**26 March 2024**

# Iltani awarded CEI grant to fund Orient Deep Diamond Drill Hole

Critical minerals and base metals explorer **Iltani Resources Limited** (ASX: ILT, "Iltani" or "the Company") is pleased to announce that it has been awarded a grant to fund drilling a deep diamond drill hole at the Orient silver-indium discovery through Round 8 of the Collaborative Exploration Initiative (CEI) under the Department of Resources' Queensland Resources Industry Development Plan.

## HIGHLIGHTS:

- Iltani receives a $299,000 grant through Round 8 of the Collaborative Exploration Initiative (CEI) under the Queensland Department of Resources' Industry Development Plan.
- The CEI is designed to directly support innovative exploration activities aimed at the discovery of critical minerals in Queensland. The grant provides strong validation by the Queensland Department of Resources for the Orient Project and the work undertaken to date by Iltani to develop the company's silver-indium discovery.
- CEI funding will contribute to drilling a deep diamond hole (to ~750m vertical depth) in order to test a large scale geophysical anomaly located beneath the Orient West silver-lead-zinc-indium mineralised system plus conduct a Downhole Electromagnetic (DHEM) survey on completion of the deep diamond drill hole.
- The drill hole will seek to confirm the potential for a porphyry system at depth, and combined with the DHEM survey, will enable Iltani to better understand the architecture of the Orient system, in particular the source of mineralising fluids and potential larger accumulations of mineralisation (copper and/or tin) associated with the porphyry at depth.
- Iltani expects to commence the deep diamond hole following completion of its Stage 2 RC drilling program at Orient, which is scheduled to commence towards the end of April 2024.

**Iltani Managing Director Donald Garner** commented:

*"We are pleased to receive this CEI funding from the Queensland Department of Resources which will enable Iltani to complete our first deep diamond hole at Orient.*

*The hole will target a deep geophysical anomaly located below the Orient West silver-lead-zinc-indium mineralisation. This mineralisation has an epithermal texture and is associated with a broad area of hydrothermal alteration (phyllic, argillic and propylitic) which envelops the mineralised structures and as such is believed to be the upper levels of an epithermal-porphyry system.*

*The deep geophysical anomaly is potentially representative of the intrusion (porphyry) which is believed to be present at depth under the Orient system and the likely fluid source for the epithermal silver-lead-zinc-indium mineralisation*

*We will continue to drill the shallower epithermal mineralisation at Orient, with plans to get the drill rig back at the end of April to complete the remaining Stage 2 RC drill holes. Once this round of drilling has been completed, we will then mobilise the diamond rig to Orient West to test the deeper porphyry target.*

*The diamond hole will be the deepest hole drilled to date at Orient and is incredibly exciting as we will start to see what sits at depth under Orient".*

## 1. Orient Project – Deep Diamond Hole

Iltani is pleased to announce it has been awarded a grant of $298,738 (excluding GST) for the Orient Deep Diamond Drill Hole proposal through the Collaborative Exploration Initiative (CEI) Round 8 under the Department of Resources' Queensland Resources Industry Development Plan. The diamond drill hole will be drilled at Iltani's Orient Project which is located on EPM 27223, approximately 20km west of the historic mining town of Herberton and 9km north of Irvinebank in Northern Queensland (refer to Figure 1).

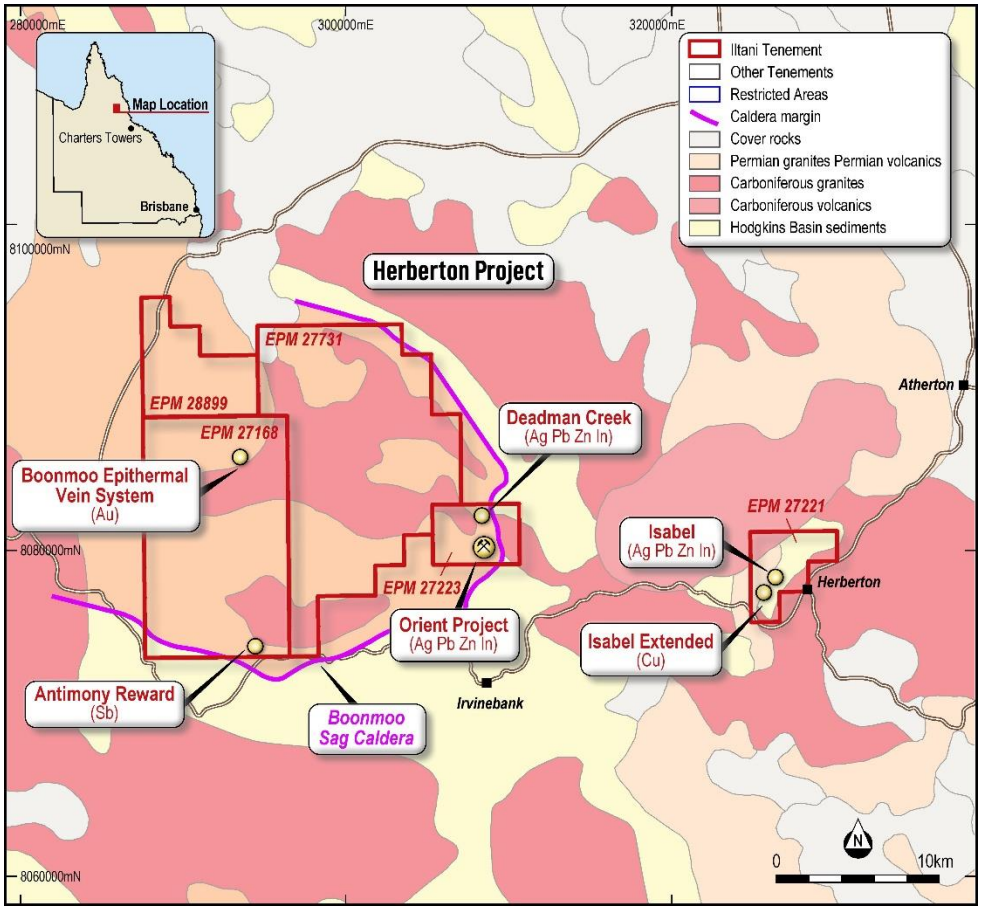
In line with the CEI operating to support 'proof of concept' exploration activities; the proposed Orient drill hole is designed to test the following concepts:

- Confirm the presence of vertical zonation in the vein system (mineralisation and alteration);
- Target the geophysical anomaly (large low resistivity, variable chargeable, magnetic body at depth that underpins (potentially sources) the shallower epithermal mineralisation at Orient); and
- Seek to determine the presence of a porphyry/igneous intrusion at depth and gain a better understanding of the likely fluid source for the epithermal silver-lead-zinc-indium mineralisation.

The diamond hole is planned to be drilled to a vertical depth of 750-800m and will be cased to allow a DHEM survey to be conducted when the hole is completed.

The drill hole will confirm the potential for a porphyry system at depth, and combined with the proposed DHEM survey, will enable Iltani to better understand the architecture of the Orient system, in particular the source of mineralising fluids and potential larger accumulations of mineralisation (copper and/or tin) associated with the potential porphyry system at depth.

Figure 1 Orient Location and Regional Geology



## 2. Proposed Hole Design

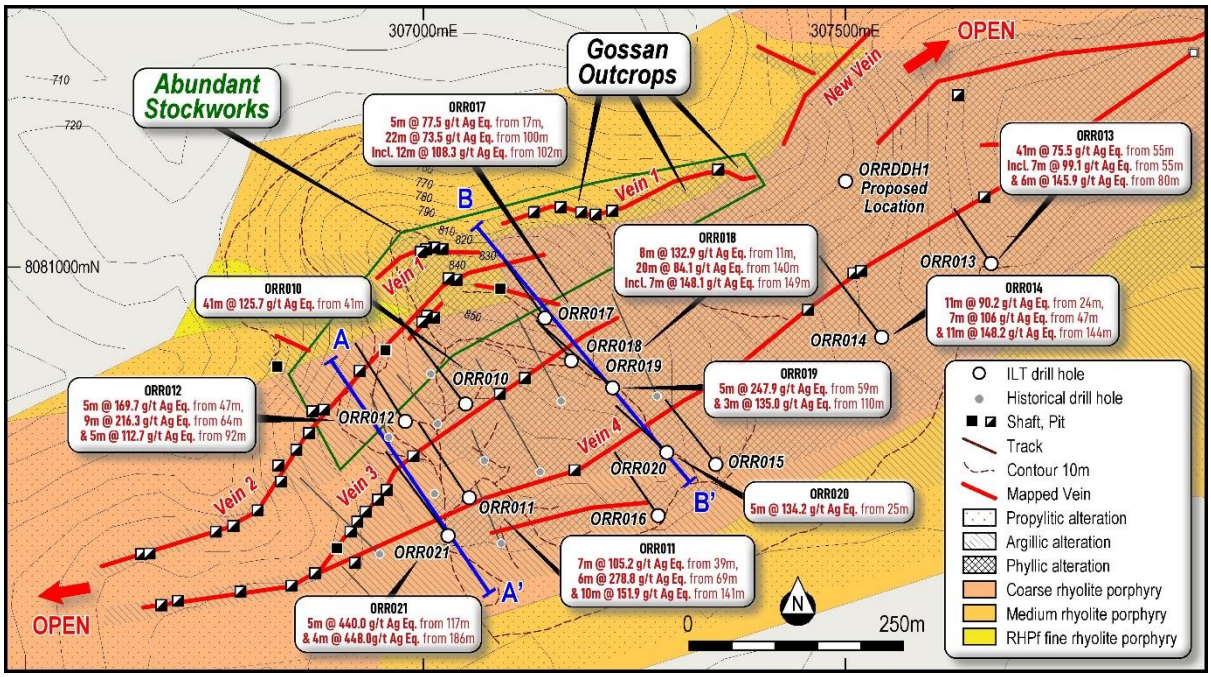
The proposed drill hole has the following design parameters:

Table 1 Orient DDH Design Parameters

| DH ID | Northing | Easting | Elevation (m) | Dip | Azimuth (Grid) | Length (m) | Vertical Depth (m) |
|---|---|---|---|---|---|---|---|
| ORRDDH1 | 8081100 | 307500 | 815 | 80 | 140 | 800 | ~750 |

The hole would be collared in the centre of the Orient West vein tension array
Figure 2) and drilled on an azimuth of 140 (approx. SE). The proposed location is near ORR013 and ORR014 and Iltani will extend the existing access tracks to the proposed collar site.

Figure 2 Orient DDH Proposed Collar Location




The hole will be drilled for the first 100m as HQ diameter, then cased off and the remainder (700m) drilled as NQ2 diameter and lined, enabling a Downhole Electromagnetic (DHEM) survey to be undertaken when the hole is completed.

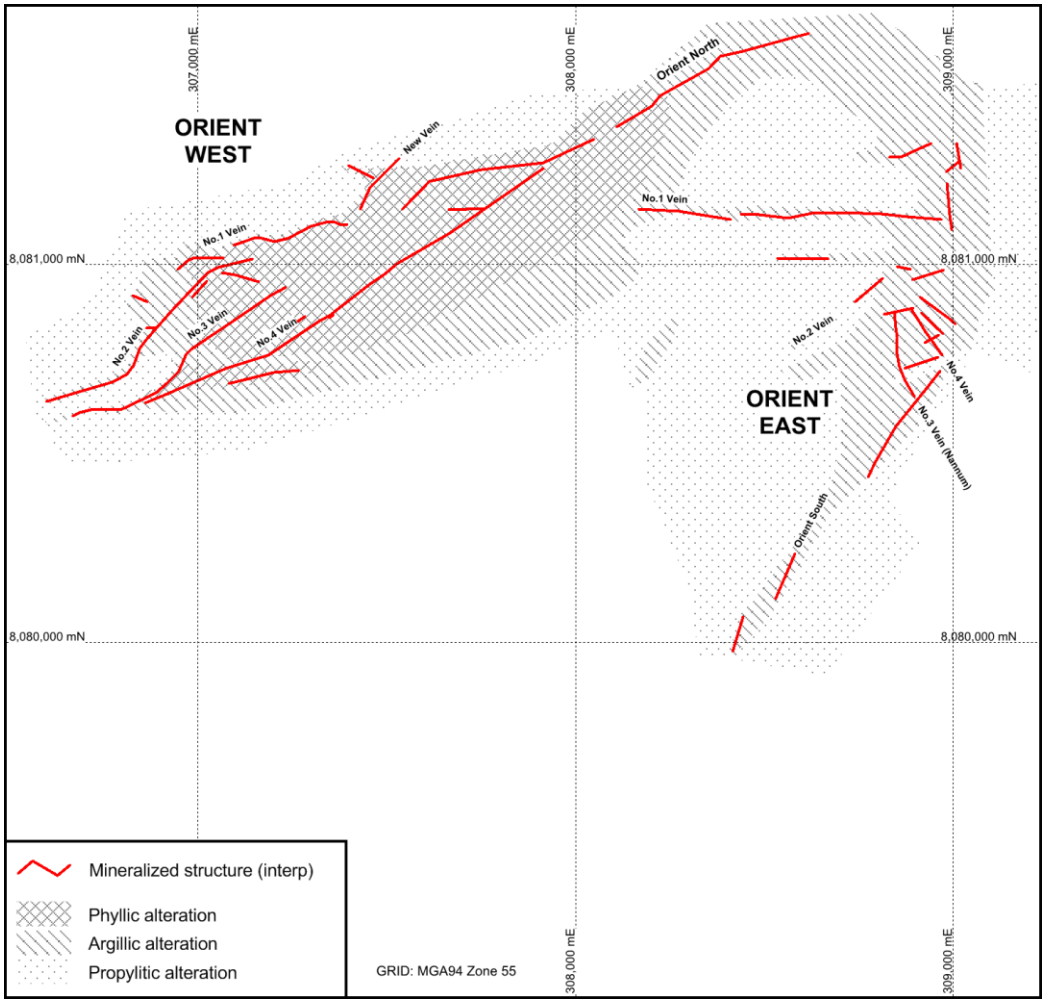
The mineralisation discovered to date at Orient is chargeable, low resistivity and has a magnetic signature. A DHEM survey will give increased insight into the spatial location of the mineralisation system at depth and potentially generate additional targets for follow up drilling.

Iltani has engaged Mitre Geophysics Pty Ltd to design and process the DHEM survey data.

## 3. Orient Geological Model

Exploration carried out to date at Orient has defined an extensive epithermal vein system extending over at least 4km$^2$ and hosted primarily in a porphyritic rhyolite unit. A broad area of hydrothermal alteration (phyllic, argillic and propylitic) envelops the mineralised structures. The implication of epithermal conditions of formation suggests that the system is likely to exhibit vertical zonation from lead-silver dominant in upper parts to zinc rich in deeper parts and possibly to copper and/or tin dominant at greater depths.

Figure 3 Orient Project Alteration (Tate, 2023)




Quartz is generally rare in the mineralised veins, but where present, it commonly has colloform-crustiform banding, ultra fine comb and saccharoidal textures. The bands of quartz are interlayered with crustiform bands of sulphide, particularly sphalerite. This strongly indicates epithermal conditions at the time of mineralisation. This is unusual for a system that contains significant tin. However, the position of the Orient prospect inside the caldera suggests that it may represent the upper parts of a porphyry system preserved by downward movement during collapse of the caldera.

Figure 4 Colloform crustiform banded quartz and sphalerite ore from Orient West (Tate, 2023)

The Orient System shares some attributes with the conceptual porphyry tin deposit model as defined by Sillitoe, Halls and Grant (1975), notably:

- Extensive zinc, indium, silver and lead mineralisation (both as high grade veins and stockworks)
- Pervasive zoned phyllic, argillic and propylitic alteration (refer to Figure 3)

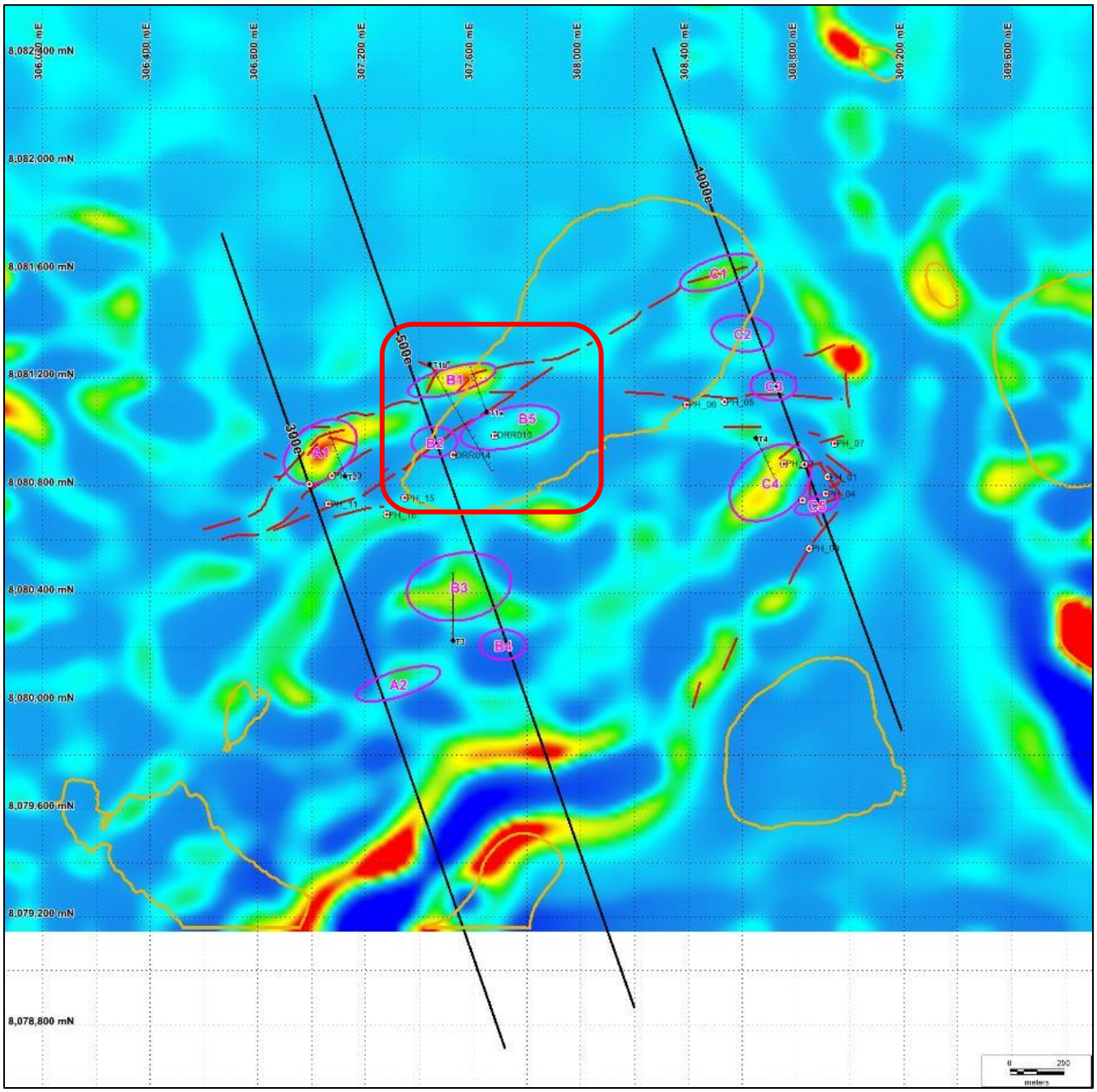
## 4. Geophysical Interpretation and Targeting

Iltani engaged geophysical consultant Dave McInnes (Montana GIS), to reprocess historical geophysical data (dronemag, IP and resistivity) compiled from Orient, combined with the data generated by Iltani's initial RC drilling program (downhole geochemistry and magnetic susceptibility data).

Review of this combined model demonstrates the mineralisation is chargeable and has a low resistivity signature that is also magnetic. The characterisation of these three physical properties, presents multiple untested targets across the project area. The geophysical targets were reviewed and ranked, with multiple targets generated (Figure 5).

Target B5 was selected as the highest priority deep target and is a large low resistivity, variably chargeable, magnetic body at depth that underpins (potentially sources) the shallower mineralisation as demonstrated by the following cross sections.

Figure 5 B5 Deep Target Orient West (McInnes, 2023)




*Magnetic model depth slice (100m). Deep magnetic susceptibility outline (0.015SI)*

As Figure 6 to Figure 8 demonstrate, B5 is a compelling target. The sections also include the proposed deep diamond drill hole which is planned to test B5.

In addition to the deep target (B5), the review generated an additional eleven targets along section lines 300e, 500e and 1000e (section lines corresponding to historical dipole-dipole induced polarisation survey lines). A number of these targets will be tested as part of the Stage 2 RC drilling program, scheduled to commence towards the end of April.

Figure 6 Section 500E chargeability model section with magnetic model susceptibility iso-surfaces

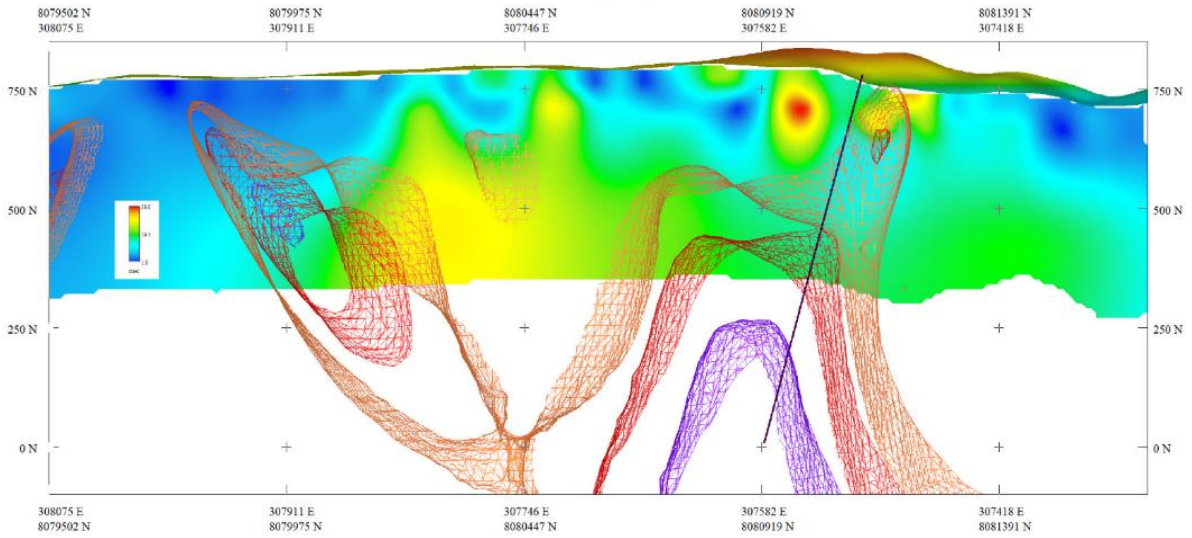



Figure 7 Section 500E resistivity model section with magnetic model susceptibility iso-surfaces

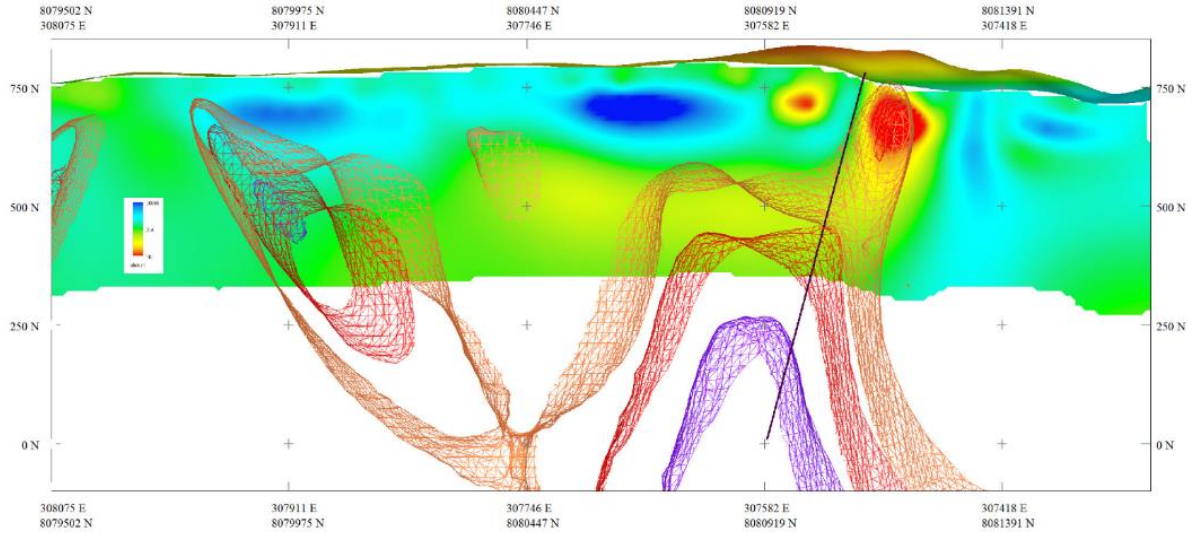
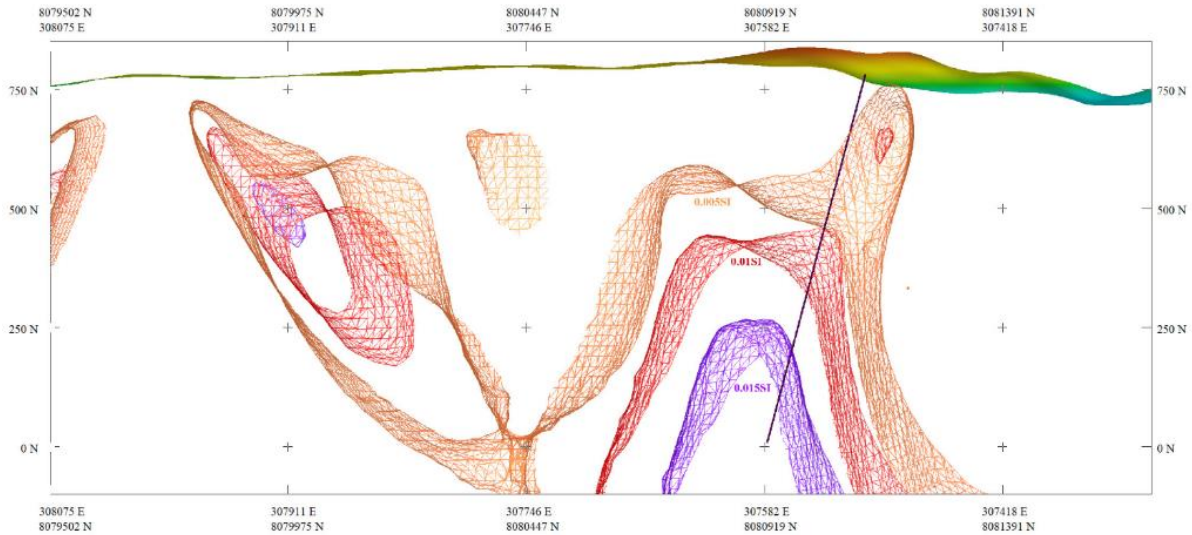



Figure 8 Section 500E magnetic model susceptibility iso-surfaces




Source: Target Identification based on 2023 drilling assessment with IP and Magnetic models (McInnes, 2023)

**Next Steps**

Iltani is currently working with the Mining One 3D model of the Orient System (Orient West, Orient East and Deadman Creek), plus the reprocessed geophysical data to optimise the proposed designs of the remaining Stage 2 RC drill holes.

Once this process has been completed, Iltani will engage with the First Nations group and landowners to begin site clearance and preparation activities, including the proposed location for the Orient deep diamond hole.

Iltani anticipates commencing the Stage 2 RC drilling program towards the end of April, and once this has been completed, will seek to mobilise the diamond drill rig to site to commence the deep diamond hole.

**References**

McInnes, D. (2023) Target Identification based on 2023 drilling assessment with IP and Magnetic models Ref: P23033

Sillitoe, R. H. Halls, C. and Grant, J. N. (1975) Porphyry Tin deposits in Bolivia. Economic Geology, Vol 70, pp 913 – 927.

Tate, N. (2023) Final Report: Summary Orient Silver and other prospects

**Authorisation**

This announcement has been approved for issue by Donald Garner, Iltani Resources Managing Director.

**Contact Details**

For further information, please contact:

**Donald Garner**
Managing Director
Iltani Resources Limited
+61 438 338 496
dgarner@iltaniresources.com.au

**Nathan Ryan**
Investor Relations
NWR Communications
+61 420 582 887
nathan.ryan@nwrcommunications.com.au

**Competent Persons Statement**

**Exploration Results**

The information in this report that relates to Exploration Results is based on information compiled by Mr Erik Norum who is a member of The Australasian Institute of Geologists (AIG), and is an employee of Iltani Resources Limited., and who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves' (JORC Code).

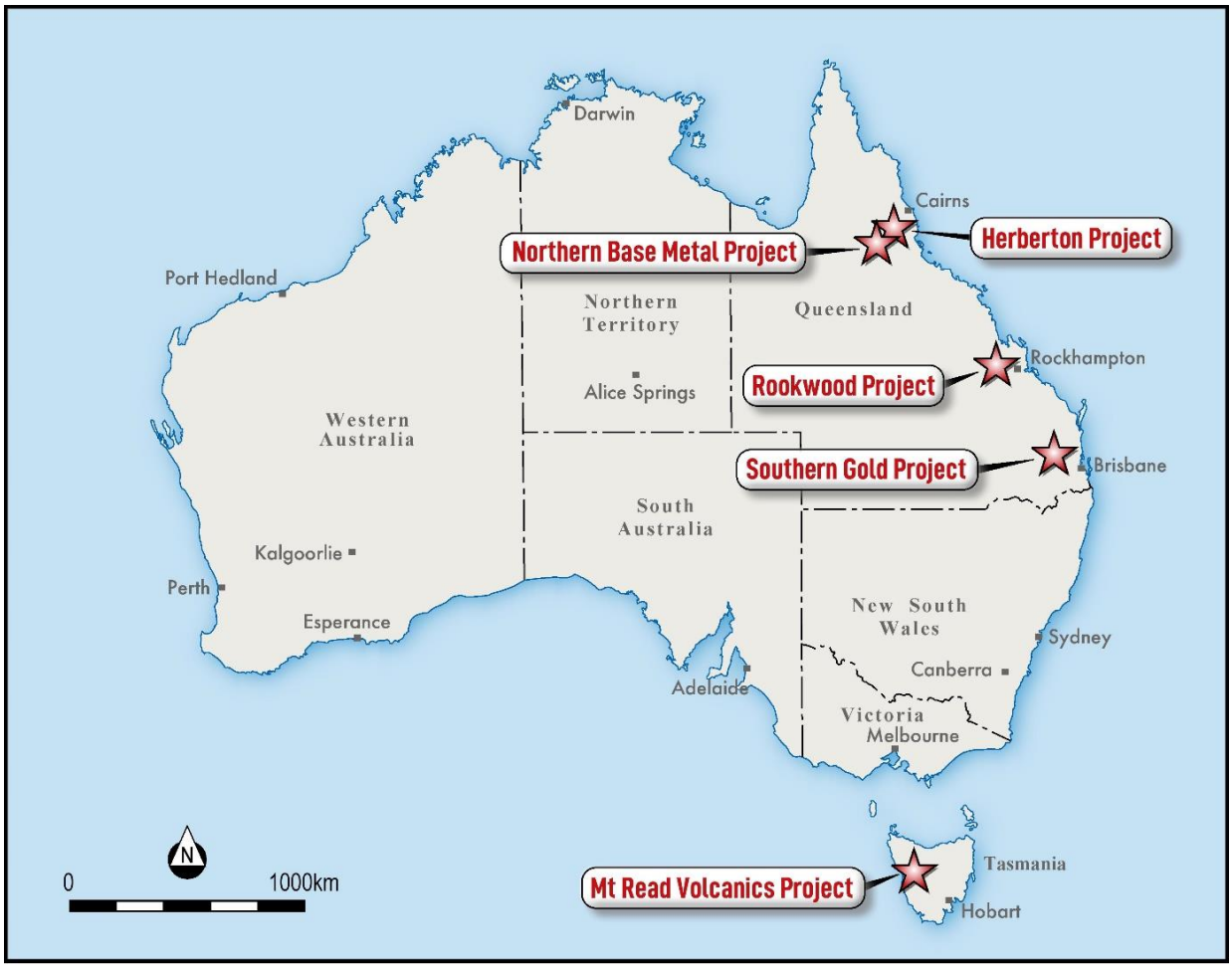
Mr Norum consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

**About Iltani**

Iltani Resources (ASX: ILT) is an ASX listed company focused on exploration of base metals and critical raw materials required to create a low emission future. It has built a portfolio of advanced exploration projects in Queensland and Tasmania with multiple high quality, drill-ready targets. Iltani has completed drilling at the Orient Silver-Indium Project, part of its Herberton Project, in Northern Queensland. The drilling has returned outstanding intercepts of silver-lead-zinc-indium mineralisation, positioning Orient as Australia's most exciting silver-indium discovery.

Other projects include the Northern Base Metal, Southern Gold and Rookwood Projects in Queensland plus the Mt Read Project, a highly strategic 99km$^2$ licence in Tasmania's Mt Read Volcanics (MRV) Belt, located between the world-class Rosebery and Hellyer-Que River polymetallic (CuPbZn) precious metal rich volcanic hosted massive sulphide deposits.

Figure 9 Location of Iltani Resources' projects in Queensland and Tasmania



**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 | • Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.<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 (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information. | • Iltani is reporting historical geophysical data<br>• Dronemag survey was completed in August 2020 with the follow specifications:<br><br>Drone: DJI Matrice UAV<br>Magnetometer: GEM Systems GSMP-35U<br>Drone and Base station: sensor. GSM-19/19F Overhauser Magnetometer<br>Line spacing: 20m<br>Line Orientation: North South<br>Flight Height/Terrain Clearance: 30m/25m (magnetometer on 5m cable below drone)<br>Drone Speed: 5-7m/sec<br>Sampling rate: 1,5,10,20 Hz<br><br>• Induced Polarisation (IP) survey was completed in April-May 2021 with the follow specifications:<br><br>Survey type: Dipole-dipole<br>Total lines and line Km: 3 lines for 7.18 line km<br>station spacing: 100m<br>Line spacing: 500 and 250m<br>Total stations: 175<br>Instrument: 2 x GDD IP transmitter and Receiver<br>Depth of survey: 300m, n=12 (12 channels) |
| Drilling techniques | • Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). | • No drilling is reported in this release |
| 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. | • No drilling is reported in this release |
| 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. | • No drilling is reported in this release |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.<br>• The total length and percentage of the relevant intersections logged. | |
| 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. | • No drilling is reported in this release |
| 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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. | • No assay data is reported in this release |
| 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. | • No assay data is reported in this release |
| 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. | • Location of drone magnetic data points and IP survey stations are in GDA1994 MGA Z55 UTM coordinates<br>• Drone magnetic survey data points were located using a GPS mounted on the drone with the location stored with the magnetic data. Accuracy was between 0.6m and 6.0m depending on the number of satellites and |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | terrain. Terrain clearance was maintained using terrain drape technology built into the drone and control equipment.<br>• Locations and elevations of the IP stations were recorded using a handheld GPS |
| 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. | • The drone magnetic data was collected at a rate of 20Hz with the drone flying at between 5 and 7m/s<br>• The line spacing was 20m and the terrain clearance was 25 to 30m with a drape height of 20m<br>• The IP survey stations were spaced at 100m intervals along the lines |
| 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. | • The drone magnetic survey lines were orientated north south<br>• The IP lines were orientated approximately 330 degrees to traverse perpendicular to the general trend of the geological units |
| Sample security | • The measures taken to ensure sample security. | • The data for each survey was transmitted at the end of each work day to their respective companies for processing and quality checking |
| Audits or reviews | • The results of any audits or reviews of sampling techniques and data. | • No audits or reviews have been carried out at this point |

**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. | • All exploration activities were conducted on EPM27223<br>• EPM27223 is wholly owned by Iltani Resources Limited<br>• All leases/tenements are in good standing |
| Exploration done by other parties | • Acknowledgment and appraisal of exploration by other parties. | • Exploration activities have been carried out (underground mapping, diamond drilling, surface geochemical surveys and surface mapping, pre-feasibility study) by Great Northern Mining Corporation and Mareeba Mining and Exploration over the West and East Orient areas from 1978 to 1989.<br>• Exploration activities have been carried out (soils and rock chip sampling) around Orient West and East by Monto Minerals Limited from 2014 to 2017<br>• Red River Resources carried out mapping, sampling and geophysical exploration (drone mag survey and IP survey) in 2020 and 2021. |
| Geology | • Deposit type, geological setting and style of mineralisation. | • Mineralisation occurs in vein systems up to 2m wide (controlled by fractures/shears) containing argentiferous galena, cerussite, anglesite, sphalerite, pyrite, marmatite, cassiterite (minor), and stannite (minor).<br>• The lead-zinc-silver-indium mineralisation at Orient is believed to represent part of an epithermal precious metals system. The Orient vein and stockwork mineralisation are associated with a strongly faulted and deeply fractured zone near the margin of a major caldera subsidence structure |
| 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, including, easting and northing, elevation or RL, dip and azimuth, down hole length, interception depth and hole length.<br>• If the exclusion of this information | • No new drilling is reported in this release |

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>is justified the Competent Person should clearly explain why this is the case.</td><td></td></tr>
<tr><td>Data aggregation methods</td><td>• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.<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.</td><td>• No data aggregation methods have been used.<br>• Metal equivalents are used (silver equivalent)<br>• The equivalent silver formula is Ag Eq. = Ag + (Pb x 35.5) + (Zn x 50.2) + (In x 0.47)<br><br>Metal Equivalent Calculation - Recoveries and Commodity Prices<br><table><tr><td>Metal</td><td>Price/Unit</td><td>Recovery</td></tr><tr><td>Silver</td><td>US$20/oz</td><td>87%</td></tr><tr><td>Lead</td><td>US$1.00/lb</td><td>90%</td></tr><tr><td>Zinc</td><td>US$1.50/lb</td><td>85%</td></tr><tr><td>Indium</td><td>US$350/kg</td><td>85%</td></tr></table><br>• It is Iltani's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.</td></tr>
<tr><td>Relationship between mineralisation widths and intercept lengths</td><td>• 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 (e.g. 'down hole length, true width not known').</td><td>• No new drilling is reported in this release</td></tr>
<tr><td>Diagrams</td><td>• 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 plans and sections.</td><td>• Refer to plans and sections within report</td></tr>
<tr><td>Balanced reporting</td><td>• 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.</td><td>• The accompanying document is considered to represent a balanced report</td></tr>
<tr><td>Other substantive exploration data</td><td>• Other exploration data, if meaningful and material, should be reported.</td><td>• All meaningful and material data is reported</td></tr>
<tr><td>Further work</td><td>• The nature and scale of planned further work (e.g. tests for lateral</td><td>• Exploration of the target area is ongoing. Iltani plans to follow up on the positive</td></tr>
</table>

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | extensions or depth extensions or large-scale step-out drilling). | drilling results with the remainder of the planned Stage 2 drill program. Further field work including mapping and rock chip/soil sampling and drilling is planned |