ASTUTEMETALSNL

18 November 2024

FURTHER IRONSTONES INTERSECTED AT LEICHHARDT EAST – GEORGINA PROJECT, NT

Detailed core logging underway on 500m deep diamond hole, with assays awaited

Key Highlights

- **Second diamond drill-hole completed at Leichhardt East, to a total depth of 500m.**
- **Basement siltstone, breccia and ironstones intersected, consistent with previous drilling.**
- **Trace sulphides observed, including the copper mineral chalcopyrite.**
- **Geological similarity to Tennant Creek strengthened.**
- **Gravity target remains unexplained, indicating that dense rocks causing the anomaly remain to be drill tested.**
- **Next steps are to complete logging, sampling and assays, undertake bulk density testwork and refine the geophysical model for Leichhardt East.**

Astute Metals NL (ASX: ASE) ("ASE", "Astute" or "the Company") is pleased to advise that it has completed a second deep diamond drill-hole at the Leichhardt East Prospect, located within its 100%-owned Georgina Basin IOCG Project in the Northern Territory.

Drill-hole LE002 was completed to a depth of 500m, targeting an inverted gravity model that was constrained by Ambient Noise Tomography (ANT) data collected in the second half of 2023. The drill-hole intersected breccia, siltstone and ironstones. Intersected basement rocks were sheared and fractured, with hematite development within shears, on fracture surfaces and as breccia in-fill. Trace to minor sulphides were present, including the copper mineral chalcopyrite.

Preliminary interpretation of the results suggests that the dense body of rocks that was targeted has not been intersected with this drill-hole, despite the hole having passed through the modelled gravity anomaly. Faulting and shearing of rocks observed in the hole indicates the potential for structural complexity and, given that the rocks intersected by this hole do not explain the gravity anomaly, the potential of the Leichhardt East prospect for dense, IOCG-prospective rocks remains – which can only be confirmed by further exploration drilling.

The drilling conducted to date at Leichhardt East has identified host-rocks equivalent to the Warramunga Formation, which hosts IOCG deposits at Tennant Creek, with prospective hematite and chlorite alteration, ironstones, sulphide mineralisation and geochemical anomalism for copper and uranium[1], in the vicinity of an as-yet unexplained gravity anomaly indicative of the presence of dense rocks. The Company considers that Leichhardt East remains a highly prospective target that possesses numerous IOCG characteristics, and further work is warranted. Detailed logging, assaying and bulk density analysis will be completed over the coming months with a view to reviewing the geophysical model for the prospect ahead of future drilling.

Astute Chairman, Tony Leibowitz, said: "*While this drill-hole did not intersect the major IOCG discovery we were all hoping for, it has not diminished our enthusiasm for this project. The hole confirmed the presence of highly prospective host rocks containing ironstones – which has strengthened the analogies with the Tennant Creek style of mineralisation.*

"At Tennant Creek, deposits can have a relatively small footprint but contain fabulously high-grade mineralisation, as seen at a number of deposits in the district. The fact that dense rocks indicated by the anomaly were not encountered suggests that the prospect remains prospective for a significant discovery. We will await assays and continue to systematically work through the best pathway to undertake follow-up drilling next year."

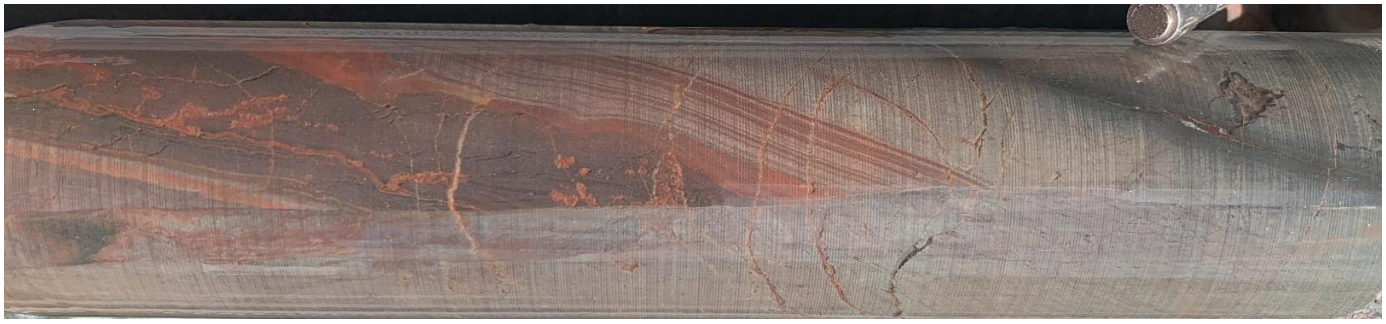

Figure 1. Ironstone intersected from 353.1-335.3m in LE002

Background

The Leichhardt East prospect is characterised by a strong ANT-constrained gravity anomaly, situated between two regional-scale faults where previous drilling intersected altered host rocks and mineralised ironstones with elevated copper and uranium[1]. A complete set of assay results for the Leichhardt East drilling can be found in the original 3 April 2023 ASX release. Drill-hole LE002 was designed to follow-up on the previous drilling, which had not tested the updated gravity inversion model. The prospect is considered highly prospective for IOCG mineralisation.

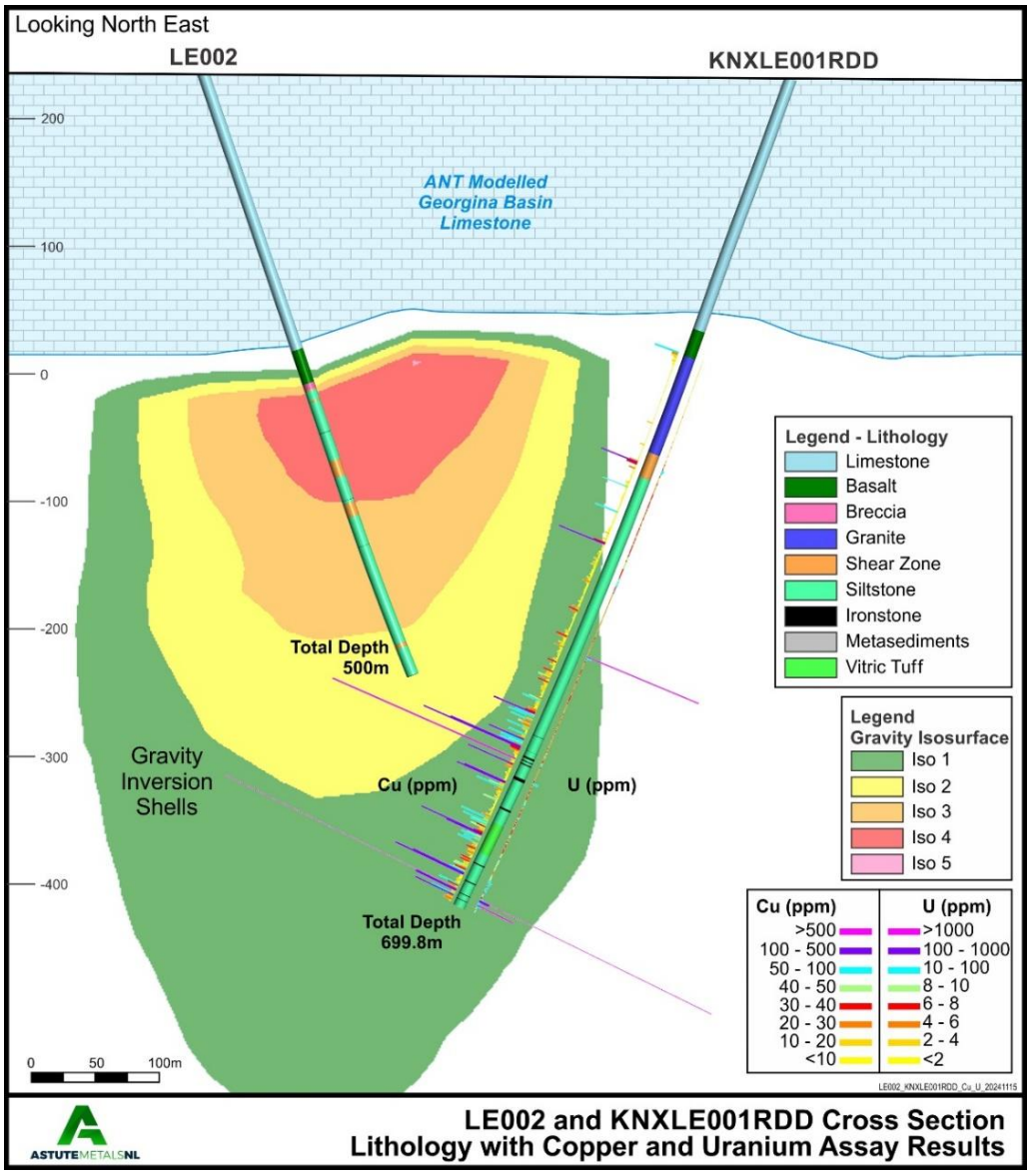

Figure 2. LE002 simplified lithology, constrained gravity isosurfaces and previous drill-hole with geochemistry.

Drilling Results

Drill-hole LE002 drilled through the Georgina Basin limestone cover sequences to a depth of 228.9m, and Helen Springs basalt to 256.6m, where Proterozoic metasedimentary basement rocks were intersected. Basement rocks are consistent with Warramunga Formation-equivalent breccias, siltstones and ironstones, to the end of the hole at 500m (Figures 1-3).

The siltstones exhibit a uniform chlorite alteration and are frequently fractured and sheared, indicating a strong degree of tectonism, which is consistent with the first hole drilled at the prospect. Sheared and fractured rock surfaces are commonly coated with powdery-textured and/or specular hematite. Trace sulphide mineralisation was observed in several locations in the drill-hole, including the copper mineral chalcopyrite. Ironstones in both holes are typically associated with faulted contacts. A table of preliminary geological logging is provided in Appendix 2.

In summary, this second drill hole at Leichhardt East has intersected broadly the same package of rocks as in the first hole, however they are less altered and have fewer ironstones present than the first hole at Leichhardt East.

Figure 3. Ironstone intersected from 391.4-391.5m in LE002

Interpretation

While the Company is yet to undertake assay work and bulk density measurements, the rocks intersected in LE002 do not appear to be sufficiently dense to explain the modelled gravity response, despite having drill tested a significant portion of the modelled gravity anomaly (Figure 1).

Taking into account the geochemical anomalism observed in the first hole, the fact that the only dense lithologies intersected to date have been ironstones, and the increased instance of shear zones and breccias observed in this hole, the Company has drawn the following early conclusions:

1. As the rocks intersected in this hole and the first hole are insufficiently dense to explain the modelled gravity anomaly, the Leichhardt East prospect remains prospective for an IOCG discovery, and that this will require further exploration drilling.

2. A strong degree of faulting and shearing has been observed in both holes drilled to date. The gravity anomaly may be explained from a contrast between un-mineralised country rocks and ironstone juxtaposed by faulting/shearing.

3. The only basement rock-type with a density approaching that of the modelled anomaly is the ironstones, some of which have been mineralised with respect to sulphide minerals, however there have only been relatively thin slivers of ironstone intersected in drilling to date, which is not sufficient to explain the anomaly.

4. Therefore, the most likely cause of the modelled anomaly is a greater concentration of ironstone in the vicinity that remains to be located.

5. Ironstones host IOCG-style mineralisation in outrcropping rocks of the Warramunga Formation at Tennant Creek, located approximately 170km west of the Leichhardt East area. The host rocks at Leichhardt East are interpreted to be equivalent to the Warramunga Formation, and as such remain prospective for an IOCG discovery.

Given the above, the Company considers that Leichhardt East remains a highly prospective target that possesses numerous IOCG characteristics, and further work is warranted.

Figure 4. Trace chalcopyrite (copper mineral) on joint surface at 427.3m.

Cautionary Statement on Visual Estimates

Visual estimates of mineral abundance should never be considered a proxy or substitute for laboratory analyses where concentrations or grades are the factor of principal economic interest. Visual estimates also potentially provide no information regarding impurities or deleterious physical properties relevant to valuations

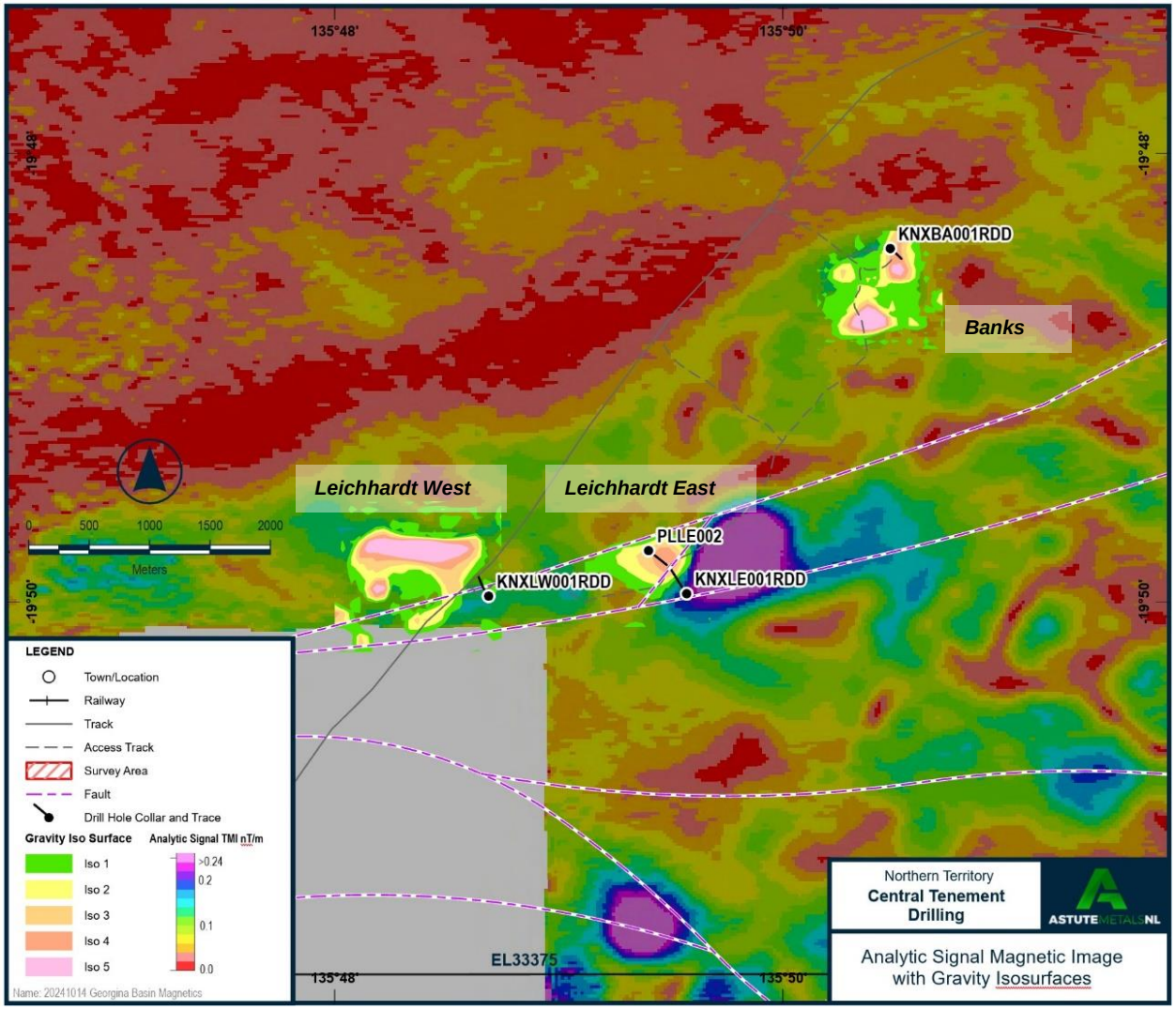

Figure 5. Plan view of all three modelled prospects (Leichhardt East and West, Banks) drill holes and faults over Analytic Signal magnetic imagery at the Georgina IOCG Project.

Plan ID	Easting (GDA94)	Northing (GDA94)	Dip (°)	Azimuth (MGA, °)	Total Depth (m)
LE002	586226	7807178	-70	130	500

Table 2. Drill-hole details.

Next Steps

The Company will complete detailed geological logging of LE002 drill core and select samples for assay and for petrology in order to assess for pathfinder geochemistry and evidence of mineralising processes, respectively. This work is expected to be completed by the end of January 2025.

Bulk density measurements of basement and cover rocks will also be conducted to update its geophysical modelling ahead of planning of further drill-holes for the Prospect, and ahead of drilling of the Leichhardt West and Banks ANT-constrained gravity inversion targets, which have been modelled using the same methods (Figure 5).

Proposed follow-up drilling will be undertaken in 2025.

1 ASX: ARO 3 April 2023 'Significant polymetallic anomalism intersected at Georgina IOC Project, NT'
2 ASX: ASE 4 November 2024 'Drilling commences at Georgina to Test High Impact Target'

Authorisation

This announcement has been authorised for release by the Board of Astute.

More Information

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Competent Person

The information in this report is based on information compiled by Mr Matthew Healy, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM Member number 303597). Mr Healy is a full-time employee of Astute Metals NL and is eligible to participate in a Loan Funded Share incentive plan of the Company. Mr Healy 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'. Mr Healy consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

APPENDIX 1 - JORC Code, 2012 Edition – Table 1

Section 1 - Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialisedindustry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheldXRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensuresample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation thatare 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, suchas where there is coarse gold that has inherentsampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	HQ and NQ drilling was undertaken for drill sample collection. No drill core sampling has been undertaken as of the date of this announcement.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-holehammer, 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 isoriented and if so, by what method, etc.).	HQ and NQ diameter diamond drilling methods employed. Drill core to be oriented where possible
Drill sample recovery	Method of recording and assessing core andchip sample recoveries and results assessed. Measures taken to maximise sample recoveryand 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/gainof fine/coarse material.	Core blocks inserted between runs by drill crew record run length and recovered core Core recovery logged by staff/contractors at the point of core markup
Logging	Whether core and chip samples have been geologically and geotechnically logged to alevel of detail to support appropriate MineralResource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative innature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevantintersections logged.	Drill core logged by field geologists to capture interpreted lithology, weathering, alteration and veining, and structure orientations where appropriate. Core logging is largely qualitative, with some quantitative estimates of notable minerals Core tray photography undertaken of wet drill core Preliminary logging undertaken on KNXLE001RDD with detailed logging to be completed prior to cutting of drill core. All drill core is logged

APPENDIX 1 - JORC Code, 2012 Edition – Table 1

Criteria	JORC Code explanation	Commentary
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, rotarysplit, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparationtechnique. Quality control procedures adopted for all sub-sampling stages to maximise representivityof samples. Measures taken to ensure that the sampling isrepresentative of the in-situ material collected,including for instance results for field duplicate/second-half sampling.	Drill core to be half-cut lengthways ahead of dispatch for assay.
Quality of assay data and laboratory tests	Whether sample sizes are appropriate to thegrain size of the material being sampled. The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial ortotal. For geophysical tools, spectrometers, handheldXRF 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 precisionhave been established.	No assays reported in this announcement
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 entryprocedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	Sample intervals to be assigned a unique sample identification number prior to sample despatch
Location of data points	Accuracy and quality of surveys used to locatedrill 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.	Drill collar locations determined using hand-held GPS with location reported in GDA94 MGA Zone 53. Expected hole location accuracy of +/- 10m Downhole surveys conducted on a 30m basis

APPENDIX 1 - JORC Code, 2012 Edition – Table 1

Criteria	JORC Code explanation	Commentary
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 MineralResource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	Drill spacing is appropriate for early exploration purposes
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.	Geological structures are not well constrained at this time given the early nature of exploration at this prospect
Sample security	The measures taken to ensure sample security.	Drill core stored at secured yard and shed located in township of Mount Isa
Audits or reviews	The results of any audits or reviews of samplingtechniques and data.	Not applicable

APPENDIX 1 - JORC Code, 2012 Edition – Table 1

Section 2 - Reporting of Exploration Results

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 with any known impediments to obtaining a licence to operate in the area.	Leichhardt East prospect located on granted exploration license EL33375, held by 100% Astute subsidiary Knox Resources Pty Ltd Landholder access agreement in place
Exploration done by other parties	Acknowledgment and appraisal of exploration byother parties.	Previous exploration conducted by Greenvale Mining, comprising airborne magnetic and ground gravity surveying, desktop studies and exploration drilling. Previous Greenvale exploration referenced in this announcement from the following ASX releases: ASX: GRV 29 June 2022 'First Diamond hole at the Banks Target intersects IOCG-style Alteration' ASX: GRV 27 July 2022 'Diamond hole at Leichhardt confirms IOCG potential at Georgina' Copper mineralisation identified at the nearby Crosswinds prospect by Middle Island Resources Ltd referenced in this announcement from the following ASX release: ASX: MDI 2 June 2022 'Two drill ready targets at Crosswinds'
Geology	Deposit type, geological setting and style of mineralisation.	The principal target deposit style is iron-oxide-copper-gold (IOCG). IOCG deposits are typically characterized by associated magnetic and gravity responses due the prevalence of dense and often magnetic iron oxide minerals as a substantial portion of the deposit footprint mineralogical constitution. IOCG deposits are known in the Tennant Creek region and recent Geoscience Australia prospectivity analysis indicates that basement rocks east of Tennant Creek, the location of the Company tenements, are prospective for IOCG deposits.
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.	Drillhole location, orientations and drilled depths are tabulated in body 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 shownin detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	Not applicable.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. 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 notknown').	Insufficient information available due to early exploration status
Diagrams	Appropriate maps and sections (with scales) andtabulations 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.	Included in ASX announcement
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.	This release describes all relevant information
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysicalsurvey 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.	This release describes all relevant information
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions orlarge-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.	Drill results demonstrate further work is likely to warranted at the Leichhardt East project, however is subject to assays, physical measurements and detailed geological and structural logging.

APPENDIX 2 – Leichhardt East Drilling Preliminary Lithology Logs

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Hole ID	From	To	Lithology	Sulfides	Comments
LE002	0	228.9	Limestone		
LE002	228.9	256.6	Basalt		
LE002	256.6	256.7	Shear zone		Fault gouge
LE002	256.7	256.81	Basalt		
LE002	256.81	261.65	Breccia		Sugary textured matrix, with brecciated rock fragment clasts, clasts 5-10mm size, polymictic. Irregular basal contact.
LE002	261.65	262.8	Shear zone		Strongly brecciated hematitic siltstone, minor qtz/hem veinlets to 2mm <1% of rock mass. Siltstone clasts 100% weakly hem altered, and hem fine grained powdery matrix fill.
LE002	262.8	270.5	Siltstone		Broken/fractured Siltstone with powdery hematitic coating/fracture surfaces.
LE002	270.5	271.85	Shear zone	<1% Pyrite	Strongly brecciated Hematitic Siltstone, minor qtz/hem/py veinlets to 2-3mm <1% of rock mass - Py <1% of veinlets, and Hem <2% of veinlets
LE002	271.85	297.2	Siltstone		Broken/fractured siltstone with powdery hematitic coating/fracture surfaces.
LE002	297.2	297.5	Ironstone		Hematitic Ironstone band ~2cm wide and 15cm long, at ~15 degrees to core axis.
LE002	297.5	320.4	Siltstone		Broken/fractured siltstone with powdery hematitic coating/fracture surfaces.
LE002	320.4	334.1	Shear zone		Strongly brecciated siltstone - clast supported, with fine grained clayey/talc matrix and powdery hematitic coatings/fracture surface (~5% or rock mass)
LE002	334.1	353.1	Siltstone		Broken/fractured siltstone with powdery hematitic coating/fracture surfaces. Brecciated at base
LE002	353.1	353.3	Ironstone		Ironstone band within siltstone - parallel to core axis and truncated on fault contact. Ironstone ~2cm wide x 10cm long - part of broader brecciated zone.
LE002	353.3	355.7	Siltstone		Brecciated siltstone with powdery hematitic coating/fracture surfaces.
LE002	355.7	367	Shear zone		Strongly brecciated siltstone - clast supported, with fine grained clayey/talc matrix and powdery hematitic coatings/fracture surface (2-3% of rock mass)
LE002	367	391.3	Siltstone		Brecciated in part. Siltstone with powdery hematitic coating/fracture surfaces. Specular hematite on some fractures mid-unit.
LE002	391.3	391.5	Ironstone		Siltstone with Ironstone 'blocks' x2 - 3 x 5cm in faulted contact.
LE002	391.5	473.2	Siltstone	Trace Chalcopyrite @ 427.3m	Broken/fractured siltstone with powdery hematitic coating/fracture surfaces. Minor specular hematite in places. Trace chalcopyrite on joint surface at 427.3m
LE002	473.2	476.6	Shear zone		Strongly brecciated siltstone - clast supported, with fine grained talc matrix
LE002	476.6	500	Siltstone	<0.5% Pyrite	Fractured siltstone - fracture surfaces coasted with specular hematite and hematitic 'paint'. Minor qtz/hem, qtz/hem/py & qtz/py veinlets noted sporadically within this zone. Minor disseminated pyrite associated with some fracture surfaces.