Greenvale MINING LIMITED

ASX ANNOUNCEMENT **21 December 2021**

GREENVALE INTERSECTS EXTENSIVE IOCG-STYLE ALTERATION IN SECOND HOLE AT "TWIN PEAKS"

Exploration continues to gather momentum at the Georgina Basin IOCG Project, with Greenvale also awarded highly strategic Exploration Licences

Highlights:

- **Wide interval of strongly altered sedimentary rocks and breccias, intersected in the second hole (KNRDD004) targeting the prominent "Twin Peaks" magnetic-gravity anomaly.**
- **The alteration observed in KNRDD004 is consistent with oxidised-style Tennant Creek IOCG systems.**
- **It is also similar to the strong alteration encountered in the first hole, KNRDD002, which intersected prospective veining and visible native copper in the core from 720m down-hole.**
- **Hole KNRDD004 was extended significantly beyond its design depth of 750m to a final depth of 900.9m, due to the prospective nature of the strongly hematite-altered rocks encountered.**
- **Assaying for KNRDD002 underway, with gold results expected in December**
- **Assays expected from KNRDD004 January-February next year.**
- **Greenvale Mining announced as the successful applicant for Exploration Licences containing the National Drilling Initiative (NDI) holes NDIBK05 and NDIBK10.**
- **Both Government-funded NDI holes exhibited hematite (iron oxide) alteration, which is a precursor to Iron Oxide Copper Gold (IOCG) mineralisation.**

Greenvale Mining Limited (ASX: **GRV**, "**Greenvale**" or "**the Company**") is pleased to report on further highly encouraging developments at its 100%-owned **Georgina Basin IOCG Project** in the East Tennant area of the Northern Territory.

Further to its release of 30 November, Greenvale has now completed the second diamond hole, KNRDD004, to test the prominent eastern magnetic-gravity anomaly at the "Twin Peaks" IOCG prospect (see Figure 1).

Together with the first hole, KNRDD002, this amounts to a total of 1,697m drilled to date as part of the maiden drill programme at the Georgina Project.

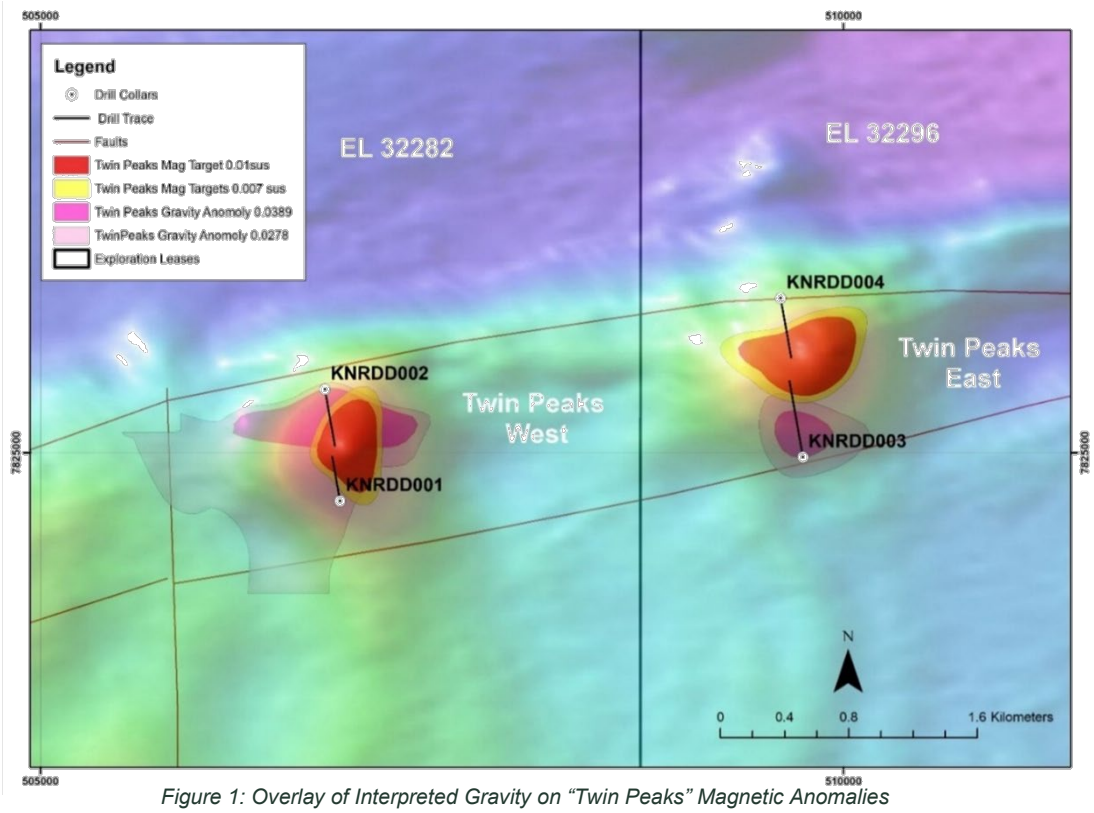

Figure 1: Overlay of Interpreted Gravity on "Twin Peaks" Magnetic Anomalies

The hole was drilled to a total depth of 900.9m, intersecting basement rocks at 680.46m down-hole (approximately 600m vertically below surface) comprising hematite and chlorite altered metasedimentary rocks and breccias (see Figure 2).

The intersection of strongly altered rocks, with brecciation and widespread hematite mineralisation indicates both Twin Peaks east and west are the result of iron-oxide bearing hydrothermal systems.

The presence of iron oxide minerals at Twin Peaks is significant because, in Tennant Creek style IOCG deposits, iron oxide minerals are formed first and then late gold-bearing fluids pass through the ironstone, depositing gold in the iron oxide minerals.

It is worth noting that KNRDD004 was extended significantly beyond its design depth of 750m, due to the prospective nature of strongly hematite-altered rocks intersected.

Following completion, the hole was cased with 50mm PVC ahead of planned downhole geophysical surveying in early 2022, which will aim to refine the magnetic anomaly, and establish whether the most magnetic part of the target has been tested.

Selected drill core has now been despatched to the laboratory for sample preparation, fire assay gold and multi-element analysis, with results expected in Jan-Feb of 2022.

Table 1: Drill Collar & Setup Details

Hole ID	East (MGA53)	North (MGA53)	RL (AHD)	Azi (MGA)	Dip	Depth
KNRDD002	506771	7825392	250	170°	-61.5°	796.6m
KNRDD004	509608	7825960	251	160°	-61.5°	900.9m*

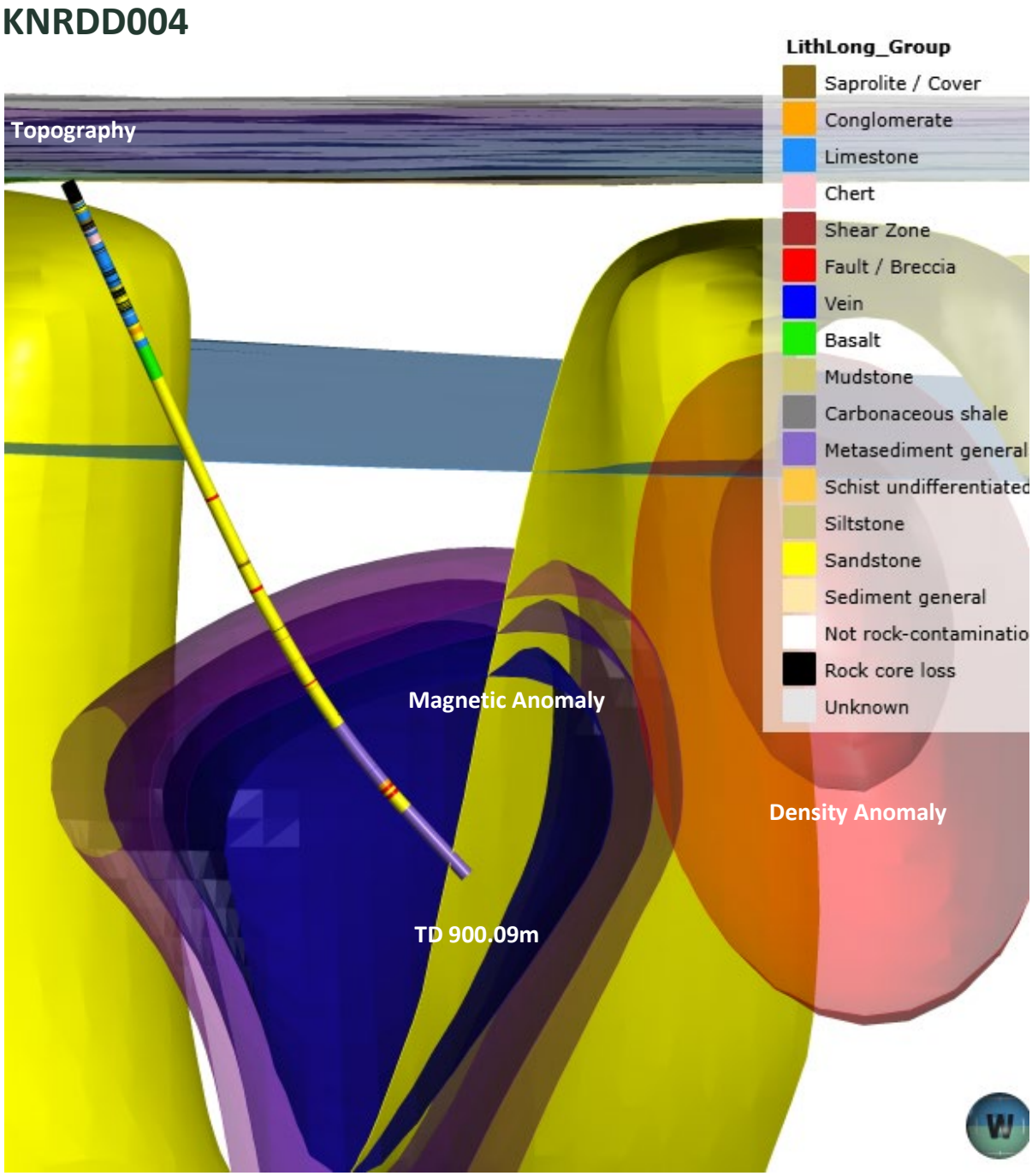

Figure 2: Cross-section of KNRDD004

STRATEGIC LICENCE APPLICATIONS

Greenvale is also pleased to advise that it has been named as the successful applicant, in a competitive application process, for the highly sought-after Exploration Licences EL32280 and EL32281 (partially awarded), containing the National Drilling Initiative holes NDIBK05 and NDIBK10.

The two EL's under application will now progress through the technical assessment component and toward grant.

The two NDI drill-holes are located immediately adjacent to Greenvale's granted tenement EL32295, which was secured as part of the original application submitted by its 100%-owned subsidiary Knox Resources in 2019.

The basement rocks intersected in hole NDIBK05 are mostly granitic, while those in NDIBK10 are dominated by granodiorite and schist. Both holes exhibited hematite (iron oxide mineral) alteration, which is a precursor to Iron Oxide Copper Gold (IOCG) mineralisation.

Along with EL32820 and EL32821 GRV has also been approved as the successful applicant to EL32964 and EL32965 (see Figure 4) by the Department and will now proceed through to assessment and eventual grant, provided all conditions are met.

EL32820, EL32821, EL32964 and EL32965 were of strategic importance to the company as it looks to advance its works program across its central tenement grouping and secures the newly identified targets of Mawson, Banks, and Leichhardt within the very promising EL32295.

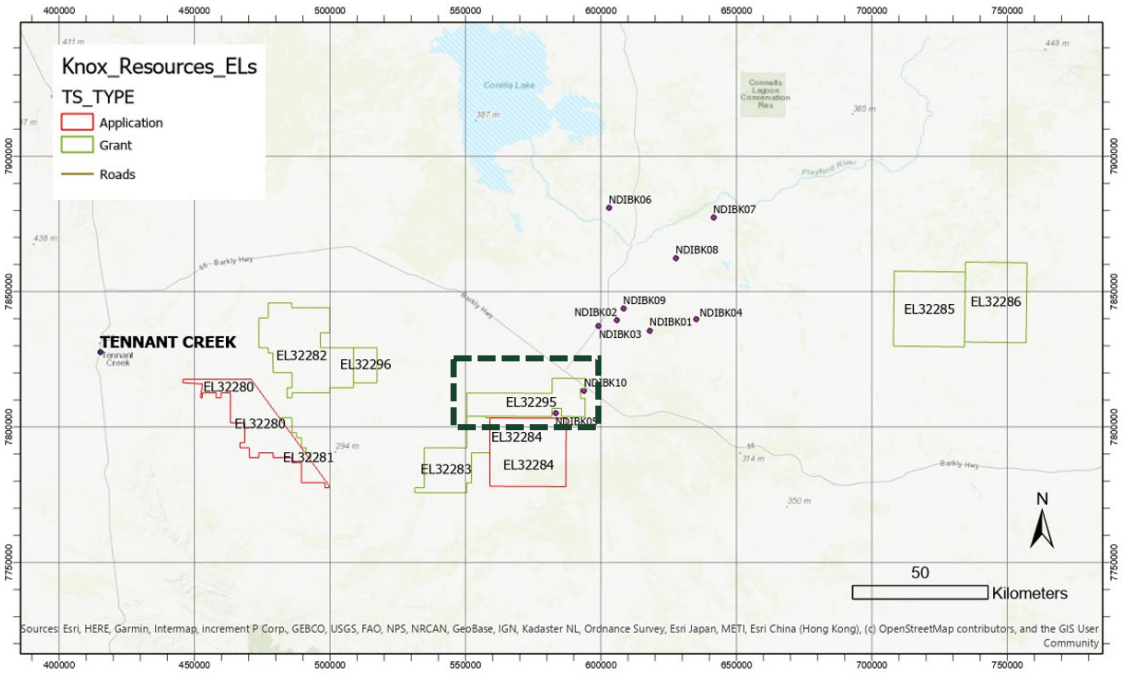

Figure 3: Greenvale Mining's 100%-owned Georgina Basin IOCG Project Tenement Locations.

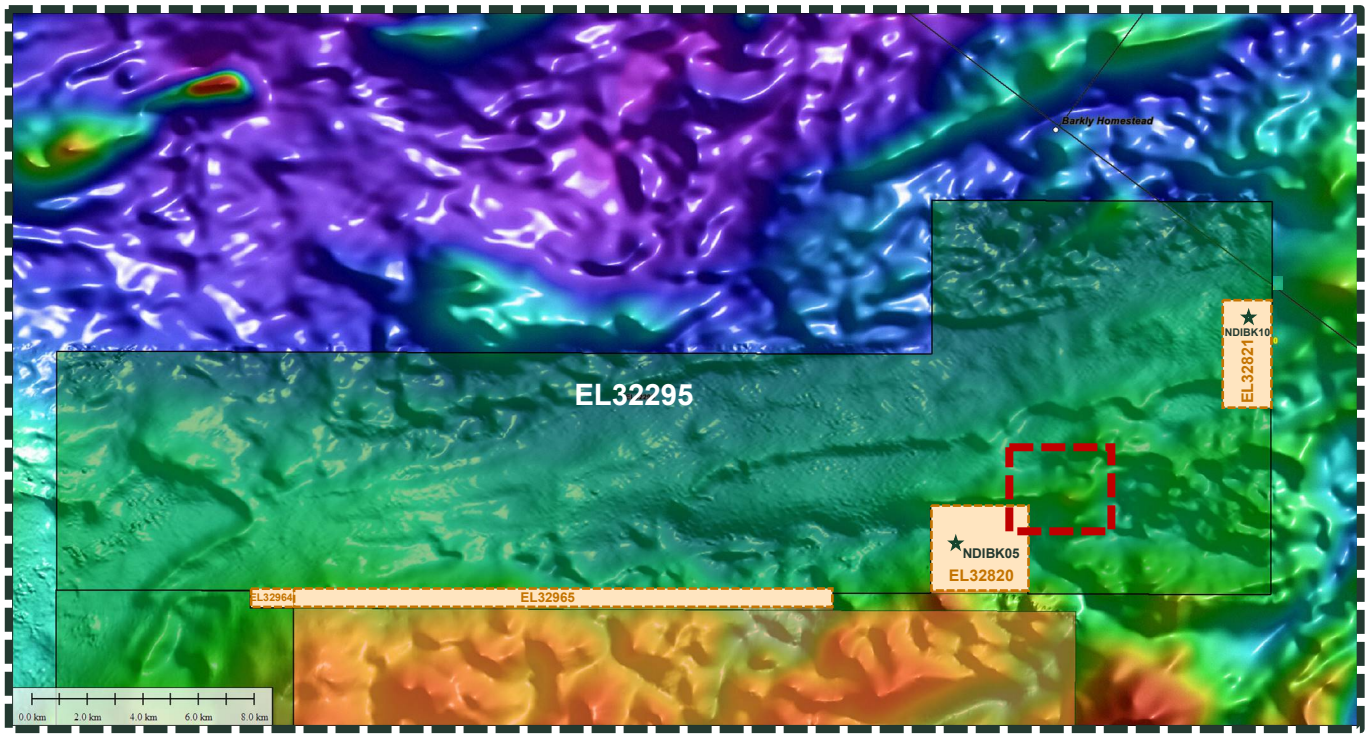

Figure 4: Location of EL32820 & EL32821 containing National Drilling Initiative holes NDIBK05 & NDIBK10 (red square – figure 5)

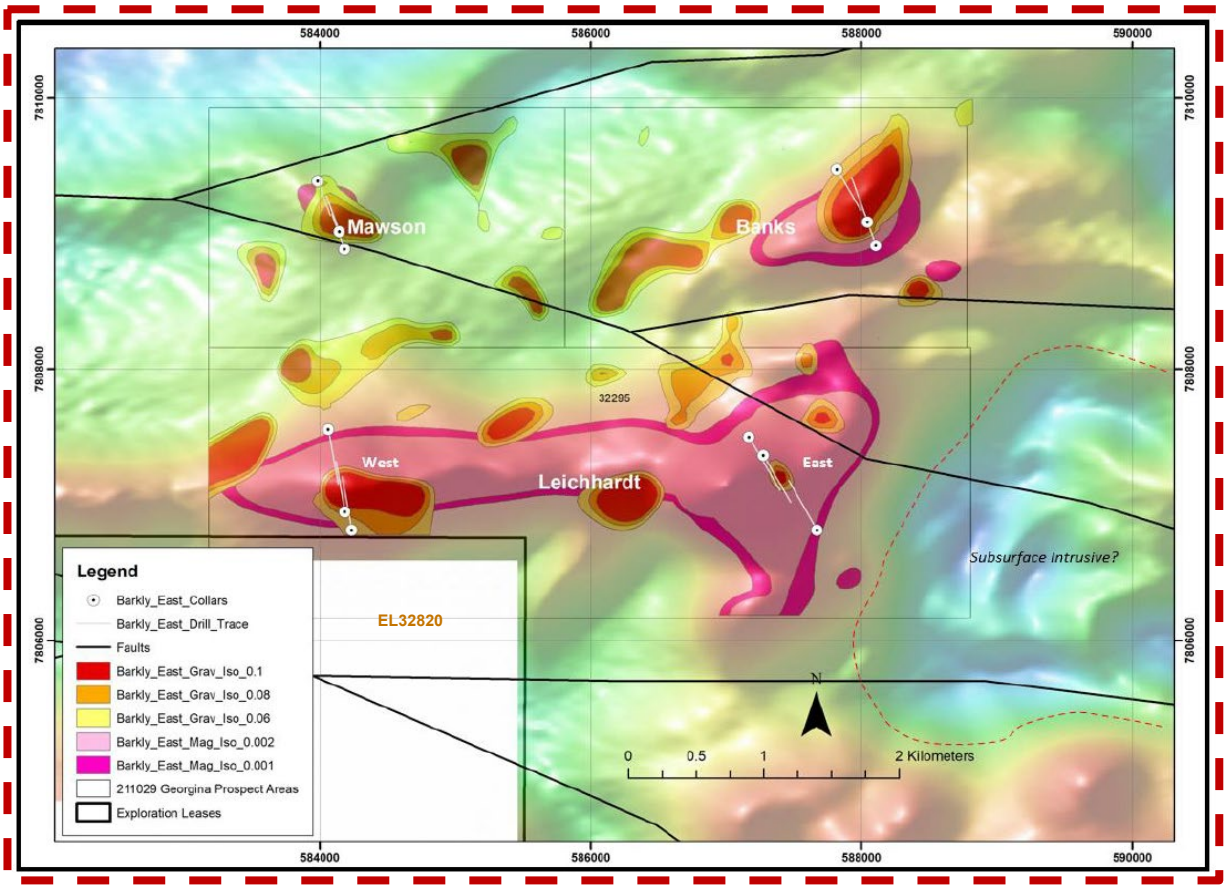

Figure 5: Overlay of Interpreted Gravity on Mawson, Banks & Leichhardt Magnetic Anomalies

MANAGEMENT COMMENT:

Greenvale Mining CEO, Matthew Healy, commented:

"The completion of the second drill hole at Greenvale's Georgina Basin IOCG project marks the end to a very productive initial field season in the highly prospective East Tennant region.

"Both holes have intersected metasedimentary rocks and breccias, with strong hematite and chlorite alteration, all of which is consistent with rock types and alteration observed in known Tennant Creek IOCG deposits.

"Considering that these are the very first holes ever drilled into an entirely new district, to intersect wide zones of strong IOCG alteration in both holes is an incredible result. While we need to wait for assays before drawing any further conclusions, the holes have clearly demonstrated the presence of two large hydrothermal systems. The presence of native copper in the first hole is an even more encouraging development.

"I'm more than pleased by the efforts of the field team out at Georgina, as the achievements of the last four months has put Greenvale at the front of the pack of East Tennant explorers.

"With assays on the way for the first hole, samples despatched for the second hole, and planned down-hole geophysical surveying for January, Greenvale is well-placed to hit the ground running when drilling re-commences in February."

Authorised for Release

This announcement has been approved by the Board for release.

Alan Boys
Company Secretary

Contact
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COMPETENT PERSON'S STATEMENT:

The information in this report that relates to Exploration Results 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 the company and is eligible to participate in a performance rights 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.

JORC Code, 2012 Edition – Table 1 Report Template

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. • 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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	• NQ drill core to be cut in half lengthwise and sampled on nominal 1m intervals or as determined by geological boundaries
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	• Mud-rotary methods employed to bit refusal, and HQ and ND diamond core drilling methods thereafter. • Drill core that has intersected basement (Proterozoic) rocks has been oriented where possible
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.	• Core blocks inserted between runs by drill crew record run length and recovered core • Core recovery logged by field staff/contractors at the point of core markup
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	• Drill core logged by field geologists to capture interpreted lithology, weathering, alteration and veining, and structure orientations where appropriate

Criteria	JORC Code explanation	Commentary
	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.	• Core logging is largely qualitative, with some quantitative estimates of notable minerals • Core tray photography undertaken of wet and dry drill core • All drill core logged
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 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.	• Half-core to be crushed and pulverized to 85% passing 75 micron particle size prior to assay • Half drill core considered representative of sample intervals
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	• NATA-accredited ALS Laboratories conducting preparation and analysis of samples • Laboratory analysis to include Fire Assay and AAS finish for Au and 4-acid digest and ICP-MS for a 48-element suite • Both techniques considered total for elements of interest • Certified reference materials (CRMs) and blanks inserted in the sample stream to monitor accuracy and potential contamination as part of Company QAQC processes • ALS in-house QAQC includes the use of CRMs, splits and duplicates to monitor accuracy and precision
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.	• Sample intervals assigned a unique sample identification number prior to core cutting and analysis • Significant intersections to be checked against drill core photography and QAQC results by a company geologist
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.	• Drill collar location determined using a Garmin hand-held GPS with location reported in GDA94 MGA Zone 53 • Downhole surveys determined using a Reflex north-seeking Gyro at

Criteria	JORC Code explanation	Commentary
	• Specification of the grid system used. • Quality and adequacy of topographic control.	20m depth intervals. Interpolated survey points between 820 and 880m in hole KNRDD004 due to unreliable downhole survey measurements at these locations
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.	• 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.	• Insufficient information available due to early exploration status
Sample security	• The measures taken to ensure sample security.	• Samples delivered from the drill site to Freight agent by Company staff/contractors for delivery to external laboratory
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• Not applicable

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 with any known impediments to obtaining a licence to operate in the area.	• Tenements held in 100% Greenvale subsidiary Knox Resources Pty Ltd
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• Not applicable

Criteria	JORC Code explanation	Commentary
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 KNRDD002 collared at 506771 E 7825392 N and 250m RL • Drillhole KNRDD004 located at 509608 E, 7825960 N and 251m RL • Drillhole KNRDD002 setup at 170° azimuth and -61.5° dip • Drillhole KNRDD004 setup at 160° azimuth and -61.5° dip • Drillhole KNRDD002 drilled to a total depth of 796.6m • Drillhole KNRDD004 drilled to a total depth of 900.9m • Collar location reported in GDA94 MGA Zone 53
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. • 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.	• Not applicable
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 (eg 'down hole length, true	• Insufficient information available due to early exploration status

Criteria	JORC Code explanation	Commentary
	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.	• See in release
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• 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; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• This release describes all relevant information
Further work	• The nature and scale of planned further work (eg 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.	• Further drilling is planned for the Twin Peaks prospects. Assay work and petrography will be conducted on selected drill core. • Downhole geophysical surveying is planned for the Twin Peaks prospects • Further target generation will be conducted on prospective geophysical anomalies identified from airborne magnetic survey data