PEAK MINERALS

ASX Codes: PUA, PUAOD

19 December 2022

# Diamond drilling to commence at Green Rocks and Earaheedy in Q1, 2023 following positive EM results

# Highlights

- Diamond drilling to commence in Q1, 2023 at Rixon, Earaheedy and Copper Hills following the completion of a positive MLEM survey
- The MLEM survey completed over the Copper Hills target area, confirmed subsurface conductivity. Copper Hills was last drilled in early 2021, including CHRC002<sup>1</sup> which intersected 37m of 0.67% Cu including 6m at 1.21% Cu and 5m at 1.42% Cu
- Reprocessing of the Earaheedy VTEM data has confirmed further untested targets at Cork Tree prospect, where previous drilling has returned intercepts of 4m at 1.20% Cu from 26m and 3m at 1.57% Cu<sup>2</sup> from 86m to EOH
- A highly conductive zone has been identified at the NW end of the Earaheedy prospect, considered lithological, coincident with a tellurium anomaly
- \$180k grant for diamond drilling at Copper Hills and \$132k grant for the Earaheedy diamond drill program has been awarded to Peak under the Western Australian Government's Exploration Incentive Scheme (EIS)

Peak Minerals Ltd (ASX: **PUA**) (**Peak** or the **Company**) is pleased to announce that the Moving Loop Electromagnetics (**MLEM**) survey completed recently has confirmed conductivity downdip and north of the Down Hole Electromagnetics (**DHEM**) target at Copper Hills completed in 2010. Both modelled plates dip towards a deeper VTEM target (~450-500m), which now requires diamond drill testing.

The plates are thought to represent disseminated copper mineralisation which is generally seen above more significant mineralisation. In 2021, Peak drilled **37m at 0.67% Cu**, the diamond holes planned for the upcoming program at Copper Hills will target the deeper VTEM anomaly and aim to intersect geology at an ideal angle in an area, which to date, has been completely untested.

Diamond drilling will also take place at Rixon, to follow up the Lady Alma-Rixon gabbro contact area and coincident historical VTEM anomaly, and at Earaheedy to follow up VTEM targets, which have not been properly tested with shallow historical drilling. The working mineralisation model has changed to a Copper VMS model with the new geology interpretation. The wide late-time conductive zone on the NW end of the Earaheedy prospect will also be investigated further.

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<sup>&</sup>lt;sup>1</sup> ASX Announcement dated 8 March 2021 'Maiden drilling program intersects broad copper sulphide mineralisation'.

<sup>&</sup>lt;sup>2</sup> ASX Announcement dated 2 December 2021 'Copper mineralisation extends across Earaheedy Project'.

Peak Minerals Limited



Historical gridded geochemical sampling shows weak barium and tellurium anomalies over the area and 2021 field work mapped breccias.

The combined \$312k, awarded to Peak under the Western Australian Government's **EIS**, will be applied towards these diamond drilling programs.

Peak's CEO, Jennifer Neild commented:

"It is now time to diamond drill test the Rixon and Copper Hills areas. The depth of interpreted mineralisation requires a reliance on the strong geological modelling from geochemistry and geophysics that has been undertaken in the past year. Despite having many historical holes and samples across the ground, the area hadn't been sampled for all elements needed to effectively target mineralisation until Peak picked up the ground. Adding to the excellent historical geological mapping, we've further defined areas of interest where indicator elements and elemental ratios overlap with geophysical anomalies.

"At Earaheedy, we are looking forward to getting back on the ground to follow up these geophysical anomalies defined by VTEM. The recent reprocessing of geophysics at both Green Rocks and Earaheedy has given us cause to re-examine our preconceived notions about the geology and I'm incredibly excited to see what comes out of the ground."

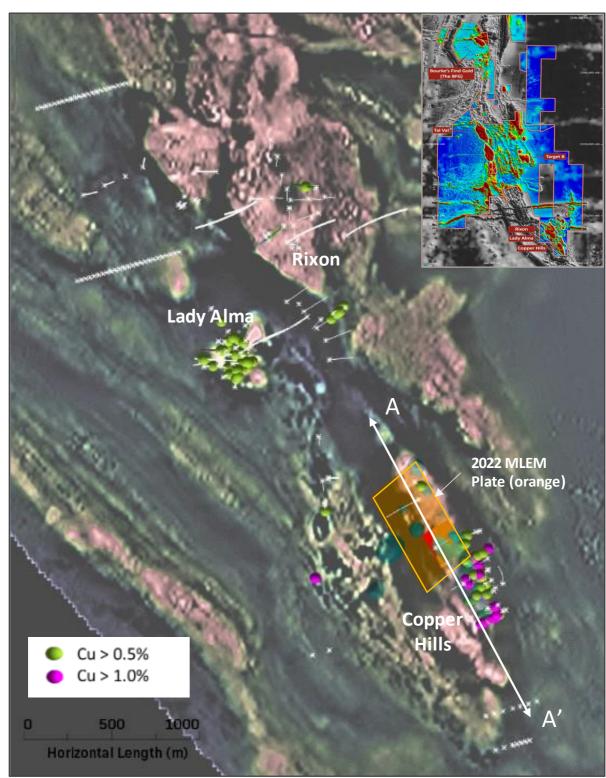
### Copper Hills (EL51/1716)

Geological logging of historical core suggests some intercepts of copper are of magmatic nature, rather than shear hosted. Previous attempts at defining the stratigraphy through diamond drilling did not achieve the hole depth required and ultimately was redefining the shear hosted Cu-Au. Peak has produced 3D geological models from data gathered over 2022 which has helped the planning of the Q1, 2023 program which will target deeper **VTEM** anomalies, using the newly acquired **MLEM** to vector in on this (Figures 1 and 2).

Beyond 400m depth, ground geophysics is not always effective, but is useful in mapping geology above this and we believe that vein and disseminated mineralisation is being mapped by the weak conductivity near the surface. Induced polarisation surveys (IP) are a useful method in mapping disseminated mineralisation but ultimately diamond drilling to test the MLEM/VTEM target is necessary.

The recently acquired **MLEM** plates suggest they are dipping towards a deeper, stronger **VTEM** anomaly (see Figures 1 and 2). The planned holes will aim to intersect geology at an ideal angle in areas, which to date, have not been tested.

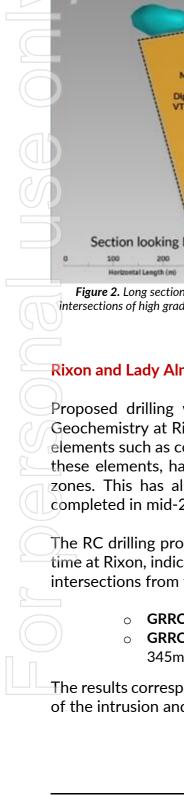




**Figure 1.** Overview area of Copper Hills, Rixon and Lady Alma (EL51/1716) with Ch 26 VTEM over 1VD TMI Magnetics. Historical drilling also visible. Latest RC holes (drilled in June 2022) are labelled. Inset shows positions of MLEM lines over the area including the 2 MLEM surveys completed by Peak Minerals in 2022. A-A' represents section show in Figure 3.



A



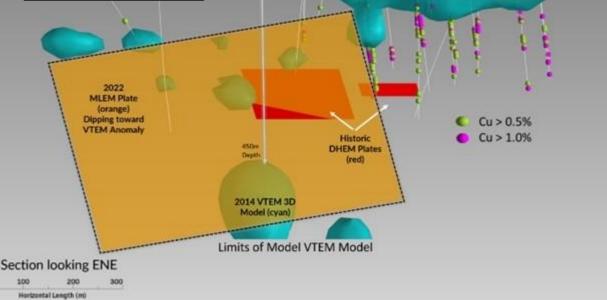


Figure 2. Long section of the Copper Hills area including 2022 Copper Hills MLEM Plate completed recently by Peak, numerous intersections of high grade Cu and Au are seen, but little follow-up of magmatic intersections has been done, nor has there been much follow up to the north along the shear.

# Rixon and Lady Alma (EL51/1716)

Zone of Limited Drilling

Proposed drilling will take place at Rixon to follow up the Lady Alma-Rixon contact area. Geochemistry at Rixon, along the edges of the ultramafic intrusion, remain prospective. Elevated elements such as cobalt, copper, nickel, titanium, chromium, magnesium, iron, sulfur, and ratios of these elements, have helped define the fertility of the system and aided in targeting particular zones. This has also been done in combination with the results of the RC drilling program, completed in mid-2022<sup>3</sup>, geological mapping and geophysical processing and interpretation.

The RC drilling program returned elevated Pt and Pd results which were intersected for the first time at Rixon, indicating a Cu-Ni-PGE system. PGE horizons are typical of a magmatic system. Key intersections from that program included:

- GRRC004 intersected 1m at 0.82g/t 3E (Pt+Pd+Au), 0.54% Cu and 0.10% Co; and
- GRRC006 intersected 15m at 0.29 g/t 3E (Pt+Pd+Au), including 4m at 0.52g/t 3E from 345m to EOH

The results correspond to the interpretation that PGEs might occur as horizons near the peripheral of the intrusion and suggest that we are close to the prospective areas.

<sup>&</sup>lt;sup>3</sup> ASX Announcement dated 26 October 2022 'Pt-Pd Horizons Intersected at Rixon Confirming Cu-Ni-PGE Fertility'.



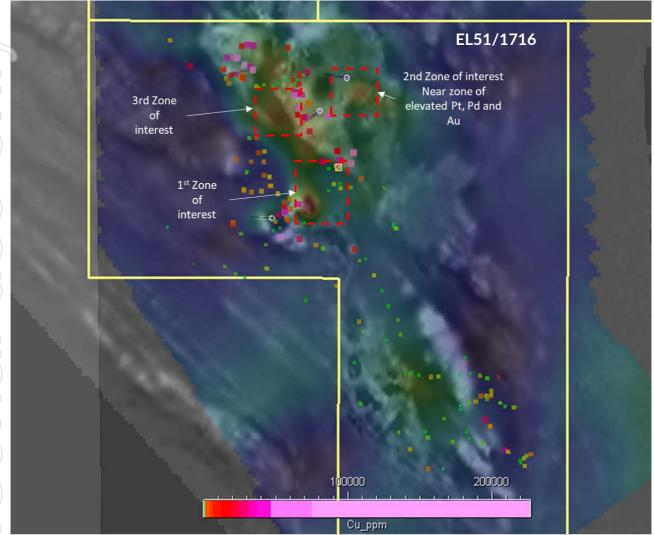


Figure 3. Plan view of the Rixon, Lady Alma and Copper Hills area. Cubes represent surface sampling showing Cu in parts per million (ppm). 1VD TMI Magnetics image is overlain by Ch 23 VTEM image. Hierarchy or Rixon-Lady Alma targets shown as red boxes.

### Earaheedy (EL52/3751)

At Earaheedy, reprocessing of historical **VTEM** data was completed with significant conductive features being identified in the provided electromagnetics imagery. While planning ground geophysics, the data was reprocessed a second time and has shown slight changes to the target area. Both zones are overlain by copper oxide anomalism on surface, though the high-grade copper assays, including EHAC0024 which intersected **4m @ 1.2% Cu**, overlie the newer conductive body. Both targets will be investigated. The overall conductive zone is circular in nature and is consistent through depth slices lending to further confidence in the target area.

There are suggestions that a syncline or horst/graben architecture is present, though fault positions have not been substantiated in mapping. Given the depth of the targets, between 300m - 500m, no further geophysics was recommended; seismic is ideal in this basin environment within this depth bracket and may be considered post-drilling.



To the NW on the map lies a highly conductive area that has been defined as a conglomerate in historical mapping. Historical gridded geochemical sampling of the area showed no occurrence of copper, zinc or lead. However, barium and tellurium anomalies exist in the position. Tellurium is one element that can be used in vectoring in on potential heat sources. Barium might be elevated if there is a barite/silica cap above VMS style mineralisation. Geological mapping completed by Peak suggests samples collected are breccias rather than conglomerates.

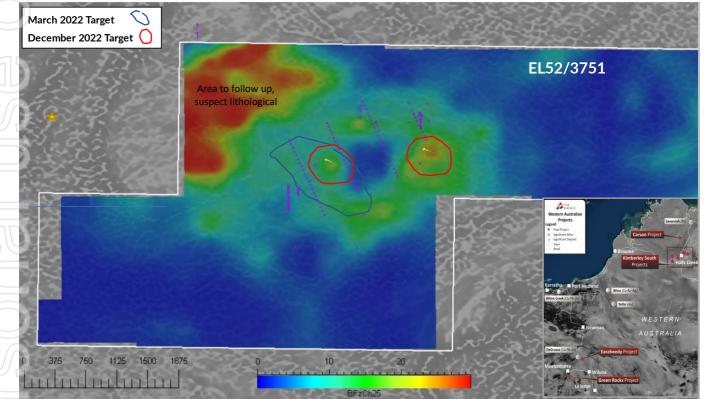


Figure 4. Earaheedy Project showing recent reprocessing of VTEM data Ch 25 cut to EL52/3751 tenement area and over 1VD TMI-RTP Magnetics image. Conductive zone to the NW attributed to a possible lithological conductor. Historical drilling with Cu intercepts above 1000ppm are shown with red discs attached. No holes have been drilled deep enough to target EM targets.

This announcement is authorised by the Board of Peak Minerals Limited.

For further information please contact:

#### **Jennifer Neild** Chief Executive Officer Peak Minerals Limited Tel: +61 8 6143 6748



#### **Competent Person's Statement**

The information in this announcement that relates to new exploration results from the MLEM survey is based on information compiled by Ms Jennifer Neild, who is a Member of the Australian Institute of Geoscientists. Ms Neild is employed by Peak Minerals Limited as Chief Executive Officer and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she 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'. Ms Neild consents to the inclusion in this announcement of the matters based on her information in the form and context in which it appears. Ms Neild holds securities in the Company.

This information in this announcement that relates to historical exploration results were reported by the Company in accordance with listing rule 5.7 on 8 March 2021, 2 December 2021 and 26 October 2022. 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.



## APPENDIX A: JORC Code, 2012 Edition – Table 1

Section 1: Sampling Techniques and Data (Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Comments
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.	All drilling was reported in ASX dated release 2 December 2021 – Copper Mineralisation extends across Earaheedy Project, 8 March 2021- Maiden drilling program intersects broad copper sulphide mineralisation and 26 October 2022 – Platinum- Palladium Horizons Intersected at Rixon Confirming Copper-Nickel-PGE Fertility
	•Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	No new drilling is being reported.
	<ul> <li>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.</li> </ul>	No new drilling is being reported.
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).	No new drilling is being reported.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	No sampling is being reported.
$\bigcirc$	• Measures taken to maximise sample recovery and ensure representative nature of the samples	No sampling is being reported.
	• Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No sampling is being 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.	No drilling is being reported.



No drilling is being reported.

No drilling is being reported.

No diamond core was collected.

No sampling is being reported.

undergoing QAQC daily.

40000m<sup>2</sup> and current of 50Å.

millisecond time bases.

shown.

2022 MLTEM (MLEM) at Copper Hills:

Historical VTEM Survey at Earaheedy:

A subset of data, which covers E52/3751, was acquired from a 13,1666-line km survey flown for Sandfire Resources in 2018. The survey was flown at 300m line spacing using the UTS Time Domain EM

(VTEM max) system. The aircraft flew at mean altitude of 82 metres and the sensor/loop was towed 48m below the aircraft. The transmitter had a loop diameter of 35m and a peak dipole moment of 661,856nIA, 25Hz base frequency with receiver Z, X coils. The system was continually calibrated with data

The survey used the SMARTem24 receiver with SMART fluxgate B-Field Sensor. 1Hz Base frequency. Geonics Transmitter with Tx Area of 10000m<sup>2</sup> at 48A current and ~1msec ramp time. Consisted of 3 lines acquired with 100m stations, in loop with 200m loops. Data QAQC

2014 MLTEM (MLEM) at Copper Hills by Mithril using the SMARTem24 Receiver with Base Freq of 2Hz, Transmitter was the Zonge ZT30 with Tx Area of

Survey consisted of 100m stations with 50m infill. Acquisition parameters are unknown and plates not

DHEM was commissioned by Silver Swan in 2010, using the Crone DHEM system operating at 150 and 50

was reviewed by the consulting geophysicist.

	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
Sub-sampling	The total length and percentage of the relevant intersections logged.     If core, whether cut or sawn and
techniques and sample preparation	<ul> <li>whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>
	•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 <i>in-situ</i> material collected, including for instance results for field duplicate/second-half sampling.
(D)	• 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.



No sampling is being reported.

		• 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.
	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.
	5	
		•Discuss any adjustment to assay data.
	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.
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		•Specification of the grid system used.
		• Quality and adequacy of topographic control.
Ć	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.
Пп		• Whether sample compositing has been applied.
	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.

of nd	•The verification of significant intersections by either independent or alternative company personnel.	No drilling is being reported.
	•The use of twinned holes	No drilling is being reported.
	• Documentation of primary data, data entry procedures, data verification, data	No drilling is being reported.
	storage (physical and electronic) protocols.	<ul> <li>Heli-borne Electromagnetic Survey:</li> <li>Data was acquired through the UTS acquisition system.</li> <li>2022 MLTEM Survey acquired and QAQC procedures and documentation checked by Company's consultant geophysicist.</li> <li>2014 MLTEM is unknown though data has been checked for quality by consulting geophysicists for Peak.</li> <li>2010 DHEM is unknown though data has been checked for quality by consulting geophysicists for</li> </ul>
	• Discuss any adjustment to assay data.	Peak. No sampling is being reported.
	• 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.	No drilling is being reported. Heli-borne Electromagnetic Survey: Data was acquiring using the UTS PC104 navigation system utilizing a NovAtel's WAAS (Wide Area Augmentation System) enabled GPS receiver. Height was controlled by a Terra TRA 3000/TRI 40 radar altimeter. MLTEM: Real-time GPS navigation system. Coordinates presented are in GDA94, UTM Zone 50S.
	•Specification of the grid system used.	All data quoted in this Report is using the GDA1994 MGA, Zone 50 coordinate system.
	•Quality and adequacy of topographic control.	Topography based on publicly available data.
g ion	• Data spacing for reporting of Exploration Results.	No drilling is being reported.
	• 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.	No drilling is being reported.
	• Whether sample compositing has been applied.	No sample results are being reported.
of ion 1	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	No drilling or sampling data is being reported. Heli-borne Electromagnetic Survey: The survey was flown in an east-west direction, roughly perpendicular to stratigraphy. MLTEM 2022 was acquired at a slightly different angle than 2014 MLTEM data to accommodate the ovoid shape of the intrusion. Perpendicular to the overall strike of the geology. Lines are acquired perpendicular to strike of stratigraphy.



		DHEM was performed on diamond holes drilled by Silver Swan.
	• 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.	No sampling data is being reported.
Sample security	•The measures taken to ensure sample security.	No sampling data is being reported.
Audits or reviews	•The results of any audits or reviews of sampling techniques and data.	Apart from a desktop review of the historical surface and drill data, no audits have been undertaken.



#### 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	<ul> <li>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.</li> <li>The security of the tenure held at</li> </ul>	Peak Minerals Ltd has 100% of Greenrock Metals Pty Ltd and CU2 Pty Ltd and thus 100% of E52/3751 – the Earaheedy Project and E51/1716 – the Copper Hills Project. E52/3751 is a granted tenement and is in full force. Greenrock Metals Pty Ltd retains a 1% NSR for all minerals sold. No known impediments exist with respect to the
		the time of reporting along with any known impediments to obtaining a licence to operate in the area.	exploration or development of the tenements.
$\mathcal{Y}_{r}$	Exploration done by other parties	•Acknowledgment and appraisal of exploration by other parties.	Previously reported.
	S S S S S S S S S S S S S S S S S S S		MLTEM (MLEM 2014) was completed by Mithril/Doray Minerals over the southern portion of Copper Hills. VTEM already reported by Peak at Earaheedy and Copper Hills.
			DHEM was acquired for Silver Swan in 2010 by Crone Geophysics.
	Geology	•Deposit type, geological setting and style of mineralisation.	Previously reported.
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	Drill hole Information	<ul> <li>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: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	The historical drill results material to the understanding of the exploration results are referred to in this report only as a reference to map the existing halo of copper mineralisation.
	2)		
		• 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 information material to the understanding of the exploration results has been excluded.



	Data aggregation methods	<ul> <li>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.</li> </ul>	No assay results are being 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.	No aggregate intercepts are reported.
1		•The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalence data are reported.
	Relationship between mineralisation widths and intercept lengths	•These relationships are particularly important in the reporting of Exploration Results.	No analytical results are being reported.
30		• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	The geometry of the mineralisation below surface is not known at this time.
		• 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 width not known').	N/A – no down hole lengths are being 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.	Relevant maps and diagrams have been included i the body of this report.
	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.	No results are being reported.



Other substantive exploration data
$\bigcirc$
Further work
(D)

ostantive on data	•Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Heli-borne Electromagnetic Survey: Any geophysical images shown in the body of the announcement show intensity relative to surrounding data. Any modelled data presented in this announcement is based on predictions (models) of the geophysical response of sub-surface features using industry-standard methods and measured and assumed input parameters. A degree of uncertainty is therefore associated with these models. MLTEM (MLEM) Data shows conductive plates as defined by the consulting geophysicists from mid-to- late time EM responses. What these responses represent is to be tested.
ork	•The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Reprocessing of the VTEM survey at Earaheedy has been further been refined by additional consultants to better identify the target areas. These areas are being combined with historical and Peak drilling data to plan targets for diamond drilling testing.
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	A schematic geological interpretation has been provided but will be further refined as processing and targeting is completed.