



## MT CHALMERS

### Highlights

16 June 2022



Assay results from a further nine RC holes have now been received;



Results include multiple wide and high-grade intersections of up to 5.1% CuEq;



Significant intersections include<sup>1</sup>:

- **69m @ 2.0% CuEq from 137 metres; including**
  - **16m @ 5.1% CuEq from 137 metres; and**
  - **4m @ 3.9% CuEq from 163 metres.**
- **14m @ 3.0% CuEq from 64 metres;**
- **15m @ 2.1% CuEq from 25 metres;**
- **40m @ 1.2% CuEq from 76 metres; including**
  - **9m @ 4.1% CuEq from 107 metres.**



A further eight RC holes for 1,015 metres has been completed with samples delivered to ALS;



Downhole EM survey data capture now complete with results to be announced shortly; and



**Drilling continues unabated with further results expected shortly.**

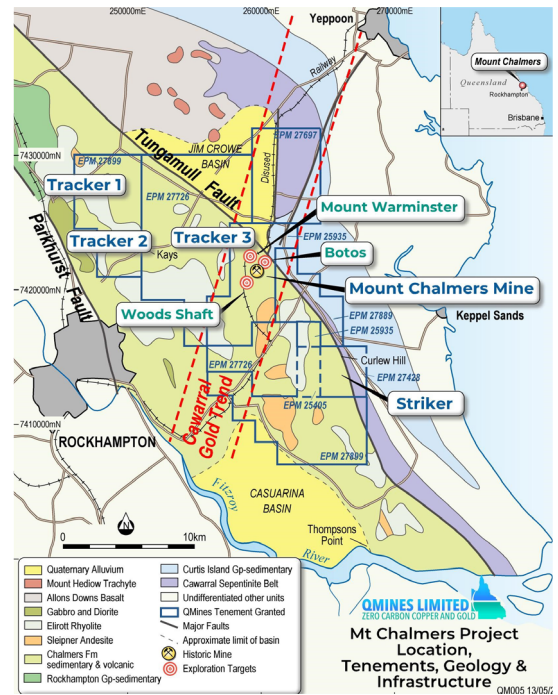
<sup>1</sup> Individual grades presented in table 2.

## Overview

QMiners Limited (**ASX:QML**) (**QMiners** or **Company**) is pleased to provide the following results from the ongoing RC drilling program at its flagship Mt Chalmers Copper Project, located 17km north-east of Rockhampton in Queensland (Figure 1).

High-grade copper equivalent (CuEq) results have been intersected in the nine most recent RC drill holes reported from the May - June drilling program, including up to 5.1% CuEq in MCRC012 and 4.1% CuEq in MCRC017. Base and precious metal grades from the May - June drilling program can be seen in Table 2.

Figure 1: Mt Chalmers Project, tenure, geology and infrastructure.



## Management Comment

QMiners Executive Chairman, Andrew Sparke, comments:

“The historic Mt Chalmers copper mine continues to deliver shallow, thick and high-grade copper and gold results. Further step out drilling is continuing where the deposit remains open in a number of directions.

The RC drill rig and our drilling team are performing exceptionally well with significantly more meters being delivered on a more regular basis. More results are expected shortly with a further eight holes submitted to ALS for assay.”

The Company continued RC drilling operations at Mt Chalmers during June with an additional eight RC holes completed for 1,015 metres drilled. The holes drilled to date can be seen in Figure 2 and represent the continuation of the planned 30,000 metre RC program. All drillholes were sampled at one metre intervals with samples being submitted to ALS Laboratories in Brisbane for assay.

Holes and metres drilled from the May-June drilling programs are summarised in Table 1. Completed drill hole locations are shown in Figure 2. Significant results from this recent Mt Chalmers drilling program are shown in Table 2.

PROJECT	DRILLING TYPE	HOLES	METERS	TENEMENT	STATUS
Mt Chalmers	RC	9	1,632	EPM 25935	Completed
Mt Chalmers	RC	8	1,015	EPM 25935	<b>Assays Pending</b>
<b>TOTAL</b>		<b>17</b>	<b>2,647</b>		

Table 1: Total RC holes drilled at Mt Chalmers May-June 2022..



The aim of the current drill program is to expand the resource (step-out drilling), and upgrade the resource by infilling areas of low confidence. Mineralised intersections in some holes are broader than expected based on historic drilling. In addition to broader zones of mineralisation, stacked mineralisation horizons have also been noted. The current program comprises a planned 30,000m drilling program for 50 RC holes designed to identify new mineralisation and provide a greater understanding of the geological controls.



Figure 2: May – June 2022 RC drill hole collar locations, Mt Chalmers project.

RC holes MCRC012 – MCRC016 and MCRC028 were drilled across the north-eastern end of the Main Pit. Holes MCRC017 – MCRC027 were drilled along the western side of both the Main Pit and the West Pit. Results for holes MCRC012 – MCRC020 have been received and have returned high-grade results over broad widths including 69m @ 2.03% CuEq in MCRC012 and 15m @ 2.08% CuEq in MCRC017.

The recent drilling has assisted in identifying a second mineralised horizon not previously recognised. The second horizon is present below the current resource wireframes and has been observed in multiple holes.

Going forward, QMines will deliver its results as CuEq with base and precious metal assays that make the CuEq shown in Table 2. Metal Price Assumptions and Metal Recovery used in the calculations are consistent with the Company's recent resource upgrade delivered to the market in December 2021<sup>1</sup>.

The current drilling program at Mt Chalmers is planned to continue throughout Q2 and into Q3-2022 for a total program of approximately 30,000 metres (3,177m now completed) with results now being reported on a regular basis. So far in June, the Company has completed approximately 1,015 metres of RC drilling. This is in line with Company's monthly expectations for metres drilled and will continue to provide investors with consistent news flow over the coming months.

Examples of the recent mineralised intersections from the drilling program can be seen in Figure 3, Sections AA' and BB' (Figures 4-5), with several drillholes including MCRC012, MCRC017 and MCRC018 intersecting high-grade mineralisation.

<sup>1</sup> ASX Announcement - [Mt Chalmers Resource Upgrade](#), 1 December 2021.



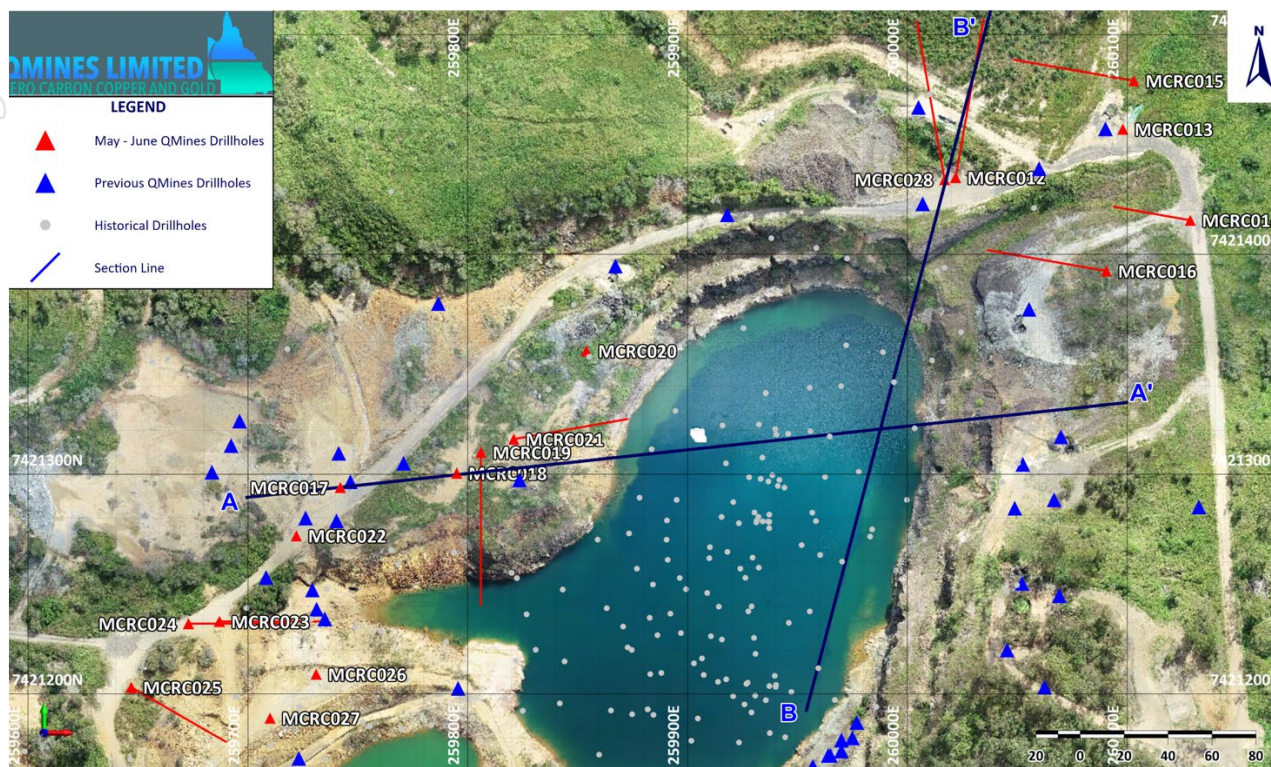


Figure 3: May-June 2022 RC drillhole collar locations and Sections AA' and BB'.

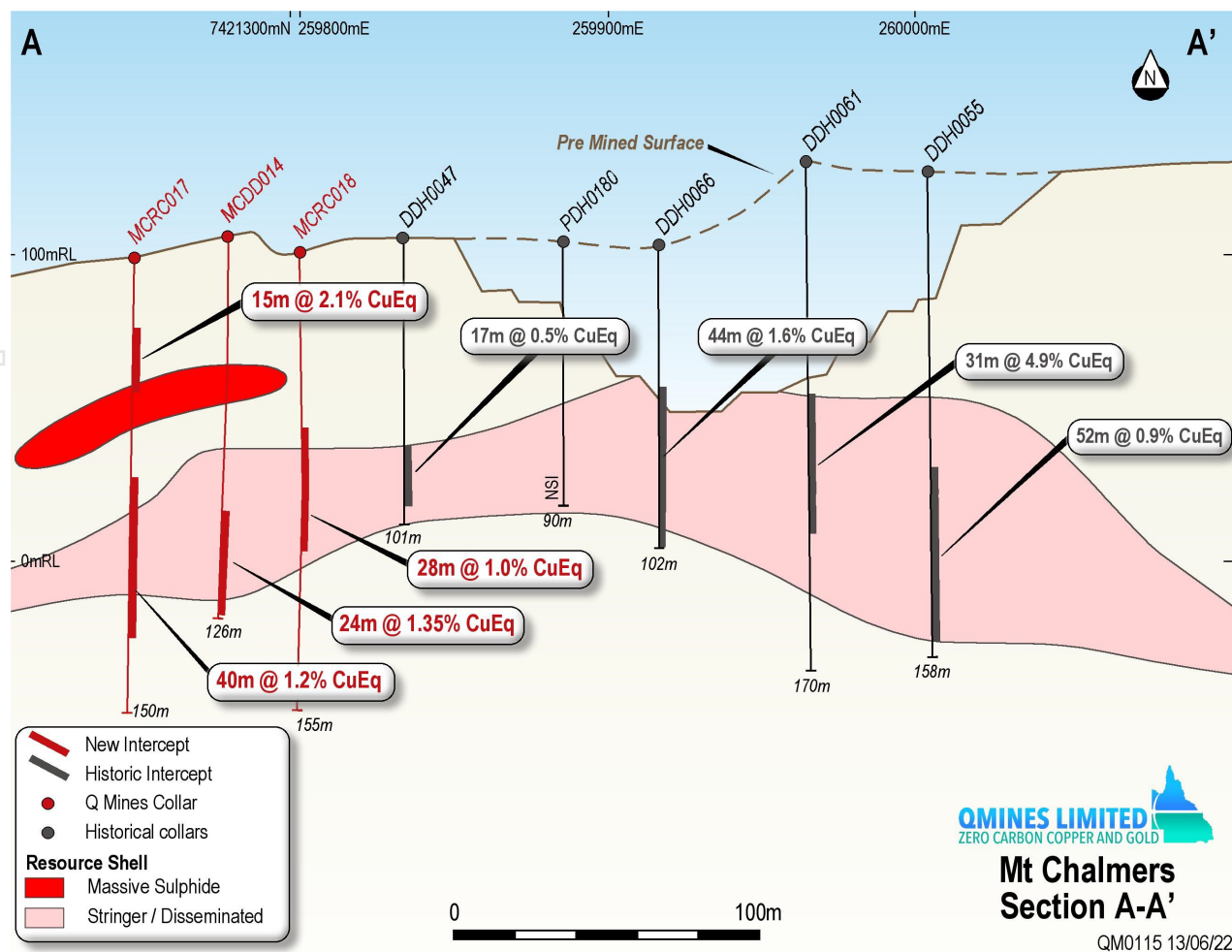


Figure 4: Section AA' mineralised intersections with resource wireframe from December 2021, (looking north).

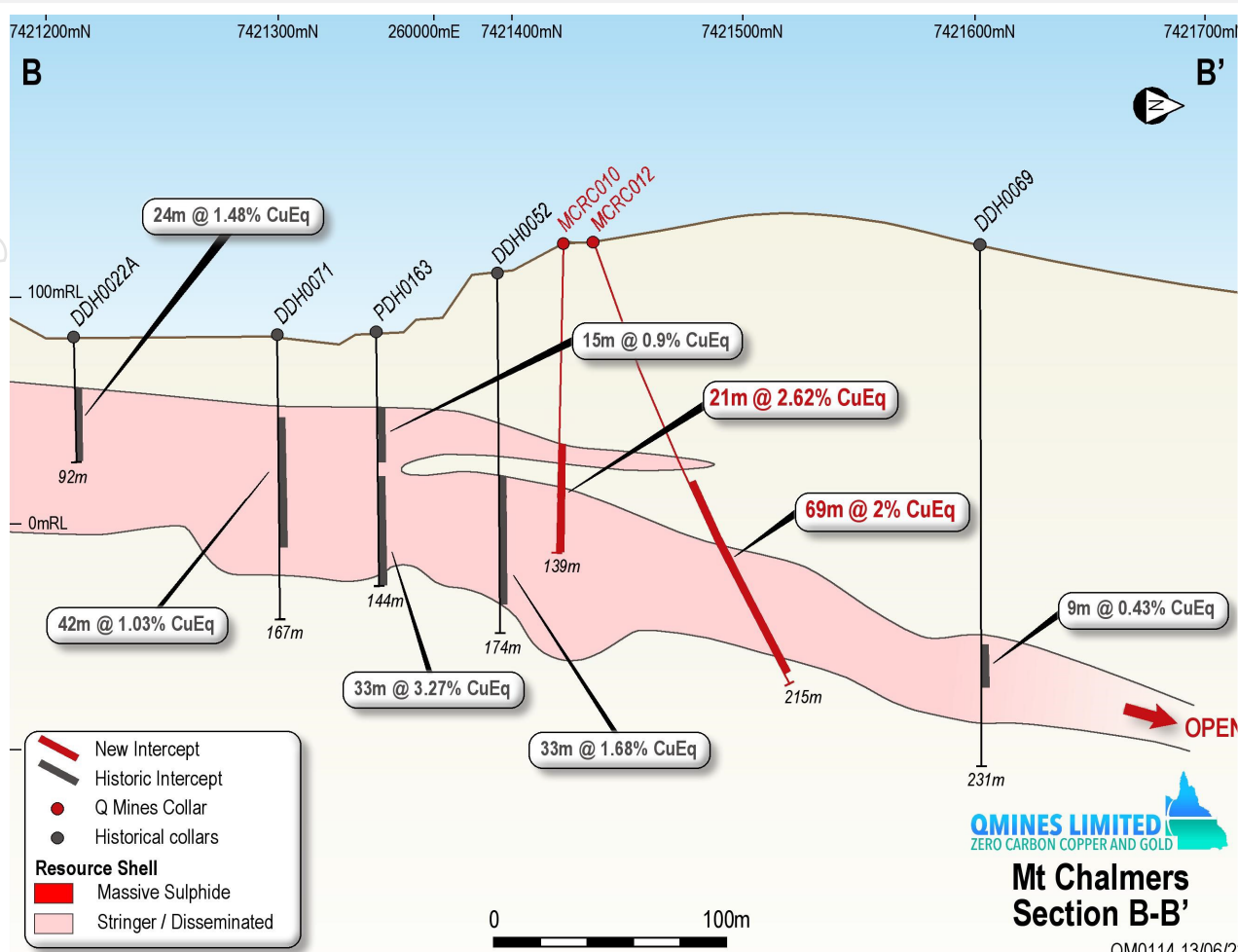


Figure 5: Section BB' mineralised intersections with resource wireframe from December 2021, (looking west).

## Discussion

Kuroko-style mineralisation usually occurs as clusters of mineralised zones, which appears to be the case for Mt Chalmers, which may be only one of several deposits. In addition, the interpreted structural dislocation for the mine area may have caused the break-up of larger mineral bodies structurally dispersing lenses within the general Mt Chalmers area.

The geometry of the Mt Chalmers ore body indicates a relatively flat lying asymmetrical massive sulphide mound (Figure 9) with both historical and recent drilling results intersecting higher grade Cu-Au massive sulphides proximal to the centre of the deposit and high grade Pb, Zn, Ag in the massive sulphide and exhalate ore body distal from the centre of the orebody. Similar metal zoning has also been observed in the stringer/disseminated zone beneath the Massive Sulphide Ore Body where Cu-Au grades are typically higher in the centre and Pb, Zn, Ag grades typically higher distally and at greater depths.

A structural study of drill core from holes drilled in early 2022 has found that the sulphide stringer zone (SSZ) is comprised of anastomosing and multidirectional sulphide veins, often present as breccia cement, with no clearly defined structural orientation. This is more typical of boiling zone architecture. Stringer sulphides are more highly concentrated at the top of the SSZ where they directly underlie the massive sulphide horizon. These findings suggest the massive sulphide horizon has at least in part resulted from the combined surface output of this widespread boiling zone and possibly more so than a single feeder pipe.



Historical drilling is largely constrained in and around the existing Mt Chalmers mine. It appears that the Western Lode may have been transported downslope from the source and areas of low relief during seafloor sulphide deposition may be potential zones for transported high grade mineralization. This theory is largely untested at Mt Chalmers but is being tested by the current drilling program. A study of potential fault displacements and their effect on metal zoning is currently underway.

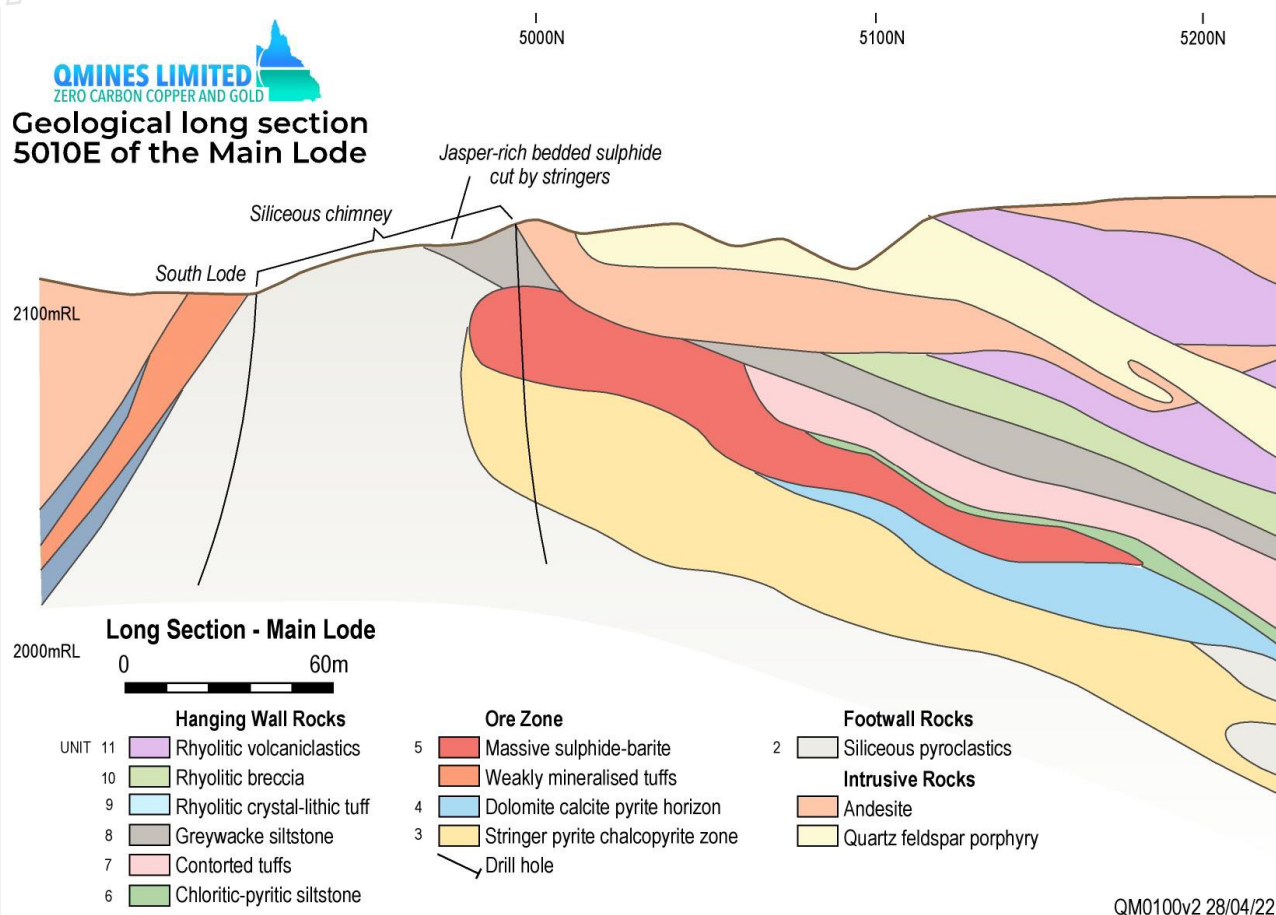


Figure 6: Geological Long Section 5010E of the Mt Chalmers Main Lode (pre-mining), (Large & Both, 1980).

## Geology

The geology of the Mt Chalmers deposit is relatively well-known with the Mt Chalmers mineralisation being identified as a well-preserved, volcanic-hosted massive sulphide ("VHMS") mineralised system containing copper, gold, zinc, lead and silver. Mineral deposits of this type are deemed syngenetic and formed contemporaneously on, or in close proximity to, the sea floor during the deposition of the host-rock units. The mineralisation is believed to have been deposited from hydrothermal fumaroles, or direct chemical sediments or sub-seafloor massive sulphide replacement zones and layers, together with footwall disseminated and stringer zones within the host volcanic and sedimentary rocks.

The mineralisation system at Mt Chalmers displays some similarities to Australian VHMS deposits of Cambro-Ordovician and Silurian age, however closer comparison can be made with the Kuroko-style of VHMS of Tertiary age in Japan (Taube 1990).

The Mt Chalmers mineralisation is situated in the early Permian Berserker Beds, which occur in the fault-bounded Berserker Graben, a structure 120km long and up to 15km wide. The graben is juxtaposed along its eastern margin with the Tungamull Fault and in the west with the Parkhurst Fault (Figure 1). The Berserker Beds lithologies consist mainly

of acid to intermediate volcanics, tuffaceous sandstone and mudstone (Kirkegaard and Murray 1970). The strata are generally flat lying, but locally folded. Most common lithotypes are rhyolitic and andesitic lavas, ignimbrites or ash flow tuffs with numerous breccia zones.

Rocks of the Berserker Beds are weakly metamorphosed and, for the most part, have not been subjected to major tectonic disturbance, except for normal faults and localised high strain zones that are interpreted to have developed during and after basin formation. Recent geological work by the Queensland Department of Natural Resources and Mines places volcanic and sedimentary units of the prospective Chalmers Formation, the host unit to the Mt Chalmers copper-gold mineralisation, at the base of the Berserker Beds.

The Ellrott Rhyolite and the Sleipner Member andesite were emplaced synchronously with the deposition of the Chalmers Formation. Late Permian to early Triassic gabbroic and dioritic intrusions occur parallel to the Parkhurst Fault. Smaller dolerite sills and dykes are common throughout the region and in the Berserker Beds.

## Ongoing Exploration Activity



Ongoing drill programs for the planned +30,000m of RC and Diamond drilling;



Drilling to commence at the Woods Shaft prospect, the first of three Exploration Targets (JORC 2012);



Preparations underway to drill Tracker 3, the first of four large copper and zinc soil anomalies;



Downhole EM data capture is now completed with interpretation underway; and



**Third resource upgrade planned to be released in CY-2022.**

## Copper Equivalent Calculations

All Copper Equivalent (CuEq) figures included in this announcement are calculated based on the following formula:

$$\text{CuEq(\%)} = (\text{Cu grade} \times \text{Cu recovery}) + ((\text{Pb grade} \times \text{Pb recovery} \times \text{Pb price}) / \text{Cu Price}) + (\text{Zn grade} \times \text{Zn price} \times \text{Zn recovery}) / \text{Cu price} + ((\text{Au grade} \times \text{Au price} \times \text{Au recovery}) / \text{Cu price}) + ((\text{Ag grade} \times \text{Ag price} \times \text{Ag recovery}) / \text{Cu price})$$

All grades are converted to % and prices converted to \$/T prior to calculating CuEq.

Commodity price used: Au price of US\$1,900/oz, Ag price of US\$25/oz, Cu price of US\$6,655/t, Pb price of US\$2,450/t, and Zn price of US\$3,450/t.

The following metallurgical recoveries have been applied: 87% Au, 70.5% Ag, 97.0% Cu, 85.0% Pb and 77.0% Zn.

It is the company's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold. CuEq with all results for base and precious metals that make up the CuEq also shown. The CuEq Formula uses the same Metal Price Assumptions and Metallurgical Recovery Grades used in the Company's recent resource upgrade delivered to the market in December 2021<sup>1</sup>.

<sup>1</sup> ASX Announcement - [Mt Chalmers Resource Upgrade](#), 1 December 2021.

## Significant Intercepts

Hole ID	MGA East*	MGA North*	mRL	Dip	MGA Azi*	Max Depth	M from	M to	Int (m)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	CuEq (%)
MCRC012	260022.0	7421435.0	124.0	-70	10	215	137	206	69	0.55	2.5	1.62	NSR	NSR	2.03
including							137	153	16	0.75	6.2	4.6	NSR	NSR	5.11
including							157	159	2	0.9	3.6	4.03	NSR	NSR	4.66
including							163	167	4	2.34	3.5	2.09	NSR	NSR	3.93
and							172	174	2	3.86	2.4	1.13	NSR	NSR	4.20
MCRC013	260098.0	7421457.0	124.0	-90	360	205	150	168	18	0.1	3.3	0.6	NSR	NSR	0.69
MCRC014	260128.7	7421415.5	125.6	-80	280	205	165	178	13	0.06	2	1.22	NSR	NSR	1.25
MCRC015	260103.0	7421479.0	124.0	-75	280	214	153	163	10	0.43	3	0.98	NSR	NSR	1.32
MCRC016	260090.5	7421392.4	125.5	-72	280	178	144	156	12	0.06	1	0.48	NSR	NSR	0.52
MCRC017	259742.0	7421294.0	100.0	-90	360	150	25	40	15	0.22	19.5	0.12	0.9	3.36	2.08
and							76	116	40	0.80	NSR	0.57	NSR	NSR	1.19
Including							79	83	4	0.05	1.8	1.47	NSR	NSR	1.48
Including							107	116	9	3.38	1	1.38	NSR	NSR	4.05
MCRC018	259795.0	7421300.5	104.0	-90	360	155	64	92	28	0.17	8.7	0.44	0.34	0.63	0.99
Including							64	76	12	0.22	15	0.1	0.68	1.23	1.10
Including							84	92	8	0.13	4.8	1.37	NSR	NSR	1.47
MCRC019	259806.0	7421310.0	107.5	-60	180	140	64	78	14	1.6	33.3	0.36	1.1	1.82	2.98
MCRC020	259854.0	7421356.0	104.0	-90	360	100	84	95	11	0.24	30.2	0.03	0.16	0.42	0.70
and							145	147	2	0.17	3.1	0.94	NSR	NSR	1.07
MCRC021	259821.0	7421316.0	103.0	-65	80	125	Assays Pending								
MCRC022	259722.0	7421272.0	98.0	-90	360	125	Assays Pending								
MCRC023	259687.0	7421233.0	95.0	-65	90	115	Assays Pending								
MCRC024	259673.0	7421235.0	95.0	-70	90	130	Assays Pending								
MCRC025	259647.0	7421203.0	93.0	-60	120	100	Assays Pending								
MCRC026	259731.0	7421209.0	103.0	-90	360	110	Assays Pending								
MCRC027	259710.0	7421189.0	103.0	-90	360	100	Assays Pending								
MCRC028	260017.0	7421434.0	124.0	-70	350	210	Assays Pending								

Table 2: Significant intercepts Mt Chalmers RC program May - June 2022\*

### \*Note GDA94, MGA94 Zone 56

- In reported exploration results, length weighted averages are used for any non-uniform intersection sample lengths. Length weighted average is (sum product of interval x corresponding interval assay grade), divided by sum of interval lengths and rounded to two decimal points.
- No top cuts have been considered in reporting of grade results, nor was it deemed necessary for the reporting of significant intersections.
- NSR** = No Significant Result

\*\* Intercept widths reported from vertical drill holes represent the approximate true width of mineralisation.

\*\* Intercept widths reported from ~60-degree dip holes represent approximately 87% true width of mineralisation.



## Forward-Looking Statements

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning QMines Limited planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "expect," "intend," "may", "potential," "should," and similar expressions are forward-looking statements. Although QMines believes that its expectations reflected in these forward- looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that further exploration will result in the estimation of a Mineral Resource or a larger Mineral Resource.

## Competent Person Statement

### Exploration

The information in this document that relates to mineral exploration and exploration targets is based on work compiled under the supervision of Mr Glenn Whalan, a member of the Australian Institute of Geoscientists (AIG). Mr Whalan is QMines' principal geologist and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC 2012 Mineral Code). Mr Whalan consents to the inclusion in this document of the exploration information in the form and context in which it appears.

## About QMines

QMines Limited (**ASX:QML**) is a Queensland based copper and gold exploration and development company. **QMines vision is to become Australia's first zero carbon copper and gold developer.** The Company owns 100% of four advanced projects covering a total area of 1,096km<sup>2</sup>. The Company's flagship project, Mt Chalmers, is located 17km North East of Rockhampton.

Mt Chalmers is a high-grade historic mine that produced 1.2Mt @ 2.0% Cu, 3.6g/t Au and 19g/t Ag between 1898-1982. Mt Chalmers has a Measured, Indicated and Inferred Resource (JORC 2012) of 5.8Mt @ 1.7% CuEq for 101,000t CuEq<sup>1</sup>.

QMines' objective is to grow its Resource base, consolidate assets in the region and assess commercialisation options. The Company has commenced an aggressive exploration program (+30,000m) providing shareholders with significant leverage to a growing Resource and exploration success.

## Projects & Ownership

Mt Chalmers (100%)

Silverwood (100%)

Warroo (100%)

Herries Range (100%)

## QMines Limited

ACN 643 212 104

## Directors & Management

### ANDREW SPARKE

Executive Chairman

### ELISSA HANSEN (Independent)

Non-Executive Director & Company Secretary

### PETER CARISTO (Independent)

Non-Executive Director (Technical)

### JAMES ANDERSON

General Manager Operations

### GLENN WHALAN

Exploration Geologist  
(Competent Person – Exploration)

## Shares on Issue

113,672,748

## Unlisted Options

4,200,000 (\$0.375 strike, 3 year term)

## Compliance Statement

With reference to previously reported Exploration results and mineral resources, the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

This announcement has been approved and authorised by the Board of QMines Limited.

## Contact

### QMines Limited (ASX:QML)

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**Andrew Sparke**, Executive Chairman

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**Email:** [peter@qmines.com.au](mailto:peter@qmines.com.au)

**Email:** [andrew@qmines.com.au](mailto:andrew@qmines.com.au)

<sup>1</sup> ASX Announcement - [Mt Chalmers Resource Upgrade](#), 1 December 2021.

# JORC Code, 2012 Edition – Table 1 Mt Chalmers Mineral Resources

## Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>QMINES continued drilling operations at Mt Chalmers, drilling 8 reverse circulation percussion (RC) holes for 1,015 metres.</li> <li>RC samples were collected at 1m intervals from an on-rig cyclone cone splitter with 2-3kg, or approximately 10% of the split sample saved in calico bags with the exception of duplicate samples with each being 1-2kg, or approximately 5% of the total sample.</li> <li>During the course of drilling, to avoid contamination, four individual calicos were placed in polyweave bags and sealed for delivery to the assay lab. Samples were sent by road to ALS Laboratories in Brisbane, crushed, pulverised and riffle split delivering 200g pulp for base metal and precious metal assay.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>RC drilling was completed by the company's KWLRC350 rig with booster and auxiliary compressor and using 5 m, 102 mm diameter RC rods and a 143 mm percussion face</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i>	sampling hammer.
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Rock chips from each RC metre were collected in chip trays and logged.</li> <li>• The majority (&gt;95%) of RC samples were dry. Calico sample bags used in this program are of a sufficiently fine weave as to retain almost all of the sample fine fraction even when saturated.</li> <li>• Drilling methods were consistent with current industry practices.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drilling was competently logged by Company geologists with all logging data digitised electronically into a Panasonic Toughbook.</li> <li>• Logging codes were established prior to commencement of drilling operations by H &amp; S Consultants and are a mixture of quantitative and qualitative data.</li> <li>• Geological information consists of lithology descriptions, alteration, mineralisation, veining, weathering etc.</li> <li>• All data is available in a digital format.</li> <li>• All chip trays have been digitally photographed and stored in the Company NAS drive.</li> </ul>
<b>Sub-sampling techniques</b>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> </ul>	<ul style="list-style-type: none"> <li>• RC samples were collected from a cyclone with a cone splitter delivering 10% representative sampling per linear</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>and sample preparation</b>	<ul style="list-style-type: none"> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>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.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<p>metre drilled. Duplicate samples were collected every 25 m and 75 m drilled in the drilling sequence with duplicate samples being a 50-50% split sample from the same cone splitter.</p> <ul style="list-style-type: none"> <li>ALS Laboratories dry the samples prior to crushing and pulverising. All sample material from each RC sample submission is crushed and pulverized to a nominal 90% passing 75 µm giving a 200 g representative sample from which a sub-sample of 30 g is taken for base metal analysis and a 50 g charge for gold.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>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.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>All samples for assay were submitted to ALS Laboratories in Brisbane.</li> <li>Ag, As, Ba, Cu, Pb, S and Zn were determined by ALS (ME-ICP61) using ICP-AES on a four-acid digest. Au was determined using ALS method AA25 (fire assay with AAS finish on a 30 g pulp). Sample preparation and base metal analysis was undertaken in Brisbane and Fire Assay undertaken by ALS in Townsville.</li> <li>The Company submits batches to ALS from drill programs as they come to hand. Reporting on QAQC results for all drillhole samples submitted between February 2021 and November 2021 has been undertaken by Lisa Orr of Orr and Associates, who found that QMines' QAQC is consistent with current industry practice for a drill program.</li> <li>Duplicate samples of cone splits are inserted at 50 m intervals and are utilised to monitor laboratory reproducibility. With coefficients of variation under 31% there is no significant bias in assayed results from duplicates assayed.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>• Certified Reference Materials (CRM) are supplied by OREAS and GEOSTATS Pty Ltd and are inserted at 20 m intervals with suitable CRMs being used to monitor laboratory accuracy. With 252 out of 265 CRMs reporting within 3 standard deviations of certified values a success rate of 95.1% was achieved.</li> <li>• Blank samples of barren gravel are inserted at 33 m intervals.</li> <li>• Internal laboratory QAQC reports are delivered by ALS with certification of assay method used and certified assay results. These results are delivered to the principal geologist, database manager and the Company</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Since early 2021, all documentation and digitisation of data has been undertaken by the company database manager, Lisa Orr of Orr and Associates. The drill hole database is stored as an Access database and housed independently in an external NAS drive and backed up in a cloud storage system.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• QMines has implemented a complete conversion by local mine surveyors of all historical drill collar surveys and local gridding utilised by previous explorers. The local work has been validated by MINECOMP Surveying.</li> <li>• Conversion has been from local grids to GDA 94 MGA Zone 56.</li> <li>• Some drill hole collars positions listed in this release were located by hand held GPS with accuracy of +/-3 m and these will be later picked up by and validated by the site surveyors.</li> <li>• The Company has flown a Digital Terrain Model (DTM) using drone survey technology.</li> <li>• The quality and accuracy of the DTM has been validated and processed independently of the data capture by MINECOP Surveying.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>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.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>The drill programs have been designed to validate historical drill hole data, expand the resource envelope and make new discoveries</li> <li>Line and drill hole spacing is not applicable</li> <li>No composite sampling has been applied</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>The deposit is generally flat-lying and most drillholes are vertical to give an optimal intersection angle with mineralisation.</li> <li>Angled holes from the current program have been oriented to reach otherwise inaccessible targets.</li> <li>Downhole intersections contained in this announcement in drill holes at for example ~60-degree dip represent approximately 87% true width of the assayed mineralised intersections contained in Table 1 of this announcement. The apparent width reduces from 87% to 80% in the case of hole MCRC012 as the target is inclined slightly down dip.</li> <li>There is no obvious sampling bias with the drilling orientation.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>Samples were collected directly from the cone splitter into individual numbered calico sample bags, then 4 calico bags are inserted into polyweave bags, sealed and tied. Polyweave bags were numbered in sequence and placed in large bulka bags.</li> <li>The bulka bags were then delivered by Company staff to a commercial freight depot in Rockhampton and shipped directly to the ALS Laboratory in Brisbane overnight.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Sampling techniques were established by the Company geologist. Results were reviewed and validated by the Company database geology manager.</li> <li>Exploration results are not audited independently.</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>QMiners Pty Ltd has two 100% owned subsidiaries, Dynasty Gold Pty Ltd and Rocky Copper Pty Ltd, through which the Company has a 100% beneficial interest in the Mt Chalmers Project. The Mt Chalmers Project is held in EPM 25935 and EPM 27428 located 25 kilometres east of the City of Rockhampton in coastal central Queensland, Australia. The project covers an area of historic gold and copper mining, which comprises an area of 198 km<sup>2</sup>.</li> <li>The Project is free and unencumbered by either joint ventures or any other equity participation of the tenement.</li> <li>QMiners has yet to negotiate any landowner provisions or Government royalties or yet to commence environmental studies within the project area. Currently the Queensland Department of Natural Resources &amp; Mines is conducting remediation works on minor acid mine waste draining from a mineralised mullock dump.</li> <li>All the tenements are for “all minerals” excepting coal.</li> <li>Note that the granted tenements allow QMiners to carry out many of their planned drilling programs under relevant access procedures applying to each tenement.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>All the EPMs are subject to the Native Title Protection Conditions with respect to Native Title.</li> <li>Declared Irrigation Areas, Declared Catchment Areas, Declared Drainage Areas, Fossicking Areas and State Forest are all land classifications that restrict exploration activity. These do not affect QMines' main prospects but may have impacts on regional programs in places.</li> <li>All annual rents and expenditure conditions have been paid and QMines has been fully compliant.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>INAL, CEC and Geopeko were generally recognized as highly competent exploration companies that used appropriate techniques for the time. Written logs and hardcopy sections of their work are considered good.</li> <li>Federation was a small explorer that was entirely focussed on defining the Mt Chalmers resource. They used a very competent geologist, Alex Taube, for the drilling program. Alex Taube is widely respected for his knowledge about VHMS deposits in North Queensland.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Mt Chalmers mineralization is situated in the early Permian Berserker Beds, which occur in the fault-bounded Berserker Graben, a structure 120 km long and up to 15 km wide. The graben is juxtaposed along its eastern margin with the Tungamull Fault and in the west, with the Parkhurst Fault.</li> <li>The Berserker Beds consist mainly of acid to intermediate volcanics, tuffaceous sandstone and mudstone (Kirkegaard and Murray 1970). The strata are generally flat lying, but locally folded. Most common are rhyolitic and andesitic lavas, ignimbrites or ash flow tuffs with numerous breccia zones. Rocks of the Berserker Beds are weakly metamorphosed and, for the most part, have not been</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>subjected to major tectonic disturbance, except for normal faults that are interpreted to have developed during and after basin formation.</p> <ul style="list-style-type: none"> <li>• Late Permian to early Triassic gabbroic and dioritic intrusions occur parallel to the Parkhurst Fault. Smaller dolerite sills and dykes are common throughout the region and the Berserker Beds.</li> <li>• Researchers have shown that the Mt Chalmers mineralization is a well-preserved, volcanic-hosted massive-sulphide ("VHMS – Kuroko style") mineralized system containing zinc, copper, lead, gold and silver. Mineral deposits of this type are syngenetic and formed contemporaneously on, or in close proximity to, the sea floor during the deposition of the host-rock units deposited from hydrothermal fumaroles, direct chemical sediments or replacements (massive sulphides), together with disseminated and stringer zones within these host rocks.</li> <li>• The oldest rocks in the area, the 'footwall sequence' of pyritic tuffs, are seen only in the Mt Chalmers open pit and in drill holes away from the mine. The rock is usually a light coloured eutaxitic tuff with coarse fragments, mainly of chert, porphyritic volcanics and chloritic fiamme (fiamme are aligned, "flame-like" lenses found in welded ignimbrite and other pyroclastic rocks and indicate subaerial deposition. Eutaxitic texture, the layered or banded texture in this unit, is commonly caused by the compaction and flattening of glass shards and pumice fragments around undeformed crystals). The alteration (silicification, sericitization and pyritization) of this basal unit becomes more intense close to mineralization.</li> <li>• The 'mineralized sequence' overlying the 'footwall sequence' consists mainly of tuffs, siltstones and shales and</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>contains stratiform massive sulphide mineralization and associated exhalites: thin barite beds, chert and occasionally jasper, hematitic shale and thin layers of bedded disseminated sulphides. Dolomite has been recorded in the mineralized sequence close to massive sulphides. This sequence represents a hiatus in volcanic activity and a period of water-lain deposition.</p> <ul style="list-style-type: none"> <li>• The 'hanging wall sequence' is a complex bedded series of unaltered crystal and lithic rhyolitic tuffs and sediments with breccia zones and occasional chert and jasper.</li> <li>• A mainly conformable body of andesite, ranging from 10 m to 250 m thick, intrudes the sequence; it usually occurs just above the 'mineralized sequence'. A quartz-feldspar porphyry body intrudes the volcanic sequence and in places intrudes the andesite.</li> <li>• The rocks in the mine area are gently dipping, about 20o to the north in the Main Lode mine area and similarly dipping south at the West Lode: the predominant structure is a broad syncline trending north-north-west. Slaty cleavage is strongly developed in some of the rocks, notably in sediments and along fold axes. Such cleavage is prominent in areas close to the mineralization.</li> <li>• Doming of the rocks close to the mineralization has been interpreted by detailed work in the open cut to be largely due to localized horst block-faulting (Taube 1990), but the doming might also be a primary feature in part. Steep dips are localized and usually the result of block faulting. The Main Lode outcrop and West Lode outcrop are variably silicified rocks which, by one interpretation, may have been pushed up through overlying rocks in the manner of a Mont Pelée spine (Taube 1990), but in any case, form a dome of rhyolite / high level intrusions of the Ellrott Rhyolite. The</li> </ul>

Criteria	JORC Code explanation	Commentary
		surrounding mineralized horizon is draped upon the flanks of domal structures.
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Exploration Results are reported in the body of the relevant announcements in Table 2.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal</li> </ul>	<ul style="list-style-type: none"> <li>In reported exploration results, length weighted averages are used for any non-uniform intersection sample lengths. Length weighted average is (sum product of interval x corresponding interval assay grade), divided by sum of interval lengths and rounded to two decimal points.</li> <li>No top cuts have been considered in reporting of grade results, nor was it deemed necessary for the reporting of significant intersections.</li> <li>All Copper Equivalent (CuEq) figures included in this announcement are calculated based on the following formula: <math>CuEq(\%) = (Cu \text{ grade} \times Cu \text{ recovery}) + ((Pb \text{ grade} \times Pb \text{ recovery} \times Pb \text{ price}) / Cu \text{ Price}) + (Zn \text{ grade} \times Zn \text{ price} \times Zn \text{ recovery}) / Cu \text{ price} + ((Au \text{ grade} \times Au \text{ price} \times Au \text{ recovery}) / Cu \text{ price}) + ((Ag \text{ grade} \times Ag \text{ price} \times Ag \text{ recovery}) / Cu \text{ price})</math>. All</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>equivalent values should be clearly stated.</i>	<p>grades are converted to % and prices converted to \$/T prior to calculating CuEq. Commodity price used: Au price of US\$1,900/oz, Ag price of US\$25/oz, Cu price of US\$6,655/t, Pb price of US\$2,450/t, and Zn price of US\$3,450/t. The following metallurgical recoveries have been applied: 87% Au, 70.5% Ag, 97.0% Cu, 85.0% Pb and 77.0% Zn.</p> <ul style="list-style-type: none"> <li>• Mt Chalmers VHMS is a polymetallic base and precious metal mineral system, cut off grades used by the Company in calculating mineralized intersections are 2,500 ppm Cu, 0.1 ppm Au and 1 ppm Ag, 0.5% Zn and 0.5% Pb.</li> <li>• Metal Price Assumptions and Recovery data used in calculating the Copper Equivalent has been reported to the market in December 2021 and is contained in the Mt Chalmers Resource Upgrade Report and can be seen on the Company Website; <a href="https://wcsecure.weblink.com.au/pdf/QML/02460632.pdf">https://wcsecure.weblink.com.au/pdf/QML/02460632.pdf</a></li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>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').</i></li> </ul>	<ul style="list-style-type: none"> <li>• At Mt Chalmers, the drilling has generally intersected the mineralization at high angles.</li> <li>• The majority of holes drilled at Mt Chalmers Copper Project are vertical in nature.</li> <li>• Holes drilled on other dips are reported in the Significant Intercepts table. True widths in e.g. 60-degree dipping holes are not reported. True width at 60 degrees is approximately 87% of the down hole intersection.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Maps, sections, mineralized intersections, plans and drill collar locations are included in the body of the relevant announcement.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of</i></li> </ul>	<ul style="list-style-type: none"> <li>• Table 2 in the body of the announcement</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• CEC and Geopeko completed some brownfields exploration to assist with defining the resource including Induced Polarization surveys and Sirotem (electromagnetic method) surveys.</li> <li>• Federation concentrated on defining the resource estimates.</li> <li>• No other exploration data is considered meaningful at this stage.</li> <li>• In 2021 QMines digitized the results of soil geochemical grids obtained from the Geological Survey of Queensland consisting of 19,000 samples collected by various workers for its use in ongoing target generation.</li> <li>• INAL completed greenfields exploration in the 1960's and 1970's. Exploration included geological mapping, soil and rock chip sampling, costeaning and rotary percussion drilling.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Infill and resource expansion drilling is being undertaken to upgrade and potentially expand the current resource estimates.</li> </ul>