1st June 2023 ASX:QML

QMINES LIMITED

Australia's First Zero Carbon Copper & Gold Developer...

Metallurgy Testwork Confirms Outstanding Recoveries & Environmental Outcomes

Highlights

- PFS level metallurgical testwork for the Mt Chalmers copper and gold deposit is now complete;
- Combined flotation and leaching achieves industry leading recoveries of **99.7% Cu, 88.6% Au, 97.5% Pb, 97.5% Zn and 97.9% Ag;**
- Simple flotation of a master composite (Stringer/Massive Sulphide blend) also achieves outstanding recoveries of 95% Cu, 78% Au, 85% Ag, 70% Pb and 70% Zn;
- **The testwork also achieves substantial environmental outcomes including:**
  - A simple floatation option provides potential for cyanide free processing whilst reducing CAPEX;
  - The establishment of a pyrite concentrate significantly reduces acid forming minerals in tailings;
  - The use of a coarser grind size (105um) significantly reduces power consumption, carbon footprint and OPEX; and
  - The re-use of pit water for processing significantly reduces water usage and discharge from the mine site.
- **These exciting results will now be used to optimise the flow sheet and plant design for the planned Pre-Feasibility Study due in Q4-2023.**

Overview

QMines Limited (**ASX:QML**)(**QMines** or **Company**) is pleased to announce the final results from its recent metallurgical testwork program for its Mt Chalmers copper and gold project. Mt Chalmers is the Company's flagship project, located 17km north-east of Rockhampton in Queensland (Figure 1). This study was undertaken by Mark Hargreaves, a senior Process Engineer from Como Engineers in Western Australia (**Como**).

Recent testwork was designed to maximise recoveries of all metals from the massive sulphide mineralisation at Mt Chalmers. These results build on earlier testwork, announced in March 2022[1] and March 2023[2], which established a preliminary flowsheet and determined working recovery grades for stringer and massive sulphide concentrates.

1 https://www.asx.com.au/asxpdf/20220330/pdf/457h8swff5yw9j.pdf
2 https://wcsecure.weblink.com.au/pdf/QML/02648775.pdf

Overview (Continued)

The final PFS level metallurgical testwork will now be used to progress the planned Pre-Feasibility Study (**PFS**) on the Mt Chalmers deposit and deliver a maiden Ore Reserve statement.

In late 2022, QMines engaged Como to supervise a testwork program with the objective of defining a metallurgical strategy for recovery of copper, gold, silver, lead and zinc from Mt Chalmers.

QMines shipped drill core to ALS Laboratory from drill hole MCDD017 together with new material from drillhole MCDD044, as the former material becomes depleted. The location of both holes can be seen in Figure 2.

The deliverables of the testwork were to define the physical, mineralogical and metallurgical parameters of the mineralisation in order to develop a practical mineral dressing flowsheet for production of saleable concentrates of copper, gold, silver and zinc.

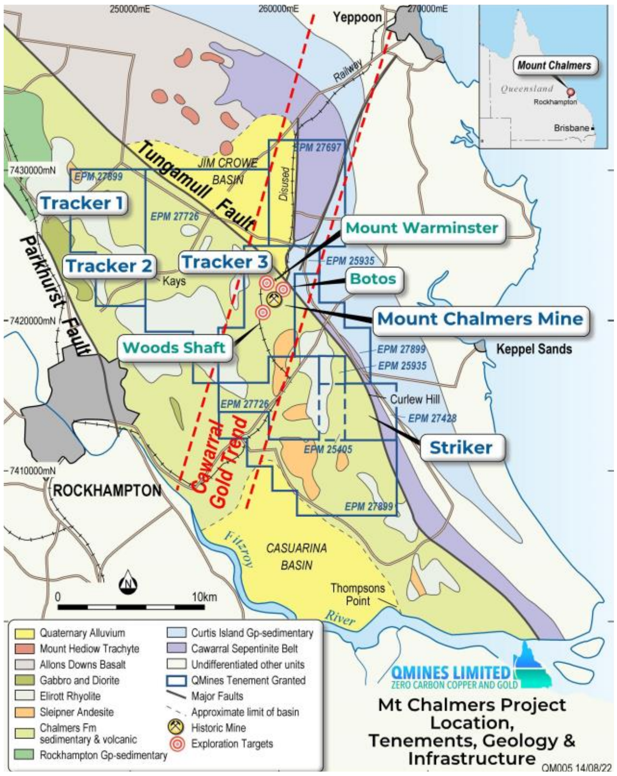

Figure 1: Location of Mt Chalmers tenure, geology & infrastructure.

Management Comment

QMines Managing Director, Andrew Sparke, comments;

“We are very pleased with these metallurgical results from Mt Chalmers. This work demonstrates high recoveries of all target metals from a simple flotation process.

We are equally pleased with the strong environmental outcomes this work achieves. The potential for cyanide free processing, re-use of pit water and a reduction in power consumption due to coarser grind size all add to the company’s strong environmental focus and credentials. ”

“QMines is now optimising the flow sheet and plant design for Mt Chalmers for inclusion in a Pre-Feasibility study due out in Q4 2023.”

Background

The Mt Chalmers deposit is a near surface copper-gold-silver deposit with low quantities of zinc and lead. The proposed mining methodology is an open pit followed by a potential underground operation late in the life of mine.

The two mineralisation styles from the Mt Chalmers pit are a massive sulphide zone and a stringer zone. These are characterised as VHMS (**Volcanic Hosted Massive Sulphide**) (pyrite/chalcopyrite/sphalerite/galena) and Stringer (chalcopyrite with pyrite and trace base metal sulphides). The following composites were utilised in testwork:

1. **VHMS:** Massive sulphide mineralisation containing gold, copper, lead, zinc and silver;
2. **Stringer:** Mineralisation containing copper and low-grade gold and silver; and
3. **Master Composite:** A blend of (1) and (2) representing the mineralisation zones in diamond hole DDH044. This composite approximately represents the grade and mineralogical composition of the known mineralisation at Mount Chalmers.

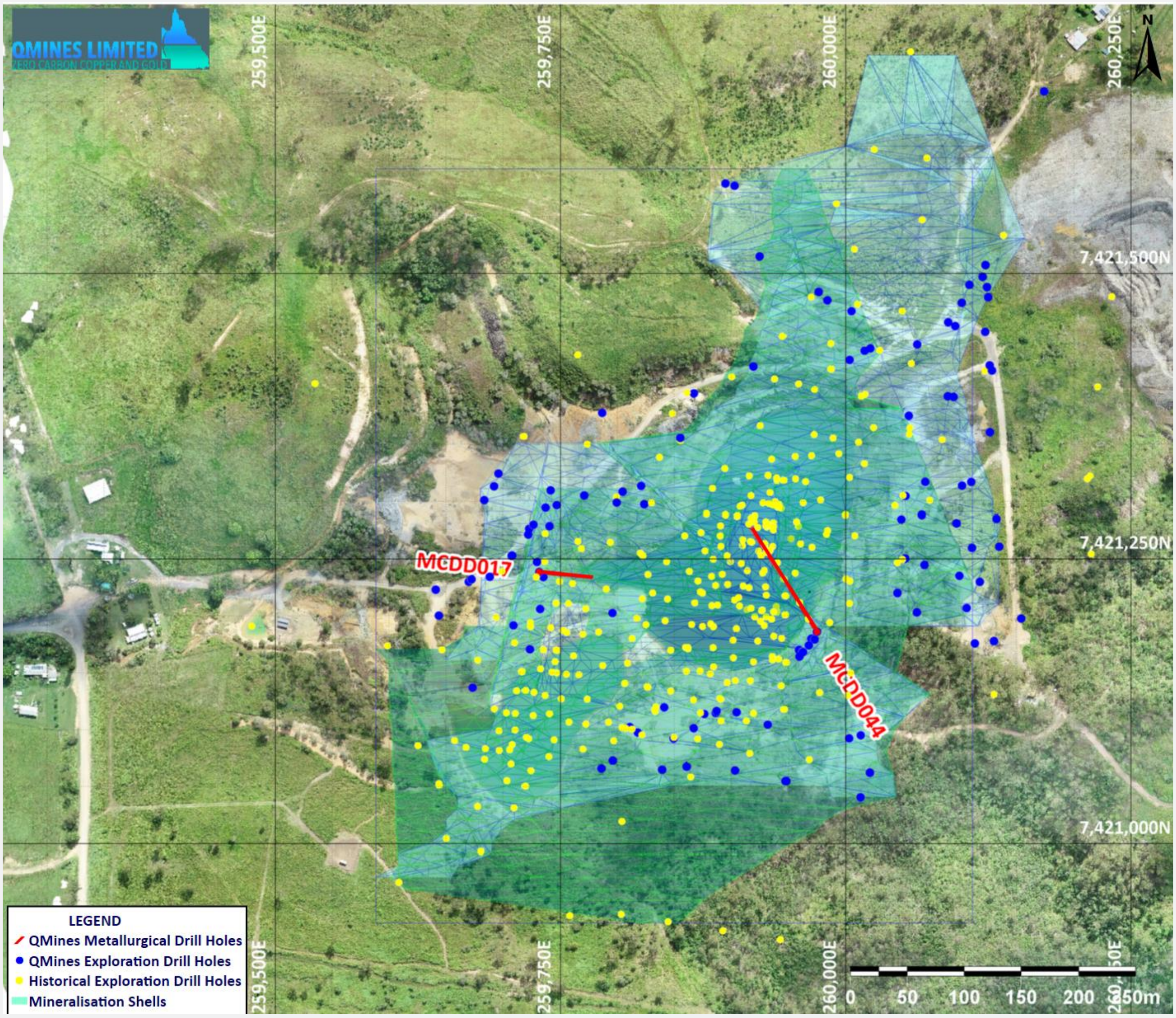

Figure 2: Location of metallurgical drill holes MCDD017 and MCDD044.

Testwork & Development Strategy

The two different lithologies tested (VHMS massive sulphide and stringer mineralisation) are very different in mass recovery to concentrate and concentrate grade. As open pit mining will initially focus on the VHMS 'core' of the deposit, QMines has requested that Como design the flotation circuit based on processing of the VHMS material, and that the Stringer mineralisation will be introduced to the blend as available, or if VHMS mineralisation is not available. The three composites that were utilised for testwork, were assayed and contain:

Sample	Cu (%)	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)
VMS	1.28	4.31	16	1.42	3.51
Stringer	1.22	1.05	<2	0.02	0.02
Master Composite	0.69	0.56	<2	0.02	0.47

Table 1: Grade of samples tested.

Flotation Results

The VHMS component of the deposit is a copper-lead-zinc rich mineralisation with gold and silver present as by products.

Characteristic Tested	Recovery	Comment
Copper	93%	15% copper concentrate grade, lead present in excess of penalty levels.
Gold	80%	Split between copper and zinc concentrate.
Silver	82%	Split between copper and zinc concentrates.
Zinc	72%	50% zinc concentrate grade.
Lead	0%	Recovered but present as a penalty metal, rather than as a concentrate.

Table 2: Recovery summary for VHMS mineralisation.

Table 2 above shows that the recovery to concentrate for the VHMS mineralisation is excellent. The concentrate grades are within the marketable range, however the lead content in the copper concentrate may attract smelter penalties.

Gold is split between the copper, zinc and pyrite concentrates in differing amounts, depending on the grind size, and to date a method of floating all gold to copper concentrate has not been found.

Mass recovery to concentrate is typically 7-9% for copper concentrate, 8-10% for zinc concentrate and 8-12% for the pyrite concentrate.

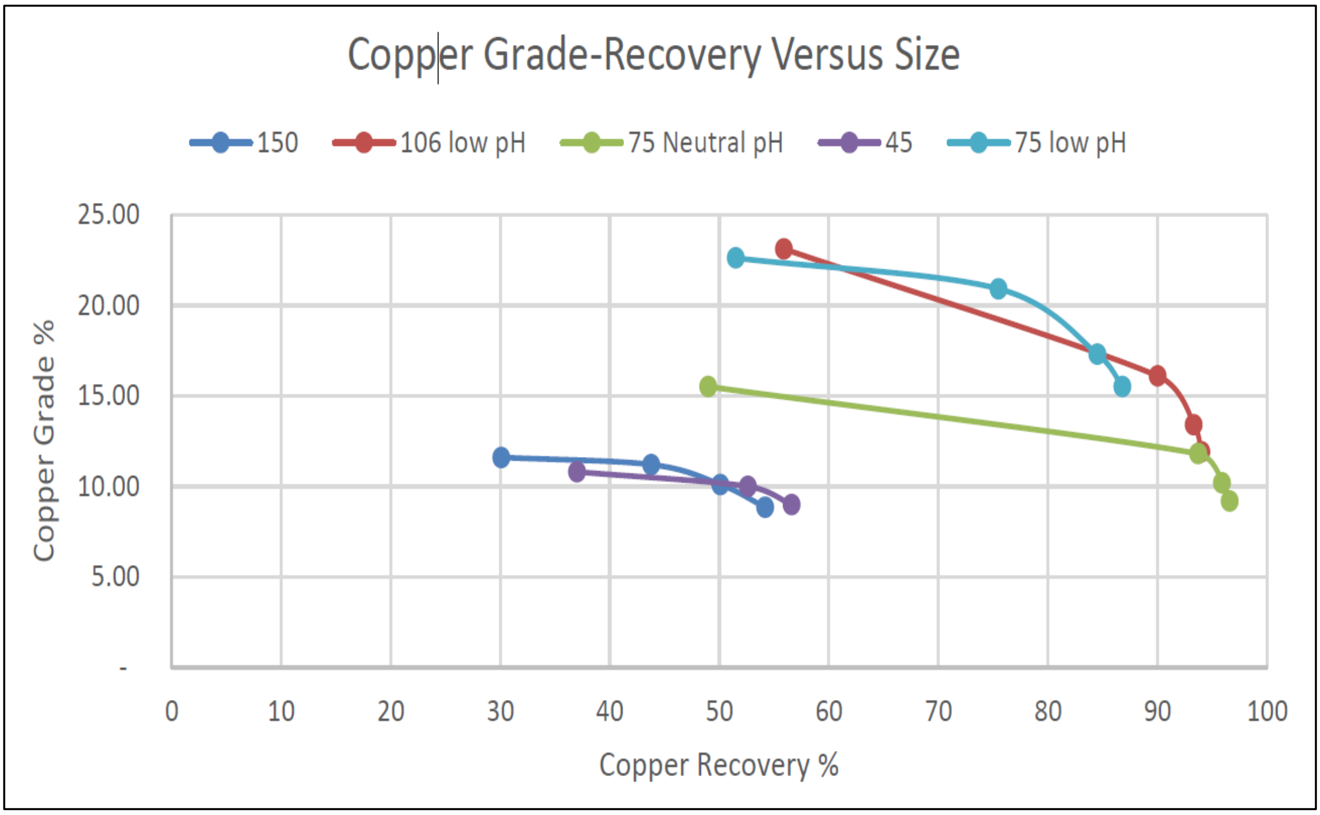

Figure 3: Grade-Recovery Curves for VHMS Mineralisation.

Flotation Results (Continued)

Characteristic Tested	Recovery	Comment
Copper	97%	23% concentrate grade.
Gold	68%	8g/t concentrate grade.
Silver	80%	20g/t concentrate grade.
Zinc	-	Insignificant.
Lead	-	Insignificant.

Table 3: Recovery summary for the Stringer mineralisation.

The stringer mineralisation achieved excellent copper, gold and silver recoveries. Noting that the amount of gold in the tailing is 0.11-0.22g/t, significant additional capital and power would be required to improve gold recoveries that would result in only minor improvements. Mass recovery to concentrate is in the range of 4-5% for copper concentrate and 6-8% for pyrite concentrate.

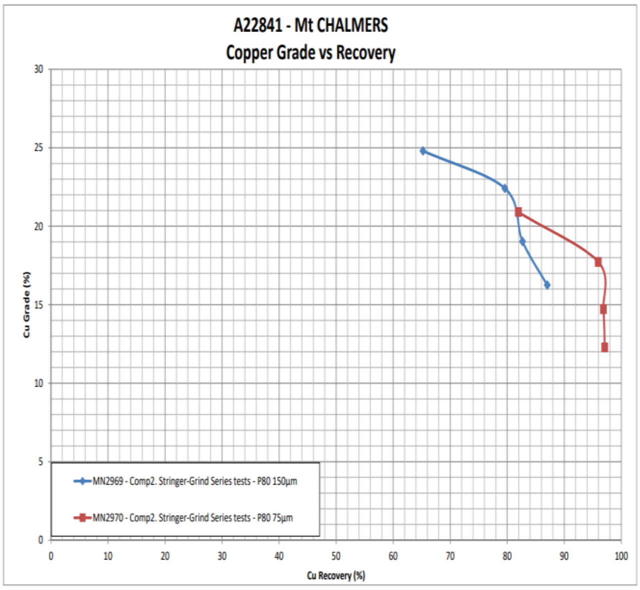

Figure 4: Grade-Recovery Curves for Stringer Mineralisation.

Figure 5: Picture of recent copper concentrate testwork.

Characteristic Tested	Recovery	Comment
Copper	95%	15% copper concentrate grade.
Gold	78%	3.2g/t gold concentrate grade.
Silver	85%	35g/t silver concentrate grade.
Zinc	70%	1% lead in concentrate.
Lead	70%	6% zinc in concentrate.

Table 4: Recovery Summary for the Master Composite.

The Master composite produced excellent flotation concentrates. It also demonstrates that by blending the massive sulphide with the stringer mineralisation, the proportion of pyrite in the concentrates becomes more manageable, with the additional benefits:

- The ability to target higher recovery (or concentrate grade) due to a lower pyrite concentrate.
- Cleaner concentrates (higher grade and potentially at a higher recovery).
- Reduced concentrate handling requirements in terms of volume and flow.
- Reduced volumes of circulating loads in the flotation circuit.

Mass recovery to concentrate for the Master Composite was 4-5% for the copper concentrate and 6-7% for the pyrite concentrate.

Flotation Results (Continued)

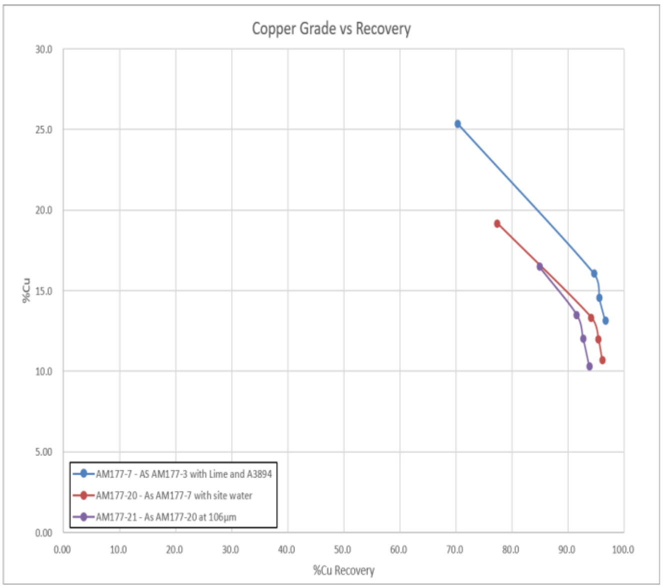

Figure 6: Master composite grade-recovery curve.

Figure 7: Picture of recent zinc concentrate testwork.

Physical Characteristics

The results for the three mineralisation domains (VHMS, Stringer and Composite of VHMS/Stringer) are shown in Table 5 below.

Characteristic Tested	VMS	Stringer	Master Composite
Abrasion Index	Not tested	Not tested	0.2444
Bond Crusher Work Index	Not tested	Not tested	4.0 kWh/t
Bond Ball Mill Work Index	9.63 kWh/t	20.60 kWh/t	Not tested

Table 5: Abrasion and work indices.

Positive Environmental Benefits

QMines remains one of only three ASX listed resources companies that is certified carbon neutral under the rigorous, Australian government backed, Climate Active Certification[1].

A key part of QMines growth strategy is to develop its assets in a sustainable way. The metallurgical testwork demonstrates that the Mt Chalmers deposit can deliver critical minerals for the global energy transition, sustainably.

The study delivers a number of positive environmental outcomes including the potential for:

1. **Cyanide Free Processing:** Due to the high recoveries achieved from a simple floatation process, there is the potential to remove the planned Carbon in Leach (CIL) circuit from the plant design. This removes the need for cyanide on site and reduces tailings acidity, significantly improving environmental outcomes.

2. **Reduced Power Consumption & Carbon Footprint:** The study demonstrated potential to significantly reduce power consumption and the operation's carbon footprint by reducing the grind size of the mineralisation from 75um to 105um.

1 https://wcsecure.weblink.com.au/pdf/QML/02486619.pdf

3. **Re-Use of Pit Water:** As seen in Figure 8, the existing Mt Chalmers open pits hold a significant body of water. Recent testwork has shown that improved recoveries were generated when pit water was used for processing. This significantly reduces the amount of water required and discharged from the mine site.

4. **Pyrite Concentrate:** The addition of a new pyrite concentrate from recent testwork significantly reduces the amount of pyrite in the tailings dam. This significantly reduces tailings acidity.

Figure 8: Picture of the Mt Chalmers historic open pits.

Combined Flotation & Leaching Results

Flotation Tail Gold Leach

In test A2974, a single flotation test was carried out at a grind size of 75 microns to produce a rougher copper concentrate, a rougher zinc concentrate and a flotation tailings sample for cyanidation leaching.

The single leach test was carried out to determine the viability of recovering gold from the flotation tailings by conventional cyanidation. This sample was leached for 48 hours at a pulp density of 50% solids with oxygen sparging with a cyanide concentration of 200ppm. Samples were taken at 2, 4, 8, 24 and 48 hours to determine the recovery versus time curve (Figure 9).

The flotation tailings assay for the above test A2974 was 0.85g/t gold.

Combined Flotation & Leaching Results (Continued)

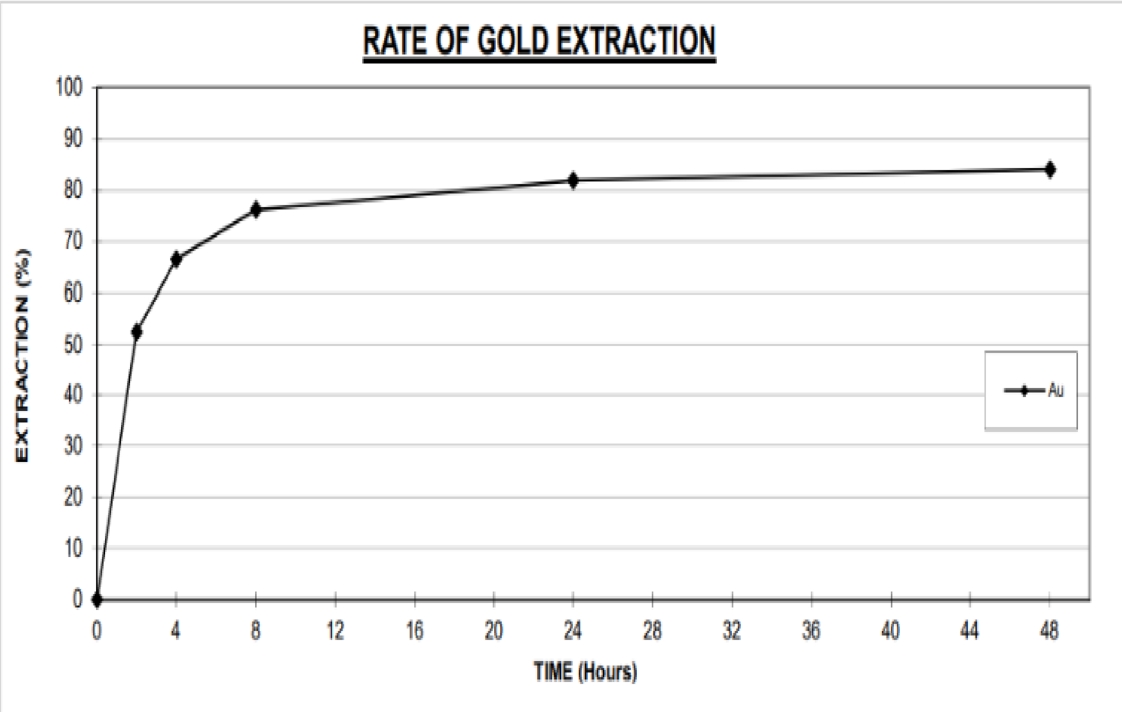

Figure 9: Flotation Tailings Leach Curve.

The results showed that gold was readily leachable and did not appear to be refractory, with a final leach residue assay of 0.12 g/t. This equates to an approximate leach recovery of 82%.

Combined Flotation & Leaching Results

Table 6 below provides a summary of the gold recovery testwork results.

Fraction	Mass (%)	Cu (%)	Au (g/t)	Pb (%)	Zn (%)	Ag (g/t)
Concentrate	28.83	99.70	88.60	97.52	97.54	97.93
Leach Recovered	N/a	0	9.15	0	0	N/d
Total Recovery		**99.70**	**97.75**	**97.52**	**97.54**	**97.93**
Tailings	71.17	0.03	2.25	2.48	2.46	2.07

Table 6: Flotation tailings leach results.

Gold Recovery

As gold is the second highest value mineral for the project, the recoverability of gold has also been assessed, with the assumption being that gold is recovered into a flotation concentrate either as liberated gold, or as gold/pyrite particles.

The gold deportment into the four products of the testwork (Cu Con = 62%, Zn con = 26.9%, Leached = 9.17%, Tailings = 2.03%) from the VHMS composite is shown in Figure 10.

Combined Flotation & Leaching Results

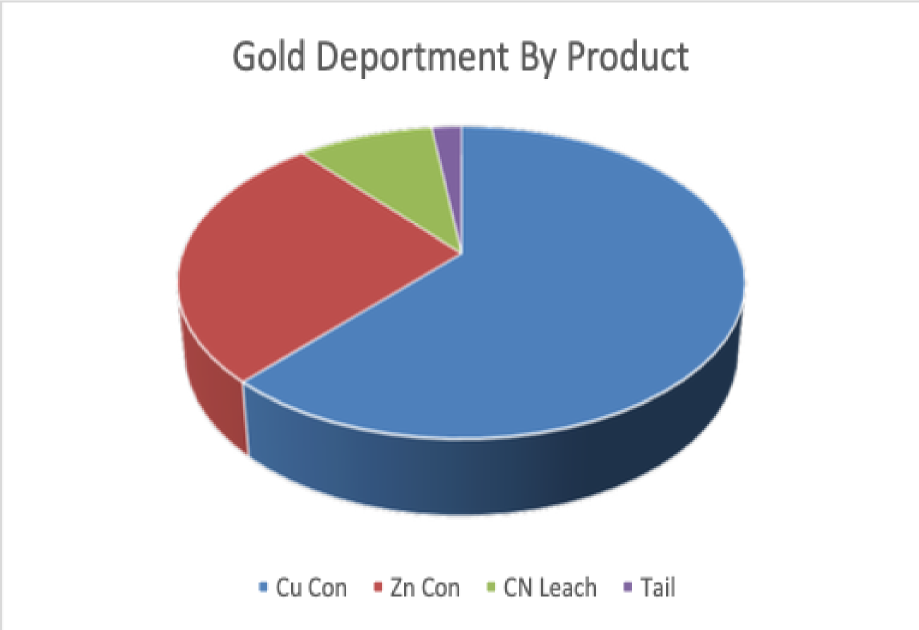

Figure 10. Recovery of gold to the four products in a potential flotation-leach process.

Further Work Required

The current testwork provides the information required for PFS level design of the proposed processing plant. In addition to the above, the next level of testwork will require:

- Spatial variability testing;
- Confirm the optimal grind size testwork utilising site water;
- Conditioning time versus activation/depression of pyrite, zinc and lead minerals;
- Optimise reagent dosages;
- Optimise regrind parameters;
- Carry out 'locked cycle' flotation testing to determine circulating loads and regrind requirements;
- Determination of thickening and filtration characteristics for concentrates and tailings;
- Acid generation potential of flotation tailings;
- Buffer tests on mine water;
- Locked cycle flotation testing to simulate the flowsheet and determine final recoveries;
- TML to determine moisture contents for filtration targets; and
- Mine water analysis and detox parameter development with respect to cyanides and heavy base metals.

Summary of Flotation Results

The results are positive and demonstrate that it is technically viable to produce saleable copper and zinc concentrates from the Mt Chalmers deposit, with gold and silver credits.

The deposit comprises chalcopyrite, sphalerite, galena, pyrite, gold and silver. Each of these has a slightly different metallurgical response, and it is possible to produce concentrates of either:

Summary of Flotation Results (Continued)

- Copper/gold/silver
- Zinc/gold/silver
- Mixed copper/zinc/lead/gold/silver
- Pyrite/gold/low grade lead/zinc/copper

Based on current metal prices, the highest value concentrate will be a copper-gold concentrate, with the remainder of the concentrate value dictated by optimising the copper flotation tails treatment. Depending on the grade of the material being processed, this would be by either:

- Producing a pyrite concentrate
- Producing a zinc concentrate and a separate pyrite concentrate.

Copper Recovery

The Chalcopyrite within the deposit at Mt Chalmers is highly hydrophobic and achieved high recoveries to concentrate under every test condition. **Copper flotation recoveries of 97% to concentrate are common**, with the challenge being to upgrade the concentrate to a saleable concentrate at the highest possible recovery, by excluding (as much as possible) zinc, lead, and pyrite minerals from the copper concentrate.

Gold Recovery to Copper Concentrate

The gold recovery varied significantly between tests depending on the requirement to depress pyrite to maximise copper concentrate grade. Independently of copper recovery, **the highest gold recovery was 98%** which was achieved at a grind size of 45 microns.

Silver Recovery

The silver recovery fluctuated depending on the grind size, with a maximum silver recovery (independent of flowsheet) of **98.1% and typical silver recoveries in the range of 85-90%.** The silver reports to copper concentrate, zinc concentrate and pyrite concentrate, therefore it is technically recoverable, however it is a matter to produce concentrates that are optimal in terms of Net Smelter Return (**NSR**).

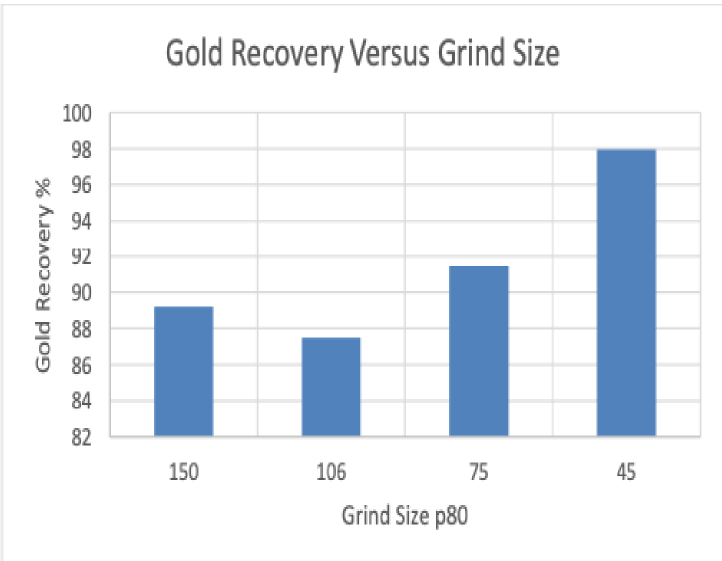

Figure 11: Gold recovery verses grind size.

Findings & Recommendations

- The testwork confirms that the Mt Chalmers deposit is amenable to conventional froth flotation technology that creates saleable concentrates.
- Utilising conventional metallurgical practices, saleable concentrates of copper and zinc were produced in the testwork, with gold and silver byproduct credits.
- Recovery of copper is typical of primary copper sulphide deposits and recovery is very high.
- Copper concentrate grade and recovery are dependent on co-products (pyrite, galena, sphalerite) and will be manageable with some cross flotation of copper into zinc concentrate and zinc into copper concentrate.
- Zinc concentrate grade is acceptable, however recovery is currently in the range of 50-70%, mainly due to the necessary rejection of pyrite to maintain concentrate grade. Optimisation of concentrate grinding may increase the zinc recovery to saleable concentrate.
- A third concentrate was produced, containing a low-grade pyrite material which may be saleable as an energy source, with gold and silver credits.

What's Next?

Complete resource and infill drilling program at the Mt Chalmers West Pit;

Deliver stage two of the Mt Chalmers pit optimisation with improved metallurgical recoveries that also incorporates an underground optimisation study;

Deliver the final results of the regional EM survey and IP inversions analysis identifying multiple ground truthed priority EM targets;

Commence drilling operations at priority EM targets with the potential to make new VHMS discoveries; and

Delivery of the planned Mt Chalmers Pre-Feasibility Study.

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 further or 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.

Metallurgy

The Information in this Report that relates to Metallurgical Test Results is based on information compiled by Mr Mark Hargreaves, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Hargreaves is a full-time employee of Como Engineers Pty Ltd. Mr Hargreaves 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 Hargreaves consents to the inclusion in the report of the matters based on his 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. The Company owns 100% of four advanced projects covering a total area of 1,096km². 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. The Mt Chalmers project now has a Measured, Indicated and Inferred Resource (JORC 2012) of 11.86Mt @ 1.22% CuEq for 144,700t CuEq.[1]

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

SIMON KIDSTON
Non-Executive Chairman

ANDREW SPARKE
Managing Director

ELISSA HANSEN (Independent)
Non-Executive Director & Company Secretary

PETER CARISTO (Independent)
Non-Executive Director (Technical)

JAMES ANDERSON
General Manager Operations

Shares on Issue

166,030,992

Unlisted Options

7,950,000 ($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 parametres 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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[1] Mt Chalmers Resource Upgrade, 22 November 2022.

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
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• Samples for metallurgical testing were taken from drill core. • The company drilled HQ triple tube with diamond core sampling consisting of between 300 mm and 1.5 metre intervals of core. • The core was sawn in half lengthways (parallel to long core axis) using a Sandvik wet core saw yielding 1-5 kg core samples into calico sampling bags. 4 individual calicos are placed in polyweave bags and sealed for delivery to the assay lab. • Samples are sent by road to ALS Laboratories in Brisbane, crushed, pulverised and riffle split delivering 200 gm pulp for base metal and precious metal assay. • Half core from holes MCDD017 and MCDD044 was initially sent to ALS for standard geochemical analysis with results used for resource estimation with results previously reported to the ASX. • The remaining half core from MCDD017 and MCDD044 was submitted to ALS Metallurgy and to Auralia Metallurgy for metallurgical testing. • Management of the metallurgical program was undertaken by Como Engineers of Perth. • Three composite samples were prepared: Comp 1 (Cu/Pb/Zn Comminution), Comp 1 (Cu/Pb/Zn), and Comp 2 (stringer) • The first Comp 1 sample was used in comminution tests • The composites represented examples of massive sulphide mineralisation (Comp 1) and stringer style mineralisation (Comp 2) • Each prepared composite was then control-crushed to <3.35 mm, blended, and homogenised via a rotary sample divider (RSD) before 1 kg charges were split for further testing. Comp 1 Cu/Pb/Zn Comminution Comp, as well as a sub-sample of Comp 2 Stringer was used for Bond ball mill work index (BWi) determination. Comp 1

Criteria	JORC Code explanation	Commentary
		Cu/Pb/Zn and Comp 2 Stringer was utilised for flotation testing. •
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Diamond Drilling was undertaken using a multi-purpose UDR 650 track mounted rig, and a Hydco 1000 Dual purpose truck mounted rig. RC pre-collar drilling utilised 114.5 mm diameter RC rods and 140 mm percussion face-sampling hammer with auxiliary air packs with onboard air. Diamond tails being drilled by a track mounted Hyundai Dasco 7000 diamond core rig. • Coring was HQ triple tube with the core sample being orientated using REFLEX ACT111 core orientation tool.
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.*	• QMines diamond core recovery was excellent with between 93 - 95% of all diamond core recovered from both the mineralised and unmineralized zones. RC chips from each metre were collected in chip trays and logged. The majority (>95%) of RC samples were dry. • Drilling methods are consistent with current industry practices with no sample bias and are representative in nature.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• The drill holes were competently logged by Company geologists with all logging data digitised electronically into a Panasonic Toughbook. • Logging codes were established prior to commencement of drilling operations by H & S Consultants and were a mixture of quantitative and qualitative data. • Geological information originally consisted of lithology descriptions, alteration, mineralisation and oxidation levels. All data is available in a digital format. • All core trays have been digitally photographed and stored in the Company NAS drive. • Geological logging is qualitative in nature.
Sub-sampling techniques	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	• Core was sawn in half lengthways. Half core was initially assayed for use in resource estimation. The second half of the core was

Criteria	JORC Code explanation	Commentary
and sample preparation	• *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.*	submitted for metallurgical testing. • Core from drillhole MCDD017 was used for almost all metallurgical testwork completed to date. Core from hole MCDD044 is now being used for blend work and will also be used in future testing as material from MCDD017 becomes depleted. • A continuous section of half-core from 21.95 m to 82.6 m in drillhole MCDD017 and from 38.9 m to 121.4 m in hole MCDD044 was submitted representing the two main mineralisation types on the project (massive sulphide and stringer mineralisation in each hole). • Sub-samples for comminution testing were taken at approximately 1 m lengths (~0.5 kg each). Samples for the metallurgical testing were taken over 0.8 to 1.4 m lengths generally representing 1 – 6 kg each. • Each prepared composite was then control-crushed to <3.35 mm, blended, and homogenised via a rotary sample divider (RSD) before 1 kg charges were split for further testing. Comp 1 Cu/Pb/Zn Comminution Comp, as well as a sub-sample of Comp 2 Stringer was used for Bond ball mill work index (BWi) determination. Comp 1 Cu/Pb/Zn was utilised for flotation testing. • The sample sizes are considered appropriate for the stage of testing and representative of the materials to be tested. •
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• All samples were analysed at ALS Laboratories which is a commercial ISO accredited laboratory. • QMines used a variety of QAQC control CRM's and blanks on initial assaying. • Internal laboratory QAQC samples were used. • The following analytical methods were employed for the metallurgical testing:

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Element/Output</th><th>Method</th></tr>
<tr><td>Gold in ores and leach residues:</td><td>Fire assay/ICP-MS</td></tr>
<tr><td>Gold in solution:</td><td>Direct ICP-MS</td></tr>
<tr><td>Arsenic:</td><td>Arsenic digest/ICP-OES finish</td></tr>
<tr><td>Sulphur speciation:</td><td>Sherritt method Labfit CS2000 analyser</td></tr>
<tr><td>General element scan:</td><td>Mixed acid digestion/ICP-OES finish</td></tr>
<tr><td>Antimony:</td><td>Antimony digest/ICP-OES finish</td></tr>
<tr><td>Fluorine:</td><td>ISE</td></tr>
<tr><td>True SG:</td><td>Helium pycnometer</td></tr>
</table>
</td></tr>
<tr><td>Verification of sampling and assaying</td><td>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.</td><td>No adjustments have been made to the data.
Company personnel have reviewed headgrade results from the metallurgical testing against the original assay data. Intervals wre not identical from the original data so a direct comparison cannot be made.
All analytical data is stored in a drill hole database on a company managed cloud-drive.</td></tr>
<tr><td>Location of data points</td><td>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
Specification of the grid system used.
Quality and adequacy of topographic control.</td><td>All drill hole collars are picked up by and validated by the site surveyors using sub cm accurate differential GPS.
All drill collars are located using GDA94 MGA94 Zone 56.</td></tr>
<tr><td>Data spacing and distribution</td><td>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.</td><td>Data spacing not applicable for this release.
Sample compositing has been undertaken using crushing, blending and then homogenising.</td></tr>
<tr><td>Orientation of data in relation to</td><td>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</td><td>Hole MCDD017 was drilled at a dip of -56° and hole MCDD044 at a dip of -45° through a generally flat-lying mineralised zone.
These drill intercepts are not considered true widths. True width is approximately 90% of the MCDD017 drill intercepts and 66% of the MCDD044 intercepts.</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
geological structure	*and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• These holes were designed to increase the mineralised interval for the purposes of obtaining sufficient material for metallurgical testing.
Sample security	• *The measures taken to ensure sample security.*	• Core samples from both holes were taken from the drill site in HQ core trays to core yard wrapped in cling wrap, sealed with core tray lids, stacked on pallets then delivered by Company staff to Centurion Freight Rockhampton and shipped directly to ALS Laboratory Brisbane Laboratory for delivery to ALS Balcatta.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews have taken place.

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.*	• QMines 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, EPM 27428, EPM 27697, EPM 27726 and EPM 27899 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^2. • The Project is free and unencumbered by either joint ventures or any other equity participation of the tenement. • QMines 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 & Mines is conducting remediation works on minor acid mine waste draining from a mineralised mullock dump. • All the tenements are for "all minerals" excepting coal.

Criteria	JORC Code explanation	Commentary
		• Note that the granted tenements allow QMines to carry out many of their planned drilling programs under relevant access procedures applying to each tenement. • All the EPMs are subject to the Native Title Protection Conditions with respect to Native Title. • Declared Irrigation Areas, Declared Catchment Areas, Declared Drainage Areas, Fossicking areas and State Forest, are all land classifications that restrict exploration activity. These are not affecting QMines' main prospects but may have impact on regional programs in places. • All annual rents and expenditure conditions have been paid and fully compliant
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• CEC and Geopeko are generally recognized as competent companies using appropriate techniques for the time. Written logs and hardcopy sections are considered good. • Federation was a small explorer that was entirely focused 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. • Great Fitzroy was also a small explorer that focused on Mt Chalmers as well as Woods Shaft and satellite VHMS targets. They also employed Alex Taube to manage the drilling program at Woods Shaft.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Mineralization at Mt Chalmers 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. • The Berserker Beds lithology consists 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

Criteria	JORC Code explanation	Commentary
		been subjected to major tectonic disturbance, except for normal faults that are interpreted to have developed during and after basin 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 the Berserker Beds. • Researchers have shown that the Mt Chalmers mineralisation is a well-preserved, volcanic-hosted massive-sulphide ("VHMS – Kuroko style") mineralised 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. • 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, sericitisation and pyritisation) of this basal unit becomes more intense close to mineralisation. • The 'mineralised sequence' overlying the 'footwall sequence' consists mainly of tuffs, siltstones and shales and contains stratiform massive sulphide mineralisation 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 mineralised sequence close to massive sulphides. This sequence represents a hiatus in volcanic activity and

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>a period of water-lain deposition.
• 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.
• A mainly conformable body of andesite, ranging from 10 m to 250 m thick, intrudes the sequence; it usually occurs just above the ‘mineralised sequence’. A quartz-feldspar porphyry body intrudes the volcanic sequence and in places intrudes the andesite.
• The rocks in the mine area are gently dipping, about 20° 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 mineralisation.
• Doming of the rocks close to the mineralisation has been interpreted by detailed work in the open cut to be largely due to localised horst block-faulting (Taube 1990), but the doming might also be a primary feature in part. Steep dips are localised 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 surrounding mineralised horizon is draped upon the flanks of domal structures.</td></tr>
<tr><td>Drill hole Information</td><td>• 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:
o easting and northing of the drill hole collar
o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar
o dip and azimuth of the hole</td><td>
<table>
<tr><th>Hole ID</th><th>MGA East</th><th>MGA North</th><th>RL</th><th>Dip</th><th>MGA Azi</th><th>EOH depth</th></tr>
<tr><td>MCDD017</td><td>259731.2</td><td>7421238.6</td><td>91.3</td><td>-60</td><td>96</td><td>93.1</td></tr>
<tr><td>MCDD044</td><td>259974.7</td><td>7421186.1</td><td>91.3</td><td>-45</td><td>328</td><td>154.9</td></tr>
</table>
</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
	○ *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.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Results reported in the metallurgical testing represent samples that have been physically composited (i.e. no mathematical compositing has taken place. • No cutting of high-grades has been undertaken. • Metal equivalents have not been used.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Metallurgical test results relate to percentage recovered and/or concentrate grades and do not reflect down-hole intercepts.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should*	• A map showing drill collar locations is included in the body of the announcement.

Criteria	JORC Code explanation	Commentary
	include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
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 reports a summary of recent tests completed in the ongoing metallurgical testing of mineralized samples submitted.
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 refers to recent metallurgical testing of drill core samples from the Mt Chalmers resource. See the body of the release for details.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Delivery of the results of a recent carbon audit to meet the requirements of the Climate Active program and retain our Zero Carbon certification. • Complete the planned Pre-Feasibility Study on the Mt Chalmers project assessing the potential for a stand along mining operation. • Interpretation of the recently completed VTEM™ Max airborne Electromagnetic survey. • Commence drilling of prospective regional targets. • Further metallurgical work is ongoing.