^3$) was used. Table 14.3 summarizes the average bulk density values for each domain.

### Analysis of Spatial Continuity

Variographic analysis of non-zero composite data was carried out using Sage 2001, a program that generates 36 directional variograms (12 in the XY plane and three in the YZ plane) and then fits a least-squares three-dimensional variogram to the resultant data. Most domains contain too few composites to support the development of meaningful variograms. A minimum population of 98 composites was chosen as the threshold for variography. Twenty-five domains meet this criterion. For the remaining 46 domains, variogram parameters of proximal and similarly oriented domains were applied where possible, otherwise interpolation was carried out using inverse distance squared (ID2) that relies only on a search ellipse and strictly linear weighting of composites. All variograms used two structures and both first and second structures are spherical.

### Interpolation Plan

The 69 Domains and the Underground Development were estimated separately. The tonnes and ounces of gold represented by the Underground Development were then subtracted from the estimate for the 69 Domains and the net (depleted) resource within the 69 Domains is reported as the current MRE. The resource within the Outside Domain is reported separately.

For the 69 Domains, gold grades were interpolated into the block model in two passes using both ordinary kriging (OK) and inverse distance squared (ID$^2$) weighting. The Underground Development and Outside

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Domains were interpolated in a single pass. In all cases, a minimum of two holes was required to interpolate a grade into a block to ensure that continuity of mineralization was demonstrated.

## Mineral Resource Classification

Resources were classified as Indicated, or Inferred. For the 69 Domains, classification was carried out using all composites for all 69 domains. Classification of the Underground Development was carried out using composites for only that domain. In both cases, interpolation was by $ID^2$. The Outside Domains were classified as Inferred.

The search ellipse for the Indicated class is of the same dimensions as that used for the first interpolation pass for most domains. The Inferred classification was designed to capture all blocks in each domain that fall outside the Indicated category.

## Reasonable Prospects of Eventual Economic Extraction

The resource is stated at a cutoff grade of 3 g/t based on the following costs, selling prices and mining and processing factors:

*Reasonable Prospects Costs and Prices*

| Reasonable Prospects Parameters | | |
|---|---|---|
| Activity/Item | Unit | Cost / Price US$ |
| Mining | Tonne Mined | 56 |
| Processing | Tonne Processed | 56 |
| G&A | Tonne Mined | 25 |
| Gold | Ounce | 1,973 |
| Gold | Gram | 63 |
| Recovery | % | 80 |
| Mining Dilution | % | 0 |

The mining and processing costs are based on the 2022 Tetra Tech PEA. The gold price is the three-year (2022, 2023, 2024) trailing average obtained from the website https://www.macrotrends.net/1333/historical-gold-prices-100-year-chart.

## Sampling and Compositing

The imported dataset included 1,288 collars and 233,703 gold assays. All assays used were obtained from drill core (85%) and reverse circulation holes (155).

Approximately 91% of the samples are one meter or less in length so a composite length of one meter was chosen for the MRE and the 233,703 assays were reduced to 227,254 composites. The composite set was partitioned into the 69 modelled domains, the underground development, and the Outside Domains around Zones 2 and 5.

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### Block Model Validation

The three block models were validated by 1) visual inspection, 2) comparison of mean values for composites and corresponding block models, and 3) by swath plots. Most composite grades are lower than the corresponding assay grades but in agreement with block grades. Many of the smaller domains do not contain a sufficient number of composites to support meaningful swath plots.

### Risks

Other than the normal risks that are associated with all mineral exploration properties because of inherent uncertainties pertaining to continuity of mineralization, actual versus assumed grade variability, metal prices, and potential production costs, the author is not aware of any specific environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect this mineral resource estimate.

### Drilling Techniques and Hole Spacing

Reverse circulation (RC) and diamond core (DDH) drill techniques have been employed at Tuvatu. 85% of the drill sample data used in the resource estimate is from diamond drill core.

Drillholes have been drilled from surface and from underground. Surface drillholes are predominantly drilled using HQ sized drill bits and are reduced to NQ at depth if necessary. Underground drillholes are drilled using NQ drill bits from the collar. Surface holes are typically drilled at dip angles between -55° and -85° while underground drillholes are typically drilled at angles between 25° and -80°. Drilling is preferably oriented perpendicular to mineralized structures whenever possible. However on occasion this may not be feasible due to limited access or due to the presence of multiple structures in different orientations. All surface and underground drillholes are oriented with a core orientation tool. Infill drilling occurs from surface and underground whereas grade control drilling only occurs from underground.

Drill hole spacing varies over the deposit in relation to the level of underground advancement throughout the deposit. More advanced areas will have drill centers 10 m to 20 m apart and are indicative of measured and indicated resources. Areas of inferred mineral resources will have more widely spaced drill spacing, up to 80 m drill centers.

### Processing Method

A pilot plant is currently in place at the Tuvatu mine site. The pilot plant has been successfully producing gold dore bars from Tuvatu since October 2023. Various processing methods have been tested since 1997 and testing continues to this day. Several methods are being investigated in the pilot plant and at the Lion One Geochemistry and Metallurgical Lab in Fiji.

A pilot plant is currently in place at the Tuvatu mine site. The pilot plant has been successfully producing gold dore bars from Tuvatu since October 2023. Various processing methods have been tested since approximately 1997 and testing continues to this day. Several methods are being investigated both in the

pilot plant depending on the feed material produced from the mine, and at the Lion One Geochemistry and Metallurgical Lab in Fiji.

The crushing circuit consists of two-stage crushing with a jaw crusher and a secondary cone crusher in closed circuit with a double deck screen. The comminution circuits, including two-stage grinding circuit, grind the mill feed to a grind size of 80% passing (P80) 60 to 65 µm or finer. As the throughput increases, the P80 increases from approximately 74 µm to 105 µm. The two-stage gravity separation circuit, including intensive cyanidation of the primary concentrators, are integrated with the secondary grinding mill to recover the coarse-free gold grains. The hydrocyclone overflow from the grinding circuit is concentrated by the secondary continuous gravity concentrator. The resulting secondary gravity concentrate is treated with a caustic pre-treatment prior to cyanide leaching. The secondary concentrator tailings are cyanide leached as well. CIL treatment is used for extracting gold from the mill feed.

The loaded carbon is stripped, and the pregnant solution is treated by a heated and pressurized electrowinning circuit to recover the gold from the solution. The pregnant solution from the intensive 7 cyanidation reactor is sent to a separate atmospheric electrowinning cell to recover gold and silver from the solution. The carbon stripping and gold electrowinning are operated in a closed circuit. Gold doré is produced from an electric furnace located on site. The leach residue is treated by cyanide destruction using the SO2/air process prior to being filtered and trucked to the Tailings Storage Facility ("TSF") for dry stacking.

## Mining Method

The Tuvatu deposit is being developed as an underground gold mine. An underground exploration adit was developed on the property in 1997 and Lion One commenced development of underground workings in early 2022. The first blast for the main portal took place in June 2022.

The underground is accessed through a 4.5 m wide by 4.5 m high decline. Decline and Incline development currently extends for 1,005 m and is still undergoing development. The previously developed 1997 adit is now an integral part of the fresh air (ventilation) system. Underground development is advancing through a combination of electric hydraulic jumbo and handheld mining methods. Production to date has been dominated by mechanised development, handheld development and handheld stoping, with mechanized long hole drilling and long hole open stoping being introduced in Q2 2024.

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**Appendix 1: Soil Survey Results**

**Table 3. Soil Survey Results and Sample Coordinates**.
Assay results >0.01 ppm Au, listed in descending gold grade. Coordinates are in Fiji map grid.

| Campaign | Sample ID | Easting | Northing | Elevation | Au (ppm) | As (ppm) | Cu (ppm) | Pb (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| West Grid | TUS042758 | 1875872 | 3920795 | 158 | 1.66 | 85.87 | 356.88 | 15.73 | 68.52 |
| West Grid | TUS042992 | 1876426 | 3919800 | 513 | 0.65 | 44.54 | 107.33 | 185.56 | 448.61 |
| West Grid | TUS029726 | 1876200 | 3920502 | 251 | 0.57 | 38.32 | 291.54 | 39.55 | 128.75 |
| West Grid | TUS042757 | 1875898 | 3920801 | 153 | 0.51 | 38.28 | 430.55 | 19.55 | 95.53 |
| West Grid | TUS042760 | 1875827 | 3920804 | 141 | 0.46 | 60.54 | 723.80 | 17.17 | 77.05 |
| West Grid | TUS043419 | 1876475 | 3919899 | 490 | 0.32 | 27.55 | 45.14 | 157.49 | 531.85 |
| West Grid | TUS043473 | 1876476 | 3919699 | 565 | 0.32 | 14.41 | 145.29 | 1026.32 | 625.58 |
| West Grid | TUS043040 | 1876450 | 3919600 | 566 | 0.30 | -2.00 | 200.42 | 418.29 | 1004.67 |
| West Grid | TUS042994 | 1876374 | 3919799 | 484 | 0.25 | 30.01 | 100.61 | 113.63 | 406.11 |
| West Grid | TUS042990 | 1876475 | 3919801 | 551 | 0.21 | 18.51 | 115.49 | 203.49 | 421.93 |
| West Grid | TUS042991 | 1876451 | 3919800 | 533 | 0.20 | 35.83 | 52.98 | 125.98 | 259.39 |
| West Grid | TUS043418 | 1876499 | 3919899 | 499 | 0.16 | 49.00 | 41.27 | 188.75 | 368.49 |
| West Grid | TUS043051 | 1876150 | 3919600 | 525 | 0.14 | 15.58 | 137.55 | 36.04 | 51.03 |
| West Grid | TUS043361 | 1876450 | 3920100 | 424 | 0.13 | 89.51 | 48.90 | 17.55 | 112.42 |
| West Grid | TUS042763 | 1875747 | 3920803 | 131 | 0.12 | 30.72 | 268.30 | 19.86 | 69.08 |
| West Grid | TUS043372 | 1876199 | 3920099 | 375 | 0.12 | 6.04 | 396.43 | 22.94 | 141.70 |
| West Grid | TUS043427 | 1876272 | 3919903 | 419 | 0.12 | 28.69 | 783.24 | 28.20 | 116.41 |
| West Grid | TUS042914 | 1875424 | 3920199 | 235 | 0.11 | -2.00 | 134.17 | 28.84 | 73.74 |
| West Grid | TUS043022 | 1875650 | 3919800 | 365 | 0.11 | 23.85 | 347.85 | 28.16 | 64.32 |
| West Grid | TUS042932 | 1876425 | 3920000 | 451 | 0.09 | 81.77 | 94.32 | 59.56 | 90.20 |
| West Grid | TUS043475 | 1876402 | 3919705 | 518 | 0.09 | -2.00 | 170.74 | 100.30 | 288.02 |
| West Grid | TUS029715 | 1875850 | 3920700 | 197 | 0.08 | 20.04 | 818.54 | 23.83 | 67.94 |
| West Grid | TUS042935 | 1876349 | 3920000 | 412 | 0.08 | 31.13 | 126.37 | 110.99 | 290.18 |
| West Grid | TUS042830 | 1876200 | 3920200 | 395 | 0.07 | 24.15 | 763.27 | 31.47 | 194.71 |
| West Grid | TUS042995 | 1876351 | 3919800 | 472 | 0.07 | 7.89 | 119.15 | 70.05 | 269.94 |
| West Grid | TUS042828 | 1876249 | 3920201 | 412 | 0.06 | 5.77 | 225.06 | 7.17 | 77.48 |
| West Grid | TUS042841 | 1875952 | 3920199 | 429 | 0.06 | 14.74 | 335.24 | 38.75 | 83.08 |
| West Grid | TUS042915 | 1875400 | 3920200 | 216 | 0.06 | -2.00 | 94.37 | 37.65 | 159.21 |
| West Grid | TUS042934 | 1876375 | 3920000 | 424 | 0.06 | 49.60 | 139.55 | 21.79 | 63.75 |
| West Grid | TUS043311 | 1876201 | 3920299 | 295 | 0.06 | 4.97 | 220.44 | 26.12 | 87.26 |
| West Grid | TUS043472 | 1876549 | 3919700 | 603 | 0.06 | -2.00 | 158.47 | 216.27 | 625.89 |
| West Grid | TUS043474 | 1876451 | 3919700 | 551 | 0.06 | 7.76 | 93.72 | 164.40 | 735.42 |
| West Grid | TUS043610 | 1877225 | 3921000 | 308 | 0.06 | 9.18 | 150.51 | 22.62 | 52.68 |
| West Grid | TUS042832 | 1876174 | 3920201 | 392 | 0.05 | 2.61 | 1328.20 | 84.90 | 460.19 |
| West Grid | TUS043602 | 1875570 | 3919501 | 395 | 0.05 | 7.93 | 175.16 | 28.39 | 60.61 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| West Grid | TUS043639 | 1876749 | 3920999 | 230 | 0.05 | 5.12 | 196.58 | 6.42 | 77.58 |
| West Grid | TUS042933 | 1876401 | 3920000 | 435 | 0.04 | 7.09 | 92.96 | 14.78 | 46.70 |
| West Grid | TUS042929 | 1876476 | 3920000 | 476 | 0.03 | 59.58 | 113.89 | 98.82 | 119.73 |
| West Grid | TUS042997 | 1876300 | 3919800 | 466 | 0.03 | 2.36 | 124.99 | 29.54 | 143.92 |
| West Grid | TUS043009 | 1875975 | 3919800 | 450 | 0.03 | 14.16 | 349.91 | 18.73 | 26.58 |
| West Grid | TUS043023 | 1875625 | 3919800 | 353 | 0.03 | 20.95 | 289.63 | 23.01 | 91.65 |
| West Grid | TUS043067 | 1875650 | 3919600 | 336 | 0.03 | 27.25 | 235.12 | 51.27 | 451.76 |
| West Grid | TUS043360 | 1876477 | 3920100 | 433 | 0.03 | 33.05 | 88.13 | 24.02 | 593.92 |
| West Grid | TUS042922 | 1876651 | 3920001 | 502 | 0.02 | 25.63 | 43.99 | 14.76 | 115.16 |
| West Grid | TUS043052 | 1876125 | 3919600 | 512 | 0.02 | 13.94 | 107.52 | 38.23 | 53.83 |
| West Grid | TUS043060 | 1875950 | 3919600 | 438 | 0.02 | 12.78 | 127.97 | 19.67 | 46.91 |
| West Grid | TUS043643 | 1876675 | 3921000 | 205 | 0.02 | 3.04 | 111.90 | 10.98 | 46.16 |
| West Grid | TUS042928 | 1876501 | 3920000 | 488 | 0.01 | 8.67 | 168.25 | 123.02 | 297.71 |
| West Grid | TUS043055 | 1876075 | 3919600 | 490 | 0.01 | 24.33 | 263.76 | 25.69 | 177.13 |
| West Grid | TUS043062 | 1875900 | 3919600 | 425 | 0.01 | 14.14 | 188.67 | 24.05 | 58.63 |
| West Grid | TUS043603 | 1875550 | 3919500 | 386 | 0.01 | 5.20 | 115.93 | 29.26 | 83.84 |
| West Grid | TUS043642 | 1876695 | 3921005 | 206 | 0.01 | 11.61 | 387.47 | 4.15 | 116.82 |
| West Grid | TUS043645 | 1877550 | 3920900 | 351 | 0.01 | -2.00 | 92.61 | 4.31 | 40.56 |

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# JORC Code, 2012 Edition – Table 1 report template

## Section 1 Sampling Techniques and Data

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

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Sampling techniques*** | • *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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *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.* | **SOIL SAMPLING**<br>• Samples are taken using a hand-auger drill with an extension rod (up to 2m).<br>• Samples are taken until C-horizon or depth of refusal. Depth is recorded.<br>• Each sample is 2 kg minimum.<br>• Presence of scree (colluvium) at the sampling site is recorded.<br><br>**DRILLING**<br>Core drilling, logging, and sampling at Tuvatu proceeded as follows:<br>• Diamond drillholes prefixed TUDDH are drilled from the surface, whilst those prefixed TUG are drilled from the underground. Holes TGC prefix are grade-control holes. All holes are completed with diamond drilling methods.<br>• The diamond drill holes included in the release, were drilled as follows:<br>• Lithological logging included rock type, mineralogy, weathering, alteration, texture, grainsize, lodes and geotechnical data where relevant.<br>• Each tray of drill core was photographed.<br>• Zones of mineralization defined by alkaline rich veining and brecciation, plus or minus sulphides or iron oxides after sulphides; are sampled selectively to minimize the effects of dilution by barren host rock. This selective sampling means |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | sample intervals can vary from 30 cm to 120 cm in length. The entire length of the drill hole is sampled.<br>• For grade control drillholes samples are composited where there is more than one consecutive >3.0 g/t Au interval.<br>• For infill and exploration drillholes samples are composited where there is more than one consecutive >0.5 g/t Au interval.<br>• Sample intervals were marked up on site.<br>• For exploration holes & resource holes: drill core is cut using a diamond core saw.<br>• |
| ***Drilling techniques*** | • *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).* | **SOIL SAMPLING**<br>• Hand-auger drill with extension rod (2m).<br><br>**GRADE CONTROL DRILLING**<br>• Grade control drilling is carried out using NQ core |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.* | • Diamond drill core sample recovery was measured and recorded during the drilling and logging process. In general, very little sample loss has been noted once the surface unconsolidated material has been drilled through.<br>• Triple tube diamond drilling is employed to minimize core loss.<br>• Sample recoveries are generally high. No significant sample loss was recorded with a corresponding increase in Au present. No sample bias is anticipated and no preferential loss/gain of grade material was noted. |
| ***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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* | **SOIL SAMPLING**<br>• Weathering log (A,B or C horizon) is recorded.<br>• Color, the presence of scree, and the presence of visible fresh or oxidized sulphides is recorded.<br><br>**EXPLORATION / RESOURCE DRILLING / GC DRILING** |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *The total length and percentage of the relevant intersections logged.* | • Lion One personnel geologically and geotechnical log the core on a continuous basis. Geological logs are of the detail to support appropriate Mineral Resource estimation. Lion One's Competent Person is managing the improvement of geotechnical logging of the core<br>• Diamond drill core logging database records collar details, collar metadata, downhole surveys, assays, weathering, lithology, alteration, Geotech, SG data and Lode tags.<br>• All drill holes were logged in full.<br>• All drill core is photographed. |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | **SOIL SAMPLING**<br>• For each sampling location two samples were taken (A & B). Sample A has been sent and assayed at Lion One Laboratory while sample B is kept for future reference, re-assay and eventually XRD testing.<br><br>**GRADE CONTROL DRILLING**<br>• Core is photographed<br>• Grade control drilling core is not cut prior to sampling, with cutting only for duplicate assay checks<br>• Sample intervals vary as determined by the geologist logging the hole depending on the visual potential to host mineralization.<br>• The core samples are bagged on site in sealed bags, placed in bound poly weave bags for transport.<br>• Samples are transported to Lion One's custom built geochemical and metallurgical laboratory at its Fiji Head office at Waimalika in Nadi, Fiji, where they are processed and assayed.<br>• Check samples are sent to Australian Laboratory Services Pty Ltd. (ALS), in Queensland, an independent accredited analytical laboratory.<br>• All samples were finely crushed (>75% passing through -2 mm) and a 1 kg split then pulverized (>85% passing through -75 µm).<br>• Field QAQC procedures included the insertion of 4% certified reference 'standards' and 2% field duplicates for all drilling.<br>• A sample size of between 2.5 and 4.5 kg is collected, depending on the length of the sample interval. This size is considered appropriate and representative of the material |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | being sampled given the width and continuity of the intersections, and the grain size of the material being collected. |
| ***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.*<br>• *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.*<br>• *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.* | • Samples are assayed at Lion One's custom built geochemical and metallurgical laboratory at its Fiji Head office at Waimalika in Nadi, Fiji, where they are processed and assayed.<br>• Once dried, soil samples are hand crushed using a rubber hammer and then sieved using a -80 stainless steel mesh.<br>• Prepared soil samples were analyzed using a 25g charge lead collection Fire Assay with AAS finish. This is an industry standard for gold analysis. All samples are then analyzed for a range of 23 elements with an aqua regia digest and ICP-OES finish. Lion One's laboratory is able to assay for 71 elements via ICP-OES but restricts that number to the 23 main elements at this point in time. Other elements are determined on an as required basis.<br>• No geophysical tools have been used at Tuvatu during this stage of work.<br>• Field QAQC procedures include the insertion of both field duplicates and certified reference 'standards'. For the soil survey, low value gold CRMs did not return any values indicating that the detection limit for the lab is above the CRM values. Higher value CRMs did demonstrate an acceptable level of accuracy and precision. Laboratory QAQC involves the use of external certified reference standards, as well as blanks, splits and replicates. Analysis of these results also demonstrates an acceptable level of precision and accuracy (in the part per million range).<br>• Laboratory QAQC procedures include the insertion of certified reference 'standards'.<br>• For the soil samples, four different low-grade gold CRM standards supplied by OREAS have been used by Lion One for quality control in this core sampling. These standards are submitted for every 50 samples.<br>• Field blanks are obtained from within the vicinity of the project by selecting an unmineralized outcrop of similar mineralogy and weathering as the sample being submitted. A representative number of blank material samples are submitted for analysis to provide reference concentrations of elements of interest.<br>• Assay results of CRM materials have not been satisfactory for low-grade CRMs. Lion One lab has failed to identify |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | successfully low grades (16 ppb, just below detection limit of 10 ppb and 49 ppb) suggesting the Fire Assay with AAS finish is not adapted for low-grade gold anomalies associated with soil surveys.<br>• These QAQC analyses suggest the results are biased and could only detect the higher grades (above 100 ppb).<br>• Duplicates are split by laboratory after sample preparation and are reported on in the process. |
| ***Verification of sampling and assaying*** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | **SOIL SAMPLING**<br>• The 2024 soil sampling program is overlapping in places with some of the historic soil samples (1991 Grid by Noranda-Geopacific and 2004 Ridge and Spur by Emperor Gold Mine).<br>• Results indicate the assay are not detecting the low grade samples (below 50-100 ppb) but are consistent in terms of anomaly shape and size.<br><br>**DRILLING**<br>• All drill holes and any significant intersections were visually verified by Company geologists.<br>• No twinned holes have been completed in this set of results.<br>• No adjustments to assay data have been undertaken.<br>• Primary data, including geological logs and assay results are centralized and controlled by a dedicated data manager. |
| ***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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | **SOIL SAMPLING**<br>• Survey was done using an Android Tablet using a GIS application (Esri Field Map).<br>• Horizontal accuracy is estimated to be +/- 5m in open ground.<br>• Grid system is Fiji Map Grid (FMG).<br><br>**DRILLING**<br>• All drill hole collars are surveyed by a mine surveyor<br>• Coordinates are relative to Fiji Map Grid. A down hole survey was conducted by a gyroscopic survey tool at the conclusion of each hole.<br>• Aerial topographic data was collected in 2013. Detailed ground surveys have also been undertaken by independent survey companies in Fiji. Results from the DGPS are compared with this topographic data as a double check. |

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| Criteria | JORC Code explanation | Commentary |
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| | | • Lion One has used an NSS-MOSS-I-TS16 to allow it to more accurately locate collars on the surface and underground. This equipment will allow accuracy within 10 mm. |
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | **SOIL SAMPLING**<br>• Sample locations were designed to be spaced at 25m intervals on 100m spaced lines. Some variation in the actual locations occurred due to local vegetation and topography. Actual sample locations were recorded by handheld GPS.<br>• The depth of sampling was recorded on the sample logs, including the soil horizon that was sampled.<br><br>**DRILLING**<br>• The drill spacing for the reported exploration results are variable due to access<br>• Sample intervals are variable and sample lengths can vary from 30 cm to 120 cm. Reported intersections are then composited. For infill and grade control drilling, intersections in excess of 3.0 g/t Au are included over the variable thicknesses. For exploration drilling, intersections in excess of 0.5 g/t Au are included over the variable thicknesses. Reported intervals are drill thicknesses.<br>• Grade control drilling is aimed to be spaced sufficiently to establish targets for mine planning and mineral resource estimation |
| ***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.*<br>• *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.* | **SOIL SAMPLING**<br>• West-East soil lines were designed to transect the projected North-South strike of the Tuvatu deposit.<br><br>**DRILLING**<br>• Drilling is preferably orientated perpendicular to structures where possible, but due to the access, it is often difficult to locate drill collars in the preferred or ideal location.<br>• The nature of the mineral system includes mineralised structures in multiple orientations and as such, in some cases, drilling is oriented sub-parallel to individual structures. However, the overall zone of structures is intersected at appropriate angles.<br>• No orientation-based sampling bias has been identified in the data |

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| Criteria | JORC Code explanation | Commentary |
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| | | |
| ***Sample security*** | • *The measures taken to ensure sample security.* | **SOIL SAMPLING**<br>• Chain of custody is managed by Lion One. Samples are collected in the field in the presence of at least one geologist. Once returned from the field they are bagged and sealed on site, and then transported to the Lion One office in Fiji (16 km away), where they are processed and analyses. For check samples to be sent to ALS in Australia, the samples are inspected by the Fiji Mineral Resources Department (MRD), before an export licence is granted.<br>• The samples to be sent to ALS in Australia are then collected by DHL couriers, an internationally recognized courier transport company, who subsequently transport them to Australia for sample analysis.<br>• Sample results (assays) are loaded into an onsite relational database which is managed by a dedicated database manager.<br><br>**DRILLING**<br>• The following specific security measures were used during the life of the Tuvatu project.<br>• Visible free gold is rare and off-site laboratories have been used to check the Company's own laboratory results<br>• Chain of custody is managed by Lion One. Core is cut and sampled in the presence of at least one geologist and two or three field technicians. Samples are bagged and sealed on site, and then transported to the Lion One office in Fiji (16 km away), where they are processed and analyses. For check samples to be sent to ALS in Australia, the samples are inspected by the Fiji Mineral Resources Department (MRD), before an export licence is granted.<br>• The samples to be sent to ALS in Australia are then collected by DHL couriers, an internationally recognized courier transport company, who subsequently transport them to Australia for sample analysis.<br>• Sample results (assays) are loaded into an onsite relational database which is managed by a dedicated database manager. |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | • Sampling techniques have been subject to audits and reviews by external geologists including advisor to the Company, Darren Holden of GeoSpy Pty Ltd, a Fellow of the AusIMM and competent person under JORC. |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • Data is routinely reviewed by company geologists and database manager. Other reviews include periodical reviews by external consultants during resource estimation processes. |

## 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*** | • *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.*<br>• *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 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.<br>• SML 62, SPL1283, SPL1296, and SPL1465 are in good standing and no known impediments exist. SPL 1512 is in the process of renewal.<br>• 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*** | • *Acknowledgment and appraisal of exploration by other parties.* | • 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*** | • *Deposit type, geological setting and style of mineralisation.* | • Tuvatu deposit is one of several alkaline gold systems situated along the >250 km Viti Levu lineament in Fiji.<br>• Most of the mineralization is hosted by late Miocene to early Pliocene monzonite which has intruded the late Oligocene – middle Miocene volcanic breccias.<br>• 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. |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • 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.<br>• Elemental pathfinder associations have been well established through a series of academic studies on the Tuvatu deposit. |
| ***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>○ *easting and northing of the drill hole collar*<br>○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>○ *dip and azimuth of the hole*<br>○ *down hole length and interception depth*<br>○ *hole length.*<br>• *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.* | **POINT SAMPLES**<br>• All sample point logistics of those samples reported in this news release include:<br>• easting and northing of sample point,<br>• elevation,<br><br>**DRILLING**<br>• All drill holes logistics of those holes reported in this news release include:<br>• easting and northing of drill hole collar,<br>• elevation,<br>• dip and azimuth of hole,<br>• hole length,<br>• downhole length, and<br>• interception depth.<br>• And where known, true width. |
| ***Data aggregation methods*** | • *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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | **POINT SAMPLES**<br>• No aggregration methods have been applied to point sample data<br><br>**DRILLING**<br>• All reported assays have been length weighted if appropriate. No top cuts have been applied. A nominal 3.0 g/t Au lower cut off has been applied for infill and grade control drilling. A nominal 0.5 g/t Au lower cut off is applied for exploration drilling.<br>• High grade gold (Au) intervals lying within broader zones of Au mineralization are reported as included intervals. In calculating the zones of mineralization, internal dilution has been allowed.<br>• Composite for Underground and drill data are completed based on geological structure with both wide lower grade and narrow high-grade reported in the body of the release. |

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| Criteria | JORC Code explanation | Commentary |
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| ***Relationship between mineralisation widths and intercept lengths*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *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').* | **POINT SAMPLES**<br>• No orientation data is available for the potential mineralization detailed in this report. As such the relationship between sample distribution and true width is unknown.<br><br>**DRILLING**<br>• Drill azimuth and dips are such that intersections are orthogonal to the expected orientation of mineralization where possible. Due to the access this is often not the case.<br>• True widths are reported where geological control and drill spacing allows. |
| ***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.* | • Diagrams within the body of the release. |
| ***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.* | • Data is reported with both low and high-grades in the body of the release and the appendices. |
| ***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.* | • In the context of this release, no other substantive data is omitted. The Company has on-going exploration and development. |
| ***Further work*** | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* | • The Company is continuing with drilling for grade control, as well as underground development to expose the main lodes. |

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| | • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • Further soil sample campaigns will be conducted. These have not yet been designed but will initially look to extend the mineralised trend to the north and south. |

## Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
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| ***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.*<br>• *Data validation procedures used.* | • The database is maintained by a dedicated Database Manager<br>• Sub-sets of primary records (surveys, logs and assays) are compared to the database export to ensure end to end replication of data.<br>• Greg Mosher conducted an audit of assay certificates compared to database gold values and did not find any discrepancies |
| ***Site visits*** | • *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br>• *If no site visits have been undertaken indicate why this is the case.* | • Greg Mosher visited the site between 26/03/2024 and 08/04/2024. Throughout the site visit Mr. Mosher inspected the laboratory, underground workings, underground exposed geology, underground drilling, core processing facilities (logging, sampling and storage) and core processing practices (logging, sample mark-up, core sawing, sample collection and core storage). |
| ***Geological interpretation*** | • *Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.*<br>• *Nature of the data used and of any assumptions made.*<br>• *The effect, if any, of alternative interpretations on Mineral Resource estimation.*<br>• *The use of geology in guiding and controlling Mineral Resource estimation.*<br>• *The factors affecting continuity both of grade* | • Geological interpretation was conducted using Leapfrog software.<br>• Wireframes were constructed as either a “vein model” (veins) or “intrusion model” (stockwork zones).<br>• Mineralisation wireframes were truncated on modelled structures where relationships could be observed or inferred from existing data.<br>• Mineralisation wireframes were extrapolated from areas of high confidence (mapping/close spaced drilling) to areas of |

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| | *and geology.* | lower confidence.<br>• Mineralised trends were identified based on mapping, measured structures from orientated core or adjacent logging/assay data.<br>• Where the mineralisation trend has not been adequately closed off by drilling the wireframe was projected beyond the last data point by the adjacent drill spacing to a maximum of 60m.<br>• Where mineralization has been closed off by drilling the wireframes were tapered to a closure midway between the two data points.<br>• Alternative mineralisation wireframe methods were trialed (numerical grade interpolants, wireframe construction methods, application of structural framework) as part of the interpretation process. The MRE wireframes were selected as they provided the best fit to the observed data and progressively added data (new drilling or mapping).<br>• Due to the highly variable expression of gold mineralisation ICP multi-element assay data was occasionally used to confirm mineralised fluid pathways and guide the wireframes.<br>• The addition of subsequent drilling and underground development has confirmed that the wireframes are an acceptable predictor of mineralisation location. |
| ***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.* | • Wireframed mineralisation occurs over a strike length of 850m (north to south), an across strike length of 800m (east to west) and a vertical extent of 795m.<br>• Individual lenses/zones have much shorter strike/vertical extents which range from 10's of meters to 100's of meters.<br>• Individual lenses/zones have across strike distances ranging from 0.1m to 15m<br>• Modelled mineralisation extends from surface to ~500m below sea level. Note that topography throughout the site is variable with the plant site at 125m above sea level and the highest wireframed mineralisation at approximately 300m above sea level |

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| | | • The block model had origins of (WGS84)<br>X 1875716<br>Y 3920170<br>Z -600<br><br>• The model culminated at the following coordinates (WGS84)<br>X 1876850<br>Y 3921154<br>Z 500 |
| ***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.*<br>• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*<br>• *The assumptions made regarding recovery of by-products.*<br>• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*<br>• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*<br>• *Any assumptions behind modelling of selective mining units.*<br>• *Any assumptions about correlation between* | • Where the following information is unclear or incomplete the full MRE report is available on SEDAR.<br>• Variography of non-zero composite values was conducted in Sage 2001 software.<br>• Estimations were performed in SGS Genesis<br>• The competent person deems the estimation techniques, data treatments, domaining, estimation and search parameters to be appropriate to the mineralisation<br>• Domaining – domains were based on closed wireframes which were constructed in Leapfrog 2023.2. The wireframe construction method is described above. The wireframe domains were treated as hard boundaries for the estimation process<br>• Estimation Techniques – Where sufficient data was present variograms were generated for each domain and an Ordinary Kriging estimate was performed. Where insufficient data was present for generating variograms (minimum of 98 composites), Inverse Distance (squared) estimate was used. Blocks were estimated on a partial percentage basis.<br>• Estimation Passes – Each wireframed domain the gold grades were estimated in two passes<br>• Search Distances – Search distances varied by domain and were determined based of the domain geometry and sample |

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| | *variables.*<br>• *Description of how the geological interpretation was used to control the resource estimates.*<br>• *Discussion of basis for using or not using grade cutting or capping.*<br>• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.* | characteristics. Search Ellipse parameters are available in full from MRE Report on SEDAR.<br>• Minimum/Maximum samples – Minimum/Maximum samples used to inform blocks varied by domain and search pass. In all first pass estimations a minimum of two holes were required to inform a block. For pass one in the wireframed domains a minimum of 4 samples and a maximum of 16 samples were used. For the pass two a block could be informed by a single hole with a minimum of 2 samples and a maximum of 16 samples.<br>• Data Treatments<br>  ○ Compositing – raw samples were composited to a nominal 1m length partitioned by the domain boundaries.<br>  ○ Grade Capping – Cumulative frequency plots were generated for each domain for the purposes of assessing of a top cap was necessary. Capping was not applied if there was no discernable break in the cumulative frequency trend line. Grade capping thresholds were reviewed after the initial estimation. Where necessary they were adjusted (up or down) ensure the estimate reflected the declustered composite grades.<br>  ○ Where necessary composites were declustered.<br>• Block Size – Blocks were sized 4m x 2m x 4m in the North, East and Vertical directions respectively. Partial percentages of blocks within domains were coded within each block. Blocks had 2, 1 and 2 discretisation points in the North, East and Vertical directions respectively.<br>• Selective Mining Units – the mining methods available at Tuvatu (hand held mining) ensure that the block size is suitable when related to the smallest Selective Mining Unit.<br>• Data coverage for other elements is not currently extensive to deliver a reliable estimate. |

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| ***Moisture*** | • *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.* | • The model estimate is on a dry basis. |
| ***Cut-off parameters*** | • *The basis of the adopted cut-off grade(s) or quality parameters applied.* | • Economic evaluations provided by Lion One indicate that a 3 g/t cut off is currently appropriate for reporting of the MRE |
| ***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.* | • Mining factors (mining geometries, recovery and dilution) are considered as part of the mine planning and Reserve Estimation process. |
| ***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.* | • Previous metallurgical studies indicate that metallurgical factors are not required to be considered as part of the MRE – there are no spatial considerations.<br>• Recovery factors are applied as part of the mine planning and Reserve Estimates. |
| ***Environmental factors or assumptions*** | • *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of 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* | • Tuvatu is a fully permitted operation and currently operates in accordance with it's environmental management plan and relevant legislation. This includes provisions for waste and processing residue.<br>• Additional environmental factors were not considered during the resource estimation |

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| | *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.* | |
| ***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.*<br>• *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.*<br>• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.* | • 4,801 bulk density measurements were used to inform the estimate. The measurements were portioned into each domain and interpolated. If there was insufficient data for an interpolant the average domain density was assigned. If there was insufficient data for a reliable domain average the global average was used.<br>• The global average was 2.61 g/cm$^3$<br>• Bulk density was measured by weighing a dried sample in air then in water. |
| ***Classification*** | • *The basis for the classification of the Mineral Resources into varying confidence categories.*<br>• *Whether appropriate account has been taken of all relevant factors (ie 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).*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.* | • Classification was interpolated into the model using an Inverse Distance (squared) estimate based on the following criteria<br>• Measured – Minimum number of 16 samples form at least 2 holes within 15m of the block<br>• Indicated -– Minimum number of 8 samples form at least 2 holes within 30m of the block<br>• Inferred -– Minimum number of 2 samples form at least 1 hole within 250m of the block |
| ***Audits or reviews*** | • *The results of any audits or reviews of Mineral Resource estimates.* | No formal independent audits or reviews have been conducted. |
| ***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* | • The accuracy of the MRE was assessed by three methods: 1) visual comparison of assay grades with proximal block grades; 2) comparison of average assay, composite, and block grades for each |

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| | *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.*<br>• *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.*<br>• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | domain; and 3) swath plots. All three methods indicate good correspondence between the block model and underlying data. |

Remaining Sections “Section 4 Estimation and Reporting of Ore Reserves”, and “Section 5 Estimation and Reporting of Diamonds and Other Gemstones” not applicable to this release.