11 April 2024

Multiple New Chargeability Trends Identified at the Historic Mount Irene Mine

GAIP survey has uncovered chargeability highs in line with reef trend at the historic Mount Irene Mine

Highlights

- **March 2024 Gradient Array Induced Polarisation survey reveals multiple new and encouraging chargeability targets to the NW at Mount Irene.**
- **The survey indicates potential for extensions to the known mineralised reefs at Mount Irene, along trend to the NW.**
- **Litchfield to apply for the Innovative Targeting Grant from the Northern Territory Geological Survey ("NTGS") to complete an IP survey extending from Mount Irene to the Clark Mines to the west.**
- **A large aeromagnetic and radiometric survey (290km^2) to start mid - April, to expand geological interpretation and identify targets for exploration and drilling.**

Litchfield Minerals Limited (ASX:LMS) (**"Litchfield"** or the **"Company"**) is pleased to announce that the Gradient Array Induced Polarisation ("GAIP") survey carried out in March 2024 at the Mount Irene Prospect (EL 31305) has revealed a probable trend correlating with known surface outcrops, leading to the identification of new exploration targets (refer Figure 1).

The historic Mount Irene Mine is located in the northwest of the Mount Doreen tenement package in the Northern Territory, indicated by an orange circle (Figure 2). in the Northern Territory. The tenement hosts copper mineralisation which is associated with muscovite-bearing pegmatite and quartz veins that intrude folded and foliated, biotite–muscovite–andalusite–quartz schist and minor metasandstone of the Lander Rock Formation.

The GAIP survey results suggest the mineralised reefs at Mount Irene extend to the NW and are untested by drilling.

Matthew Pustahya, Managing Director commented on the success of our GAIP campaign and, our efforts and the upcoming aeromagnetic survey.

"We are extremely encouraged by the results from our positive GAIP survey at the Mount Irene prospect which is located in the Mount Doreen tenement in the Northern Territory.

The survey data has revealed a chargeability high that aligns with the Mount Irene mine workings, trending approximately 110 degrees magnetic.

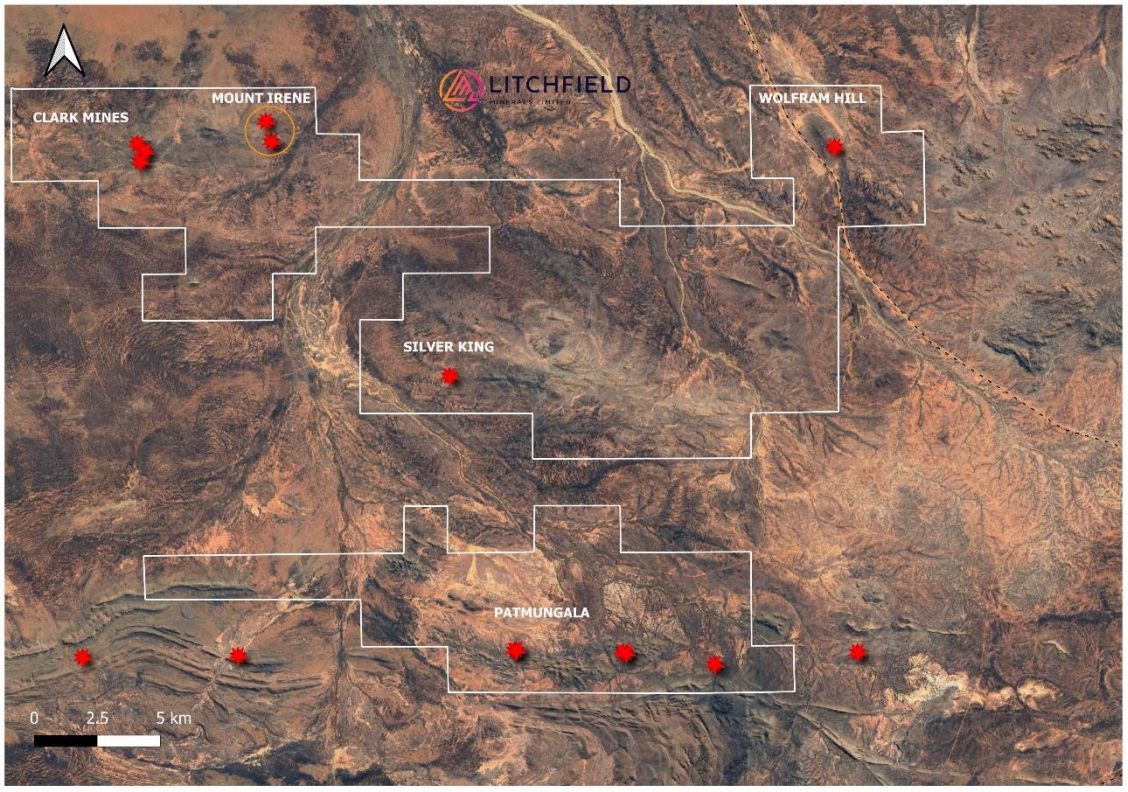

Figure 1 – Mount Doreen tenement Package (EL 31305) highlighting the Mount Irene area in the orange circle.

The positive outcomes of this GAIP survey have bolstered our confidence significantly. As a result, we are preparing to apply for an Innovative Targeting Grant through the NTGS.

"Our goal is to extend the survey coverage by 5 kilometres to the west, reaching the Clark Mines prospect.

"This is another positive step in advancing the Company's exploration efforts across our tenement package and we look forward to updating the market in the coming weeks."

Gradient Array Induced Polarisation Summary

In March 2024, the team at *Planetary Geophysics* successfully conducted an 800m wide by 1,450m long GAIP survey which was intended to complement and extend the 2023 GAIP survey efforts. Although the survey wasn't completed to its planned extent due to weather constraints, it revealed promising extensions to chargeability anomalies. These anomalies have the potential to be connected to the mineralised, copper rich veins previously mined at Mount Irene, displayed in Figures 3 and 4 & 5.

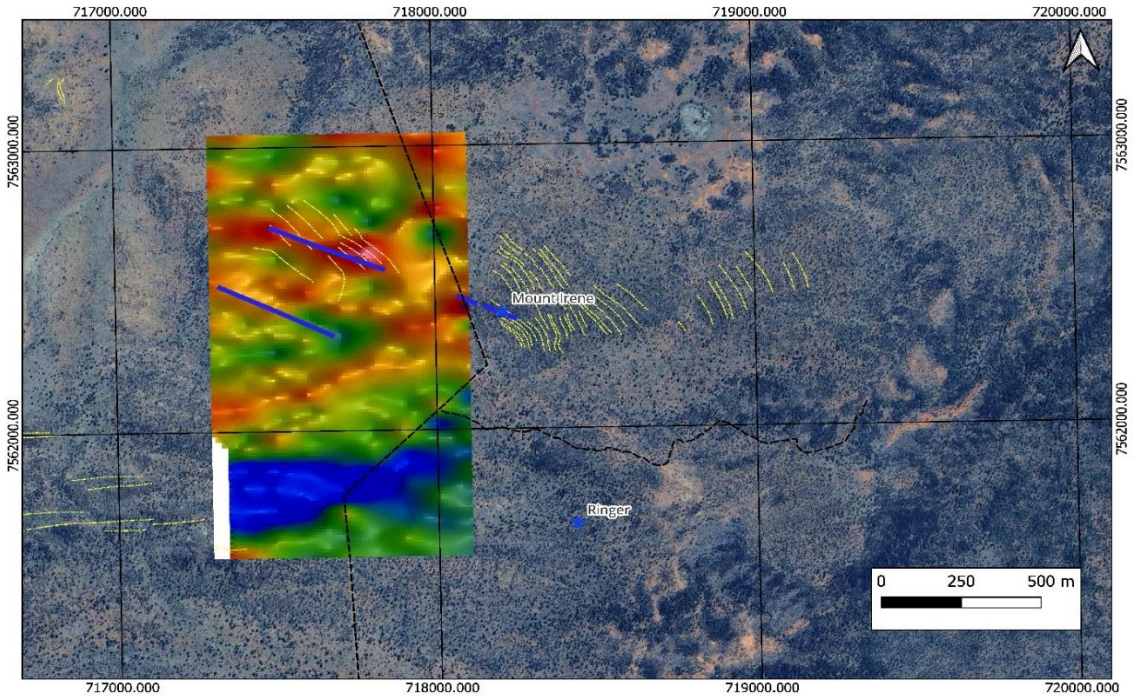

Figure 2 – Gradient Array Induced Polarisation (GAIP) chargeability image highlighting areas and extensions of known mineralisation demonstrating that the results extend along strike from the known mine workings.



Figure 3 - View to the northwest along one of the two mineralised reefs that were mined a Mount Irene



Figure 4 – A photo of one copper dump from the Mount Irene workings



Figure 5 – Matthew Pustahya testing various Copper bearing quartz reefs at Mount Irene

Both the 2023 and 2024 GAIP surveys successfully identified chargeability anomalies. The 2023 campaign which was roughly 1,100m wide by 1,200m long (Figure 6) indicates anomalies situated directly above previously known historical sites, in addition to uncovering new zones of chargeability.

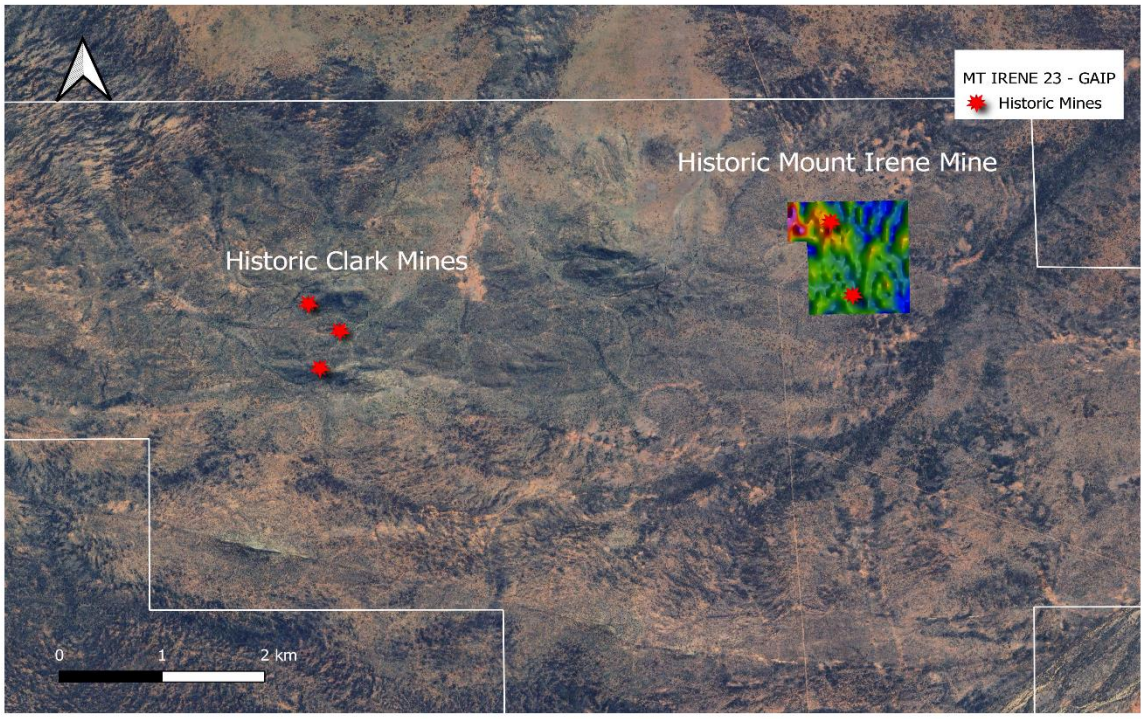

Figure6 – 2023 Gradient Array Induced Polorisation chargeability survey.

The 2024 GAIP survey highlights a chargeability trend of 110 degrees magnetic, which could represent extensions to known mineralisation which is shown in Figure 8. The results of the survey suggest potential mineralisation between the Mount Irene mine and the historic Clark Mines, located 5 kilometres to the west, based on the observed geological and structural similarities. The area between the Clark Mines and Mount Irene mines is below in Figure 7.

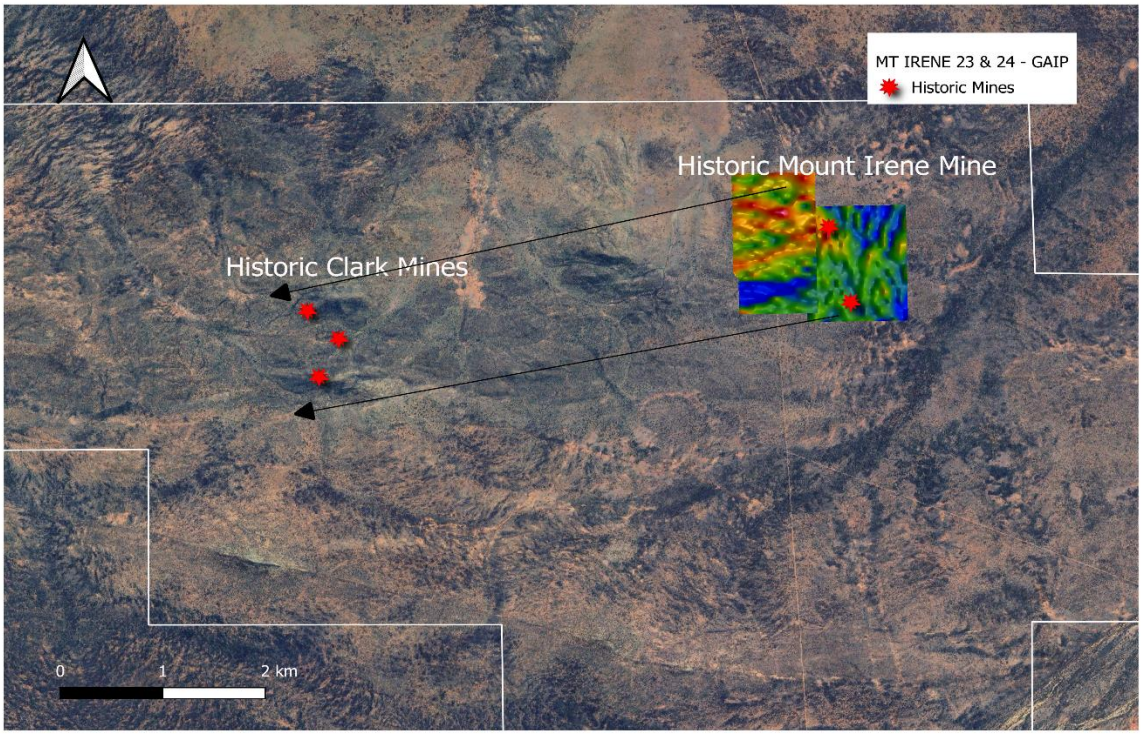

Figure 7 – The area between Mount Irene and Clark mines which we will be apply for an innovative targeting grant.

Figure 8, below, shows the 2024 GAIP survey and the known mineralisation, highlighted with the blue circle, which trends almost perfectly with the new chargeability anomalies defined by our March survey. These anomalies are the red structures highlighted below between the black parallel lines, which trend 110 Degrees Magnet

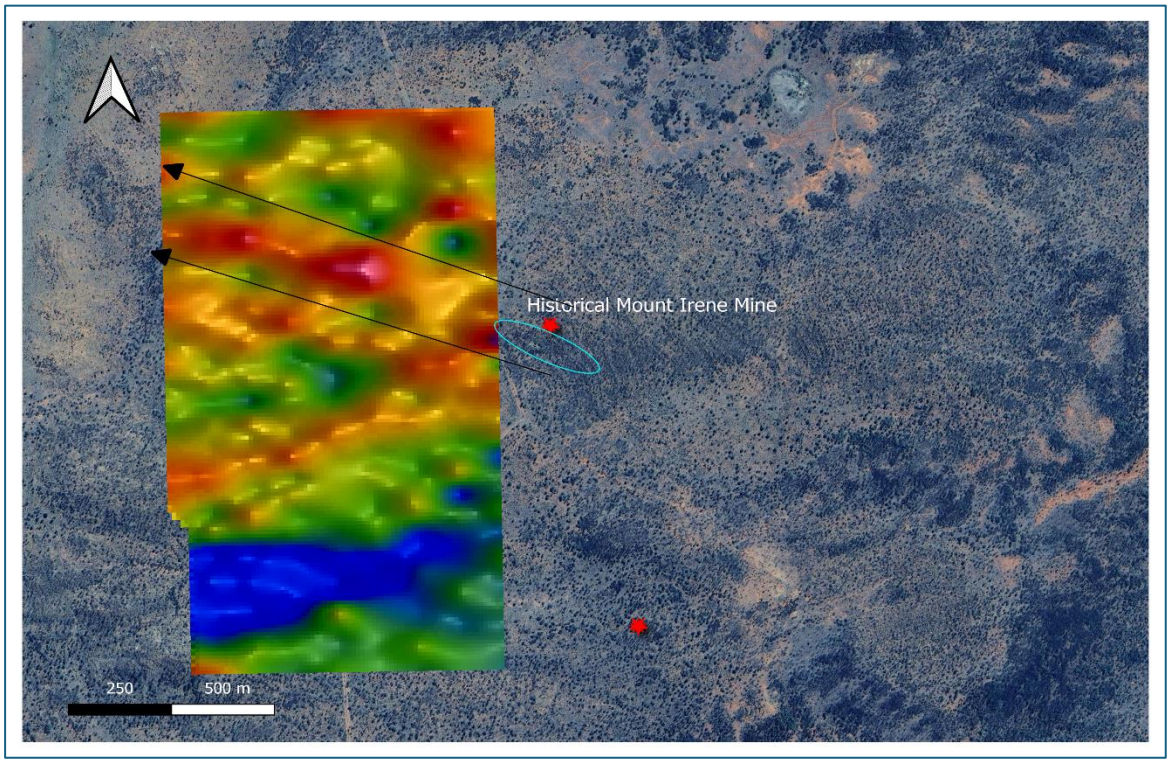

Figure 8 – Mt Irene prospect with chargeability image from the 2024 Gradient Array Induced Polarisation survey. The white parallel lines show the similarity in the trend of mineralisation at Mt Irene and the trend of the chargeability anomaly.

Airborne magnetic and radiometric survey deployed

Litchfield Minerals has engaged the services of *MAGSPEC Airborne Surveys* to carry out an airborne geophysical survey and associated data processing over the area highlighted below in Figure 9 which covers all of the Northern tenement boundaries of EL31305 at Mount Doreen. The airborne magnetic and radiometric survey is programmed to span approximately 290 km^2 of the tenement. The aim of the survey is to expand our geological interpretation capability and identify buried targets for further exploration, including drill testing.

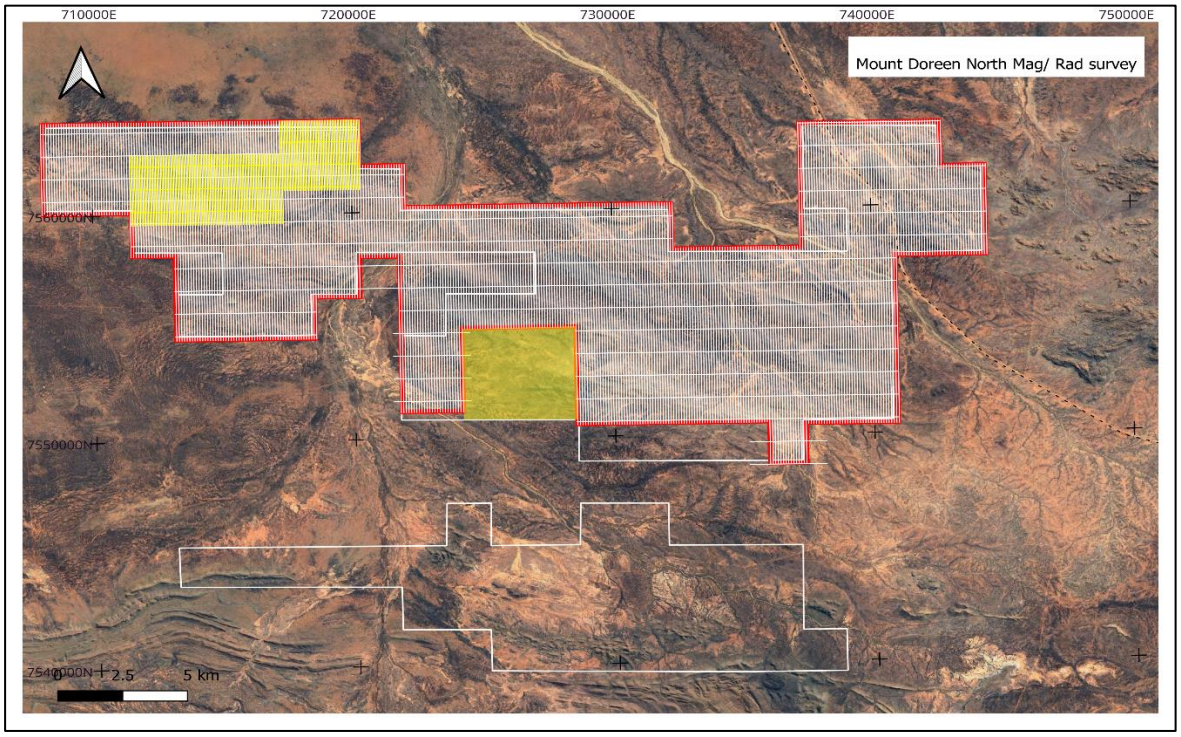

Figure 9 – The area of the lease to be flown at 100m line spacing (white) and 50m line spacing (yellow).

Figure 9 shows the aeromagnetic campaign, which will be flown by a Cessna 210, with an average survey height of 30m. The lines, flown north-south, will be spaced at 100m, except for the Mount Irene, Clark and Silver King areas (highlighted in yellow) which will be flown at 50m line spacing.

Geological context of the Mount Irene Prospect, Mount Doreen EL 31305

At the Historic Mount Irene mine (**Mt Irene**), in the northwest of the Mount Doreen tenement in the Northern Territory, copper mineralisation is associated with muscovite-bearing pegmatite and quartz veins that intrude folded and foliated, biotite–muscovite–andalusite–quartz schist and minor metasandstone of the Lander Rock Formation. The mineralisation in veins or lodes trends approximately northwest to southeast (110 degrees magnetic).

Mount Irene lies 5 kilometres east of Clark 3, possibly broadly along strike. Residual regolith terrain in the area forms low flat rises rather than the steep rugged hills at Clark. The workings comprise two parallel quartz-veined shears. The copper workings lie along a broad zone of outcropping bedrock and residual lag gravels over an east-west strike length of 13 kilometres.

About Litchfield Minerals

Litchfield Minerals is a critical mineral explorer, primarily searching for base metals and uranium out of the Northern Territory of Australia. Our mission is to be a pioneering

copper exploration company committed to delivering cost-effective, innovative and sustainable exploration solutions.

We aim to unlock the full potential of copper and other mineral resources while minimising environmental impact, ensuring the longevity and affordability of this essential metal for future generations.

We are dedicated to involving cutting-edge technology, responsible practices, and stakeholder collaboration drives us to continuously redefine the industry standards and deliver value to our investors, communities and the world.

Competent Person Statement

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr. David Esser who is a Member of the Australian Institute of Geoscientists (MAIG). Mr. Esser is a consultant to Litchfield Minerals Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Esser consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to the Company's new Exploration Results. Mr. Esser has advised that this consent remains in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters in the market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

The announcement has been approved by the Board of Directors.

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JORC Code, 2012 Edition – Table 1 report

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.	N/A as no sampling is reported.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	N/A as no sampling is reported.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	**Induced Polarisation** (IP) Geophysics in this release was completed using the following equipment; ● Iris Elrec 10 channel IP/Resistivity Receiver for the GAIP survey ● IP/Resistivity time series data was acquired with V-Full Waver IP/Resistivity Receivers in a distributed pole-dipole array and with the I-Full Waver Current Recorder recording full wave form transmission data ● Tip 6000 15amp transmitter for GAIP survey ● GDD TX4 5000W / 20amp transmitter for PDIP survey ● Kubota 9KW generator ● Handheld GPS ● Field processing computer

CRITERIA	JORC Code Explanation	Commentary
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).	N/A as no drilling is described in this announcement.
DRILL SAMPLE RECOVERY	Method of recording and assessing core and chip sample recoveries and results assessed.	N/A as no drilling is described in this announcement.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	N/A as no drilling is described in this announcement.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	N/A as no drilling is described in this announcement.
LOGGING	Whether core and chip samples have been geologically and geotechnical logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	N/A as no sampling is reported.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	N/A as no sampling is reported.
	The total length and percentage of the relevant intersections logged.	N/A as no drilling is described in this announcement.
SUB-SAMPLING TECHNIQUES	If core, whether cut or sawn and whether quarter, half or all core taken.	N/A as no drilling is described in this announcement.

CRITERIA	JORC Code Explanation	Commentary
AND SAMPLE PREPARATION	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	N/A as no sampling is reported.
	For all sample types, the nature, quality, and appropriateness of the sample preparation technique.	N/A as no sampling is reported.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	N/A as no sampling is reported.
	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.	N/A as no sampling is reported.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	N/A as no sampling is reported
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.	N/A as no sampling is reported.
	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.	N/A as no sampling is reported.
	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	**Quality of IP Data** ● 15 x 800m lines of Gradient Array Induced Polarisation (GAIP) survey

CRITERIA	JORC Code Explanation	Commentary
	precision have been established.	• Equipment used is listed under sampling techniques above • A gradient array (GAIP • configuration were used over the Wolfram Hill prospect • Data QAQC and analysis was completed by RAMA Geoscience • Raw IP data supplied by Planetary Geophysics was imported into TQIP, an IP quality control and processing software package. Individual chargeability decays from each station were inspected and any noisy decays , bad repeat readings, or readings with low primary voltage were flagged in the database and were not used in processing • 2D inversion modelling was completed on the IP data
VERIFICATION OF SAMPLING AND ASSAYING	The verification of significant intersections by either independent or alternative company personnel.	There is no drilling data reported in this announcement and no significant sampling or assay intersections require independent verification.
	The use of twinned holes.	N/A as no drilling is described in this announcement.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	N/A as no sampling is reported.
	Discuss any adjustment to assay data.	N/A as no sampling is reported.
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.	**IP Survey:** IP locations were obtained using a handheld Garmin 'Map 65' GPS in GDA94 MGA Zone 52K.
	Specification of the grid system used.	The co-ordinate system used in the tenement is MGA zone 52, GDA94 Datum.
	Quality and adequacy of topographic control.	Quality of the topographic control data is poor and is currently reliant on public domain data.
DATA SPACING	Data spacing for reporting of Exploration Results.	N/A as no sampling is reported.

CRITERIA	JORC Code Explanation	Commentary
AND DISTRIBUTION	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.	**IP Survey:** 100m line spacing with 50m Dipole spacing for GAIP; 150 – 500m line spacing with 50m dipole spacing along the line.
	Whether sample compositing has been applied.	N/A as no drilling is described in this announcement.
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.	IP lines were designed to cross the trend of lithology and mineralisation at right angles
	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.	N/A as no drilling is described in this announcement.
SAMPLE SECURITY	The measures taken to ensure sample security.	N/A as no sampling is reported.
AUDITS OR REVIEWS	The results of any audits or reviews of sampling techniques and data.	N/A as no sampling is reported.

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.	Refer to Section 4 in Independent Geologists Report (IGR) by Ross et al, 2023. The Mount Doreen project is secured by EL 31305 for total of approximately 388.35 square kilometres.

CRITERIA	JORC Code explanation	Commentary
	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.	Refer to Section 4 in Independent Geologists Report (IGR) by Ross et al, 2023. Tenement EL 30305 is in good standing.
EXPLORATION DONE BY OTHER PARTIES	Acknowledgment and appraisal of exploration by other parties.	Refer to Section 6 and 7 in Independent Geologists Report (IGR) by Ross et al, 2023. A summary of previous exploration and mining is presented below. 1930- 1956: Minor amounts of copper and tungsten extracted from Silver King, Clark, Mount Irene and Wolfram Hill. 1969: NT Mines & Water Resources diamond drilling at Clark workings. 1987 – 2006: White Industries/Mareeba Mining, Bruce and Miles, MIM Exploration/Roebuck Resources, Track Minerals, Poseidon Gold/Yuendumu Mining, BHP, Homestake Gold, Rio Tinto Exploration and Tanami Gold completed geological mapping, geochemical sampling, airborne and ground geophysical surveys, and drilling programs.
GEOLOGY	Deposit type, geological setting, and style of mineralisation.	Refer to Section 5 in Independent Geologists Report (IGR) by Ross et al, 2023. Mount Doreen is located in the southern portion of the Paleoproterozoic Aileron Province of the Arunta Region. The oldest rocks at Mount Doreen are the multiply deformed and metamorphosed siliciclastic sediments of the Lander Rock Formation. The younger volcano sedimentary Patmungala Beds lie in the south of the tenement, and both are intruded by the Yarunganyi Granite. Numerous major faults strike close to east-west and often contain veins or vein swarms of quartz, forming ridges. Neoproterozoic to Palaeozoic sedimentary rocks of the Ngalia Basin overlie the Aileron basement in the southwest of the tenement and along the southern boundary. Mineralisation at Wolfram Hill is considered to be epigenetic intrusion-related and comprises vein / pegmatite hosted wolframite and oxide copper mineralisation, which trends north-west and dips

CRITERIA	JORC Code explanation	Commentary
		steeply to the north-east. For more details refer to the IGR by Ross et al, 2023.
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: Easting and northing of the drill hole collar. Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar. Dip and azimuth of the hole. Down hole length and interception depth. Hole length.	N/A as no drilling is described in this announcement.
	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.	N/A as no drilling is described in this announcement.
DATA AGGREGATION METHODS	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	No material drill results were reported.
	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.	N/A as no aggregation of data is described in this announcement.

CRITERIA	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent reporting was undertaken.
RELATIONSHIP BETWEEN MINERALISATION WIDTHS AND INTERCEPT LENGTHS	These relationships are particularly important in the reporting of Exploration Results.	No material drill results are reported.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	No material drill results are reported.
	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').	No material drill results are reported.
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.	Refer to Section 6 and 7 in Independent Geologists Report (IGR) by Ross et al, 2023
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.	Balanced reporting of Exploration Results is presented (refer to Section 6 and Section 7 in Independent Geologists Report (IGR) by Ross et al, 2023).
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	The Mount Doreen Project includes stream sediment geochemical data, soil sample and rock chip data, geological mapping data, open hole percussion drilling data, and airborne magnetics that have been collected by other companies. This data is undergoing data capture. Litchfield Minerals: Ground geophysics surveys comprising Gradient Array IP and follow up Pole-dipole IP at Wolfram Hill were conducted by Planetary Geophysics.

CRITERIA	JORC Code explanation	Commentary
	density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Refer to Appendix B for the IP survey specifications. RAMA Geoscience undertook data QAQC, Gradient Array gridding and imaging and 2D Pole-dipole Inversion modelling..
FURTHER WORK	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	Refer to Section 8 in Independent Geologists Report (IGR) by Ross et al, 2023. Litchfield plans to conduct surface geological mapping and geochemistry, ground geophysics and drilling across five high-priority target areas over the next two years.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Refer to Section 6 and Section 7 in Independent Geologists Report (IGR) by Ross et al, 2023 .