ASX Announcement | 21st October, 2024

Litchfield Set for Year-End Drilling Campaign on VTEM, IP & Gravity Targets

Highlights

- 3D geophysical plate modelling of Priority 1 targets identified by VTEM has been completed.
- Priority bedrock conductors were modelled on the Silver King, Patmungula Copper & Lead, Clark and the Anomaly 4 target areas.
- Modelling has given Litchfield the confidence to move forward with Ground EM surveys to refine drill targets in preparation for drilling in November 2024.
- Topdrill has been contracted to drill up to 2,000m across the Patmungula VTEM targets the, Mount Irene IP, and Dumunzi Gravity targets, pending the results from ground surveys.
- Priority has been on modelling data to progress fieldwork and drilling, the modelling for the remaining priority 2, 3, and 4 conductors is yet to be completed.

Litchfield Minerals Limited (**"Litchfield"** or the **"Company"**) **(ASX:LMS)**, a company with a strategic emphasis on critical minerals, is pleased to announce the completion of VTEM modelling at the Mt Doreen project.

Managing Director and CEO, Matthew Pustahya, commented:

"We are pleased with the completion of the 3D geophysical plate modelling of the Priority 1 targets identified in the VTEM survey at Mt Doreen. This important step has provided us with the confidence to proceed with ground EM surveys over the Patmungula area to refine drill targets for our upcoming drilling campaign. Our team remains committed to efficiently progressing our high-potential targets identified through VTEM, IP & Gravity, with drilling scheduled to commence in mid-November 2024."

Next Steps

Litchfield Minerals is advancing towards a significant exploration phase, with modelling confirming that the strongest VTEM conductors are located at the Silver King and two Patmungula anomalies. While previously identified Anomaly 4 and the Clark Mine conductors are now considered lower priorities, our end of year focus will be exclusively on these higher-impact targets.

At Silver King, the conductor plates align perfectly with the magnetic body tested during our initial drill campaign, eliminating the need for further drilling in this area. Instead, all efforts will be concentrated on the Patmungula anomalies, where Litchfield has engaged Planetary Geophysics to carry out moving loop ground EM surveys over 10-line kilometres, which has already commenced.

In addition, Planetary Geophysics will leverage its IP equipment to further refine the Patmungula Lead target, where negative late-time responses suggest an IP effect. At Mount Irene, additional pole-dipole IP lines will define the boundaries of a strong 35mV/V chargeability anomaly.

To accelerate our exploration campaigns, Topdrill has been contracted for up to 2,000 metres of RC drilling, set to begin in mid-November 2024. The specific drilling areas will be determined by the results of the ground MLEM and IP surveys. If everything proceeds as expected. We aim to complete drilling at the two Patmungula targets, Mount Irene and the Dumunzi areas this year.

Priority 1 VTEM results

Geophysical plate modelling of the five high priority VTEM conductors at the Mt Doreen project has been completed by Russell Mortimer at Southern Geoscience Consultants. Detailed modelling identified bedrock conductors at the Silver King, Patmungala Lead and Patmungala Copper prospects (**Figure 1)**.

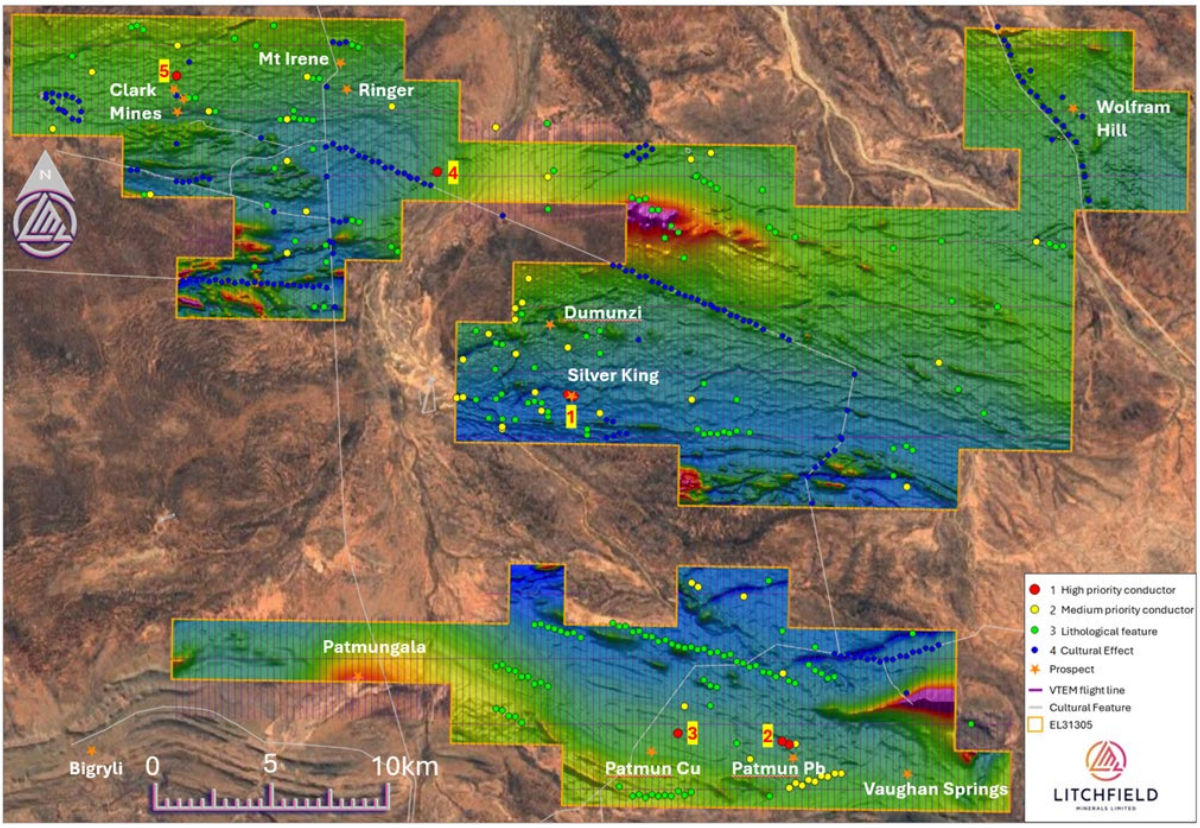

***Figure 1**. Mt Doreen project RTP_SunN_Lin magnetic image showing the location of five high-priority VTEM targets.*

Silver King (Anomaly 1)

Modelling indicates that the Silver King anomaly is the only target that persists through to the latest time channels (**Figure 2**). A discrete anomaly is evident on two lines but most prominent on line L1861. Strong anomalism is detected in the Z and X component with a less strong, but detectable, Y component. The anomaly is coincident with the previously identified

Silver King mineralisation[1]. The modelling shows consistent results from channels 17 through to 40 and defines a 75m x 75m plate with a depth to top of 60 – 100m. The conductor is likely discordant, trending almost north-south and steeply dipping (likely to the east), sitting between VTEM lines L1850 and L1861. The modelled plate is coincident with IP chargeability and airborne magnetic anomalies and has been adequately tested with drilling (**Figure 3**).

Mt Doreen VTEM Anomaly 1 (Silver King)
Plan view with Channel 25 Z Component Image

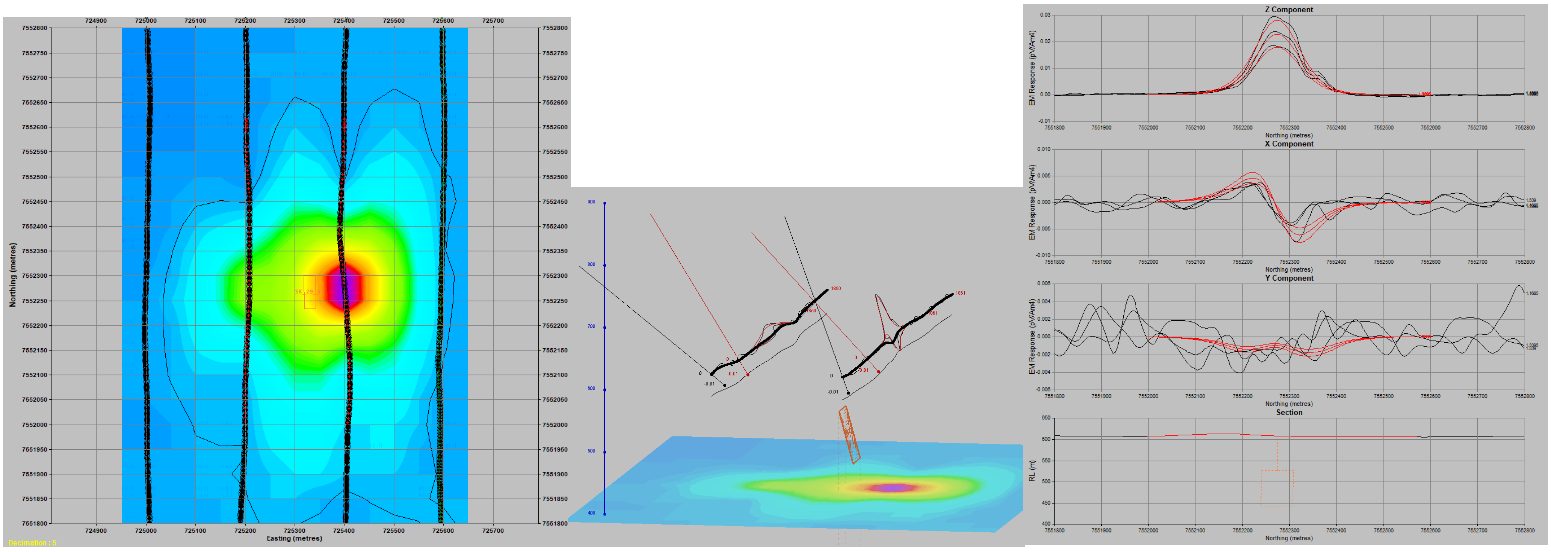

Figure 2*. Silver King VTEM modelled conductive plates in plan and three dimensions.*

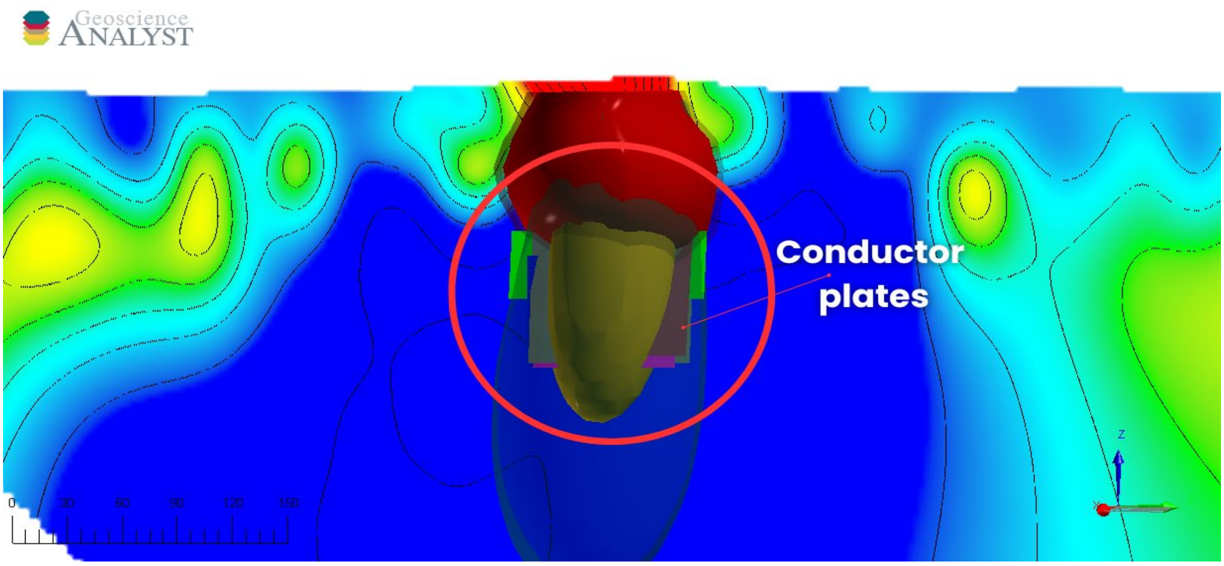

Figure 3. *Silver King modelled IP chargeability and magnetic data showing coincidence with modelled conductor plates and 2024 drilling.*

Patmungala Lead (Anomaly 2)

A short wavelength anomaly superimposed on background decay that turns negative after channel 29 (**Figure 4**). Strong anomalism is seen in the Z, X and Y components on multiple lines including L4930 and L4940. The anomalies appear to be more related to stratigraphy here, with larger low conductance plates fitting the data best, but not well in preliminary efforts. Modelling suggests the possibility of a syncline feature or weakly conductive sub-parallel folded stratigraphy. Negative late times indicates an IP effect. The Patmungala Lead target is located 400m south of this modelled conductor (**Figure 1**), indicating potentially a broader mineral system. The IP effect potentially indicates that this target may comprise both semi-massive/massive and disseminated sulphides.

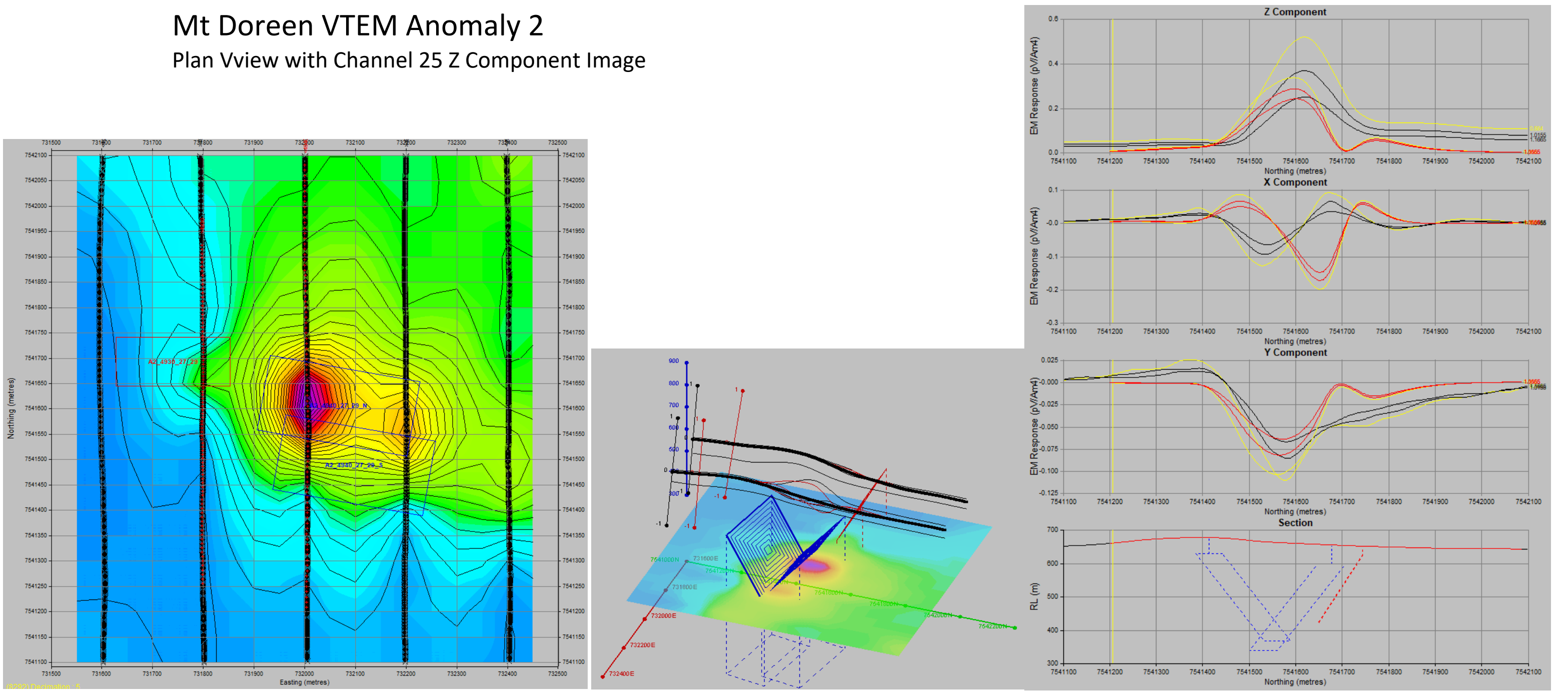

Figure 4. *Patmungala Lead target modelled conductive plates in plan and three dimensions.*

Patmungala Copper (Anomaly 3)

A short wavelength late-time anomaly superimposed on broad negative late-times (**Figure 5**). The anomaly is visible in the Z component on VTEM lines L4760 and L4770 from channel 32-38. A weak X component response is detectable in channels 32-36, however, there is no discernible response in the Y component. Modelling is quite difficult with the complex background in the Z component and lack of X and Y anomalism. Modelling suggests a possible small conductor between VTEM lines L4760 and L4770. The model position moves as the input channel window increases, largely due to the complexity of the response.

Mt Doreen VTEM Anomaly 3

Plan view with Channel 36 Z Component Image

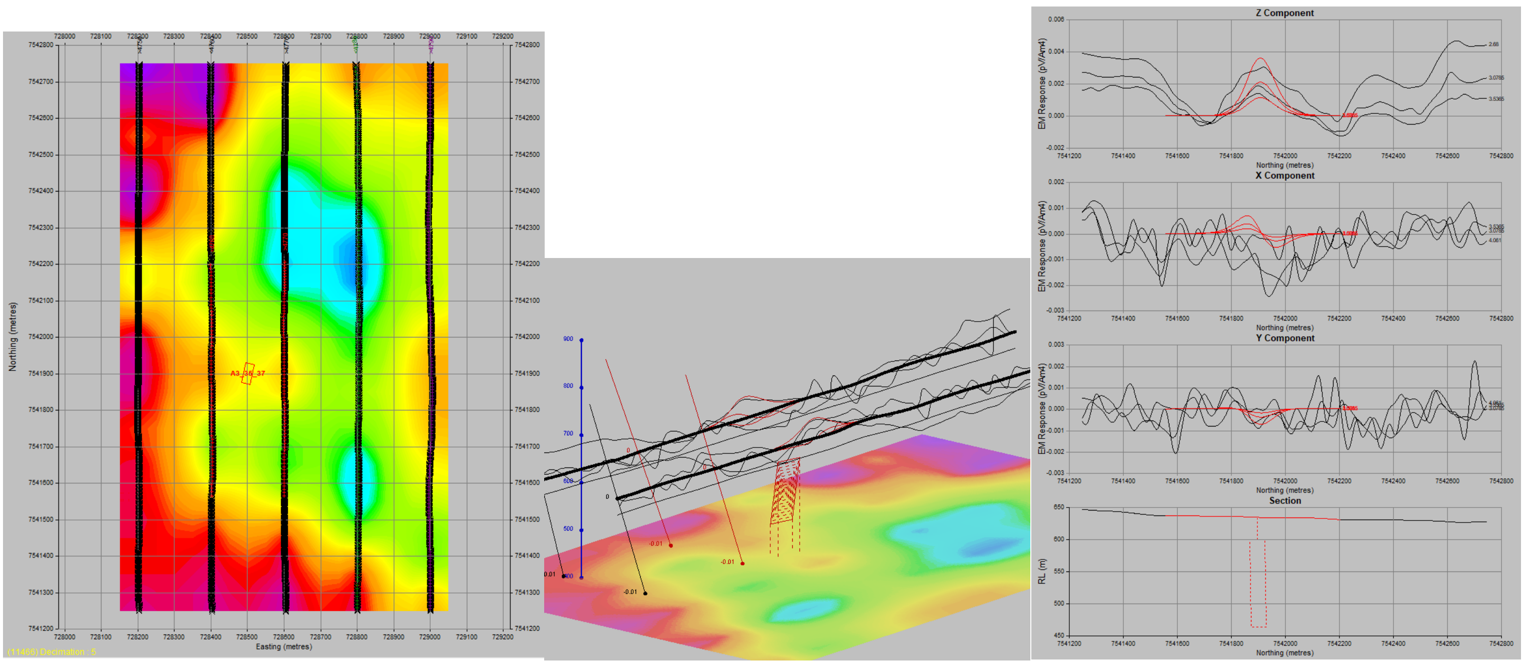

Figure 5. *Patmungala Copper target modelled conductive plates in plan and three dimensions.*

Anomaly 4

A short wavelength Z component response from channels 20-27, becoming dipolar from 28-35 and negative from 36-38 (**Figure 6**). No real discernible response was identified in the X and Y components. A small conductor of ~50m x 50m in size is striking perpendicular to the flight line and dipping to the south at a depth of 20m below surface with low conductance of ~18S, hence provides some sort of fit to the Z component but the fit is poor. Modelling had down-graded this conductor and no further work is anticipated.

Mt Doreen VTEM Anomaly 4

Plan view with Channel 26 Z Component Image

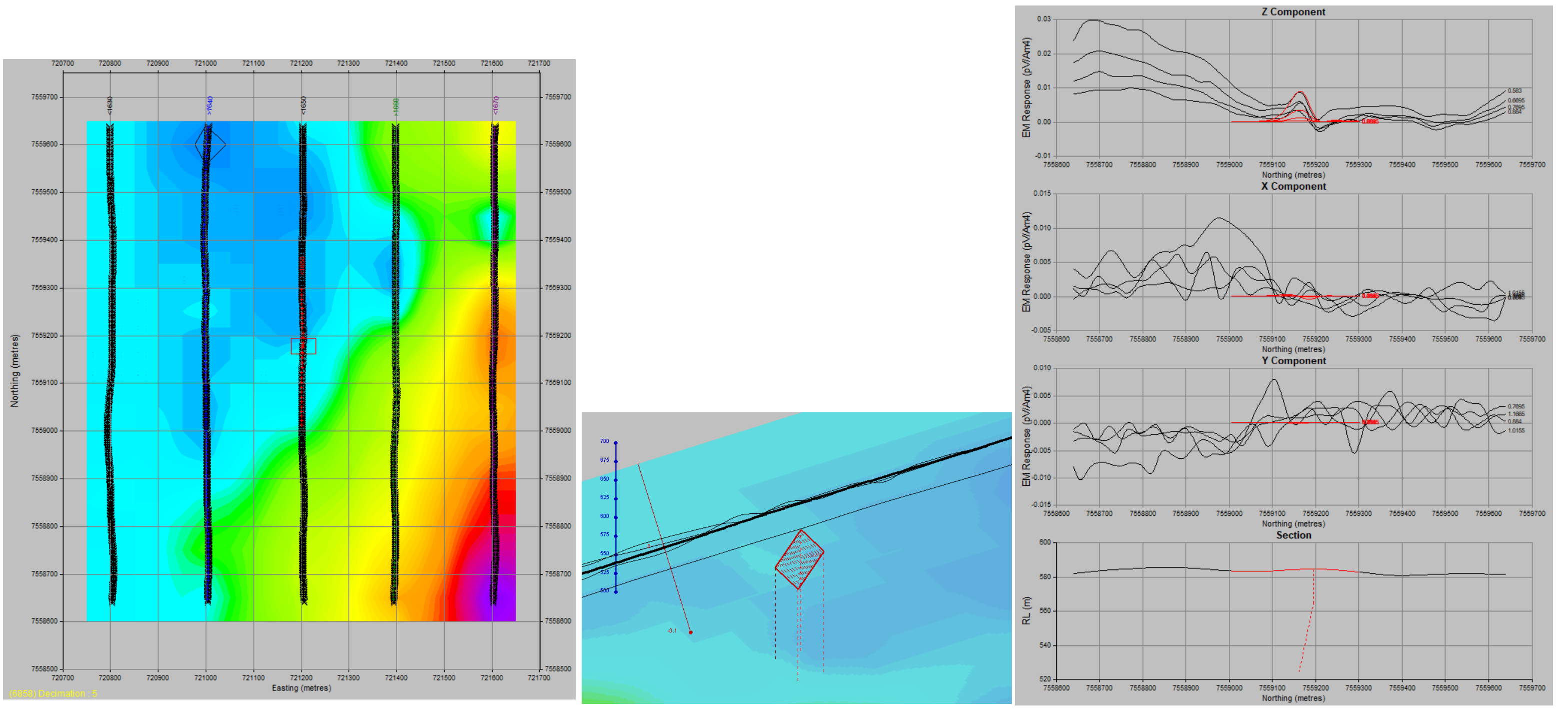

***Figure 6.** Anomaly 4 modelled conductive plates in plan and three dimensions.*

Clark Mine (Anomaly 5) A very short wavelength Z component anomaly on VTEM line L1250 from channels 22-30 characterised by noisy decay and no discernible X and Y component response (**Figure 7**). Modelling is challenging, with a best fit obtained using a very small 20m x 20m plate at a depth of ~35m below surface. The model suggests a conductor, if present, lies between lines L1250 and L1260, but close to 1250.

Mt Doreen VTEM Anomaly 5

Plan view with Channel 26 Z Component Image

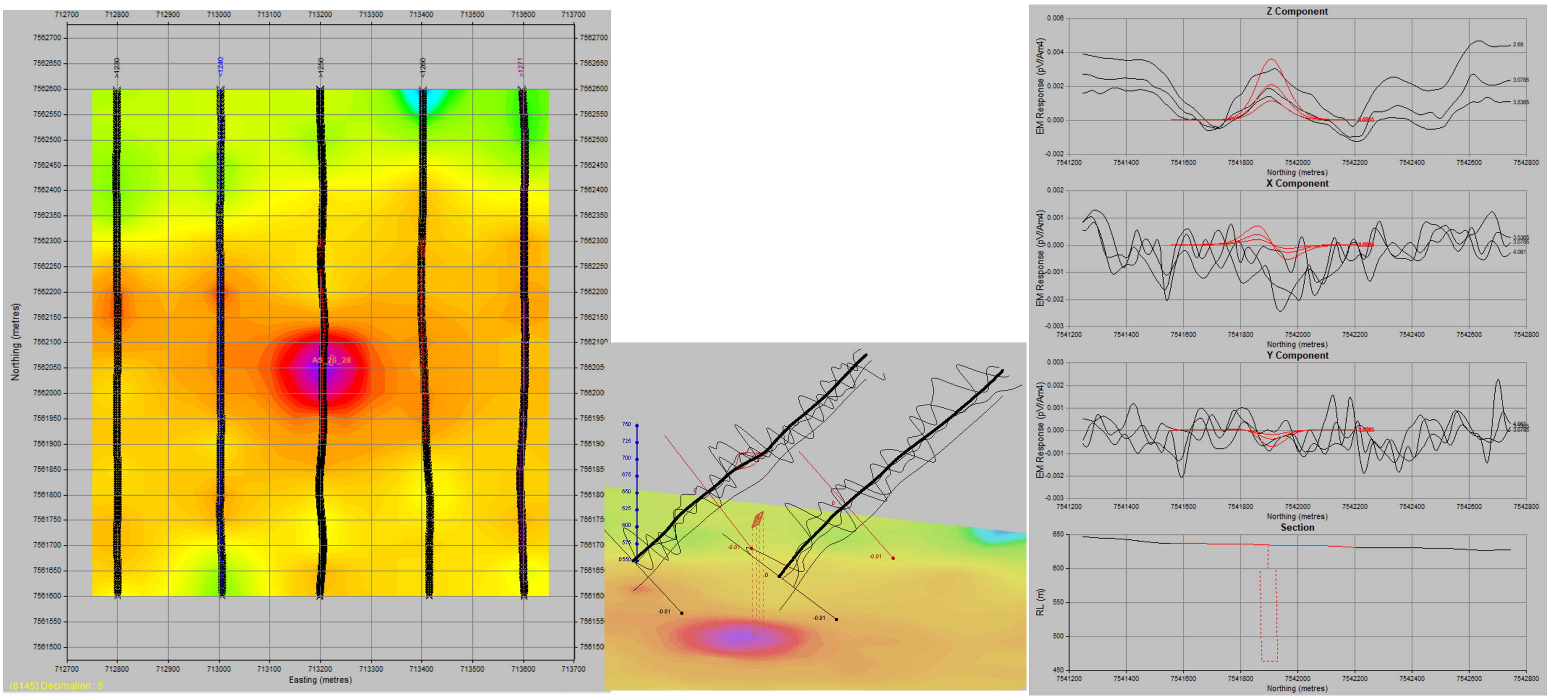

***Figure 7**. Clark Mine anomaly modelled conductive plates in plan and three dimensions.*

Cautionary Statement

Conductive VTEM targets presented in this announcement have been interpreted to represent basement conductors relating to semi-massive or massive sulphides, however, it is unclear if base metal sulphides are present. Ground EM is required to confirm the basement source and conductor geometry ahead of RC drilling.

Forward looking statement

This announcement may include forward-looking statements, which are subject to risks and uncertainties. Actual results could differ significantly due to factors beyond LMS's control, including market conditions and industry-specific risks. These forward-looking statements are based on the Company's expectations and beliefs concerning future events No warranty is given regarding the completeness of the information provided. Please avoid placing undue reliance on forward-looking statements, as they reflect views only as of the announcement date.

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

The announcement has been approved by the Board of Directors.

For further information please contact:

Matthew Pustahya

Matthew@litchfieldminerals.com.au

Follow us on:

www.litchfieldminerals.com.au

https://x.com/Litchfield_LMS

https://www.linkedin.com/company/litchfield-minerals-limited/

Competent Person's Statement

The information in this Presentation that relates to Exploration Results is based on, and fairly represents, information and supporting documentation compiled by Mr Russell Dow (MSc, BScHons Geology), a Competent Person who is a Member of the Australian Institute of Mining and Metallurgy (AUSIMM) and is a full-time employee of Litchfield Minerals Limited. Mr Dow has sufficient experience that is relevant to the style of mineralisation and types of deposits 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 Dow consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. With regard to the Company's ASX Announcements referenced in the above Announcement, the Company is not aware of any new information or data that materially affects the information included in the Announcements.

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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *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.*	The instruments and parameters used for the VTEM survey are as follow: • The VTEM survey was flown by UTS Geophysics Pty. Ltd. • Heliborne electromagnetic data was acquired with VTEMTM Max transmitter frequency of 25Hz, loop diameter 35m and mean terrain clearance height of 35m. • Line spacing was 200m across the full survey area. • Three-dimensional plate modelling of VTEM data was completed by Russell Mortimer at Southern Geoscience Consultants. • VTEM primary / High Priority anomalies were modelled with industry standard Maxwell EM software – utilizing thin conductor plate scenarios for various, most relevant EM channel windows. VTEM final data was imported into Maxwell EM software using Geosoft/oasis database files. Resultant model scenarios for each of the five areas were exported to both 3D DFX and GIS plan view formats to aid follow-up ground EM optimization and consideration.

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).*	• Not applicable as no drilling is reported.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Not applicable as no drilling is reported.
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Not applicable as no drilling is reported.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of*	• Not applicable as no drilling is reported.

Criteria	JORC Code explanation	Commentary
	the sample preparation technique. • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	
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.* • *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.* • *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.*	Geophysical details • Transmitter loop diameter: 35m • Peak dipole moment – 700,000 NIA • Transmitter Pulse Width – 7ms • VTEM Max Receiver – Z, X coils (Y optional)
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Data detailed in this report has been reviewed and processed by Mitre Geophysics.

Criteria	JORC Code explanation	Commentary
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• The navigation system used was a UTS PC104 based navigation system utilizing a NovAtel WAAS (Wide Area Augmentation System) enabled GPS receiver, UTS navigate software, a full screen display with controls in front of the pilot to direct the flight and a NovAtel GPS antenna mounted on the helicopter tail. As many as 11 GPS and two WAAS satellites may be monitored at any one time. The positional accuracy or circular error probability (CEP) is 1.8m, with WAAS active, it is 1.0m. The co-ordinates of the block were set-up prior to the survey and the information was fed into the airborne navigation system. • Altitude control used the FreeFlight Systems TRA-3000 radar altimeter with altitude range (40 to 2500ft), altitude accuracy (40 to 100 ft. ±5 ft., 100 to 500 ft. ±5%, 500 to 2500 ft. ±7%) and sample rate of 10Hz.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• The full VTEM survey was flown at 200m line-spacing.

Criteria	JORC Code explanation	Commentary
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.* • *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.*	• Flight lines were orientated north-south to run perpendicular to most of the structures and geology of the area.
Sample security	• *The measures taken to ensure sample security.*	• All data was collected under strict security measures by UTS Geophysics Pty Ltd.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Data checks and processing reviews were undertaken daily and at the completion of the program by the contractor. • Review of the data was undertaken by an independent consultant Mitre Geophysics.

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.* • *The security of the tenure held at the time of reporting along*	• Refer to Section 4 in Independent Geologists Report (IGR) by Ross *et al.*, 2023 for further detail. In summary, the Mount Doreen project is secured by EL 31305 for total of approximately 388.35 square kilometres.

Criteria	JORC Code explanation	Commentary
	with any known impediments to obtaining a licence to operate in the area.	• All tenements within the Mt Doreen are 100% owned by Litchfield Minerals Ltd. • The Mt Doreen Project is located 325km northwest of Alice Springs pastoral lease. The tenements are in good standing and there are no known impediments.
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 for further detail. 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 Mules, 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.

Criteria	JORC Code explanation	Commentary
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Refer to Section 5 in Independent Geologists Report (IGR) by Ross *et al.*, 2023 for further detail. In summary: • 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 is considered to be epigenetic intrusion-related breccia and vein mineralisation with polymetallic copper-lead-zinc-silver-molybdenite and tungsten. Mineralisation is interpreted to be from varied sources and associations as evidenced from mineralisation dating. • The most prominent mineralisation is supergene copper at Silver King with varying lead-zinc-silver in quartz veins and shear zones.

Criteria	JORC Code explanation	Commentary
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• No drilling or assaying is reported in this report.
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.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No drilling or assaying is reported in this report.
Relationship between	• *These relationships are particularly important in the reporting of Exploration Results.*	• No drilling or assaying is reported in this report.

Criteria	JORC Code explanation	Commentary
mineralisation widths and intercept lengths	• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *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').*	
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.*	• Project location map and plan map of the drill hole locations with respect to each other and with respect to other available data are included in the text. • Drill hole locations have been determined with hand-held GPS drill hole collar location (Garmin GPS 78s) +/- 5m in X/Y/Z dimensions. • Refer to Section 6 and 7 of the 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.*	• Individual gravity readings have not been reported, plans within this report provide an adequate overview of the ground gravity data.
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*	• See the main body of this report for all pertinent observations and interpretations.

Criteria	JORC Code explanation	Commentary
	substances.	
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).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Future planned exploration includes: • Final fully processed VTEM and interpretation • Ground-based moving loop EM ("MLEM") • Geological mapping and geochemical surveys/ sampling • RAB/RC/DD drill testing.