ASX:QML

QMINES LIMITED

Queensland's Next Copper & Gold Developer…

3 August 2021

SEVERAL LARGE COPPER & ZINC SOIL ANOMALIES CONFIRM POTENTIAL FOR MULTIPLE MT CHALMERS LOOK-A-LIKES

HIGHLIGHTS

- **Six-month program to digitise large historic soil dataset now complete;**
- **The program identified multiple large copper and zinc soil anomalies within the Berserker Beds which hosts the historic Mt Chalmers mine;**
- **The newly identified prospects are similar in scale and tenor to the distinctive geochemical signature of the Mt Chalmers VHMS deposit;**
- **Application for additional exploration tenure covering these priority targets has now been submitted;**
- **The discoveries demonstrate significant scale potential with multiple Mt Chalmers look-a-likes surrounding the historic mine; and**
- **Large drilling program underway (+30,000m) with second drill rig now onsite and assays expected shortly.**

QMines Limited (**ASX:QML**)(**FSE:81V**)(**QMines** or **Company**) is excited to announce the results of a six-month historic soil sampling digitisation program which was undertaken by previous explorers, (Figure 1). The program has identified several large copper and zinc soil anomalies surrounding the high-grade historic Mt Chalmers copper and gold mine which is located 17km North East of Rockhampton. The historic mine produced 1.2Mt @ 2% Cu, 3.6g/t Au and 19g/t Au Ag between 1898 and 1982[1].

MANAGEMENT COMMENT

Commenting on the results, QMines Chairman Andrew Sparke, said: *"The significance of the new soil data cannot be understated in terms of the scale and exploration potential. The Mt Chalmers mine is a well-documented VHMS system and the soil signature is very distinct. VHMS systems typically occur in clusters which is exactly what we are seeing at Mt Chalmers. It is important to note the scale of these new soil anomalies with one anomaly being approximately 10km long by 2km wide. This new discovery is a very exciting development that clearly demonstrates the significant scale potential of the Mt Chalmers project."*

[1] The Mt Chalmers JORC Resource can be found in the QMines Prospectus (Annexure A) – Independent Geologists Report, https://qmines.com.au/prospectus-2/

The regional soil geochemical data acquisition and digitisation program has been ongoing for several months with the Company digitising 19,092 soil samples as seen in Figure 1. The samples were predominantly collected by Geopeko Ltd and International Nickel Australia during their operations in the Mt Chalmers area. The data was acquired from Geological Survey of Queensland (**GSQ**) reports.

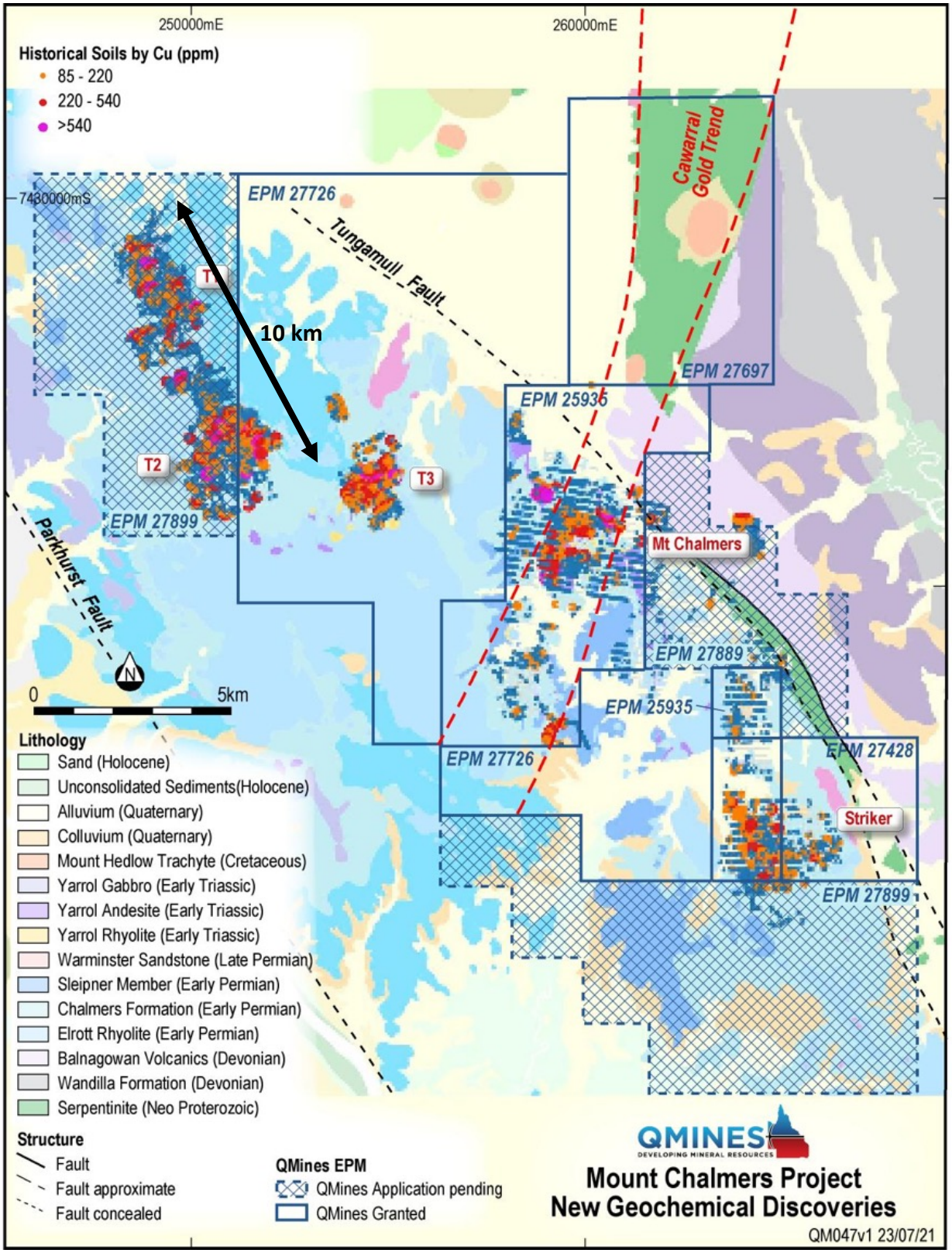
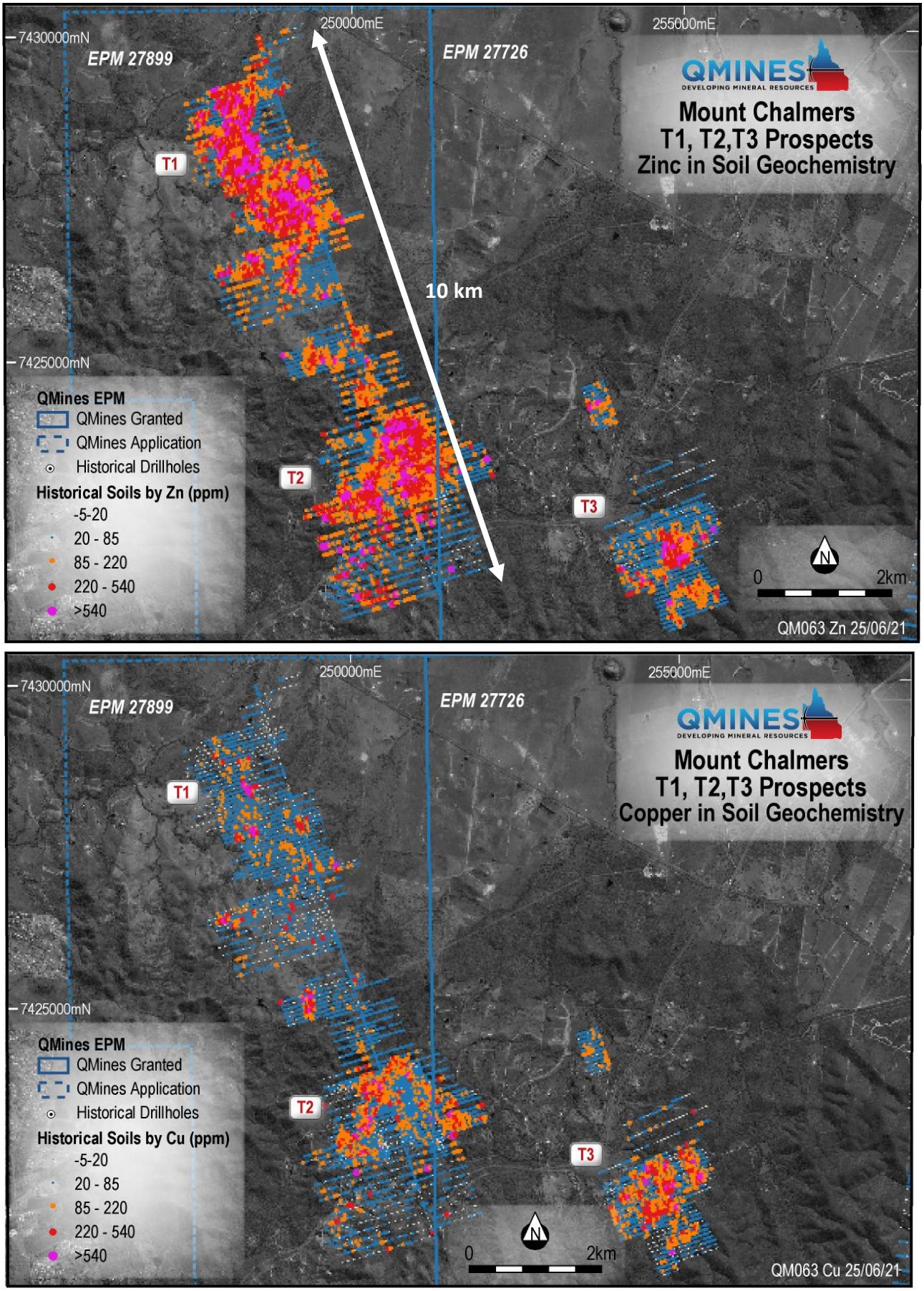


Figure 1: Mt Chalmers Project geology with granted and pending tenements, project areas and historical digitised copper in soil geochemistry.



Figures 2-2: Anomalous copper and zinc soil geochemistry from T1, T2 and T3 prospects Mt Chalmers Project.

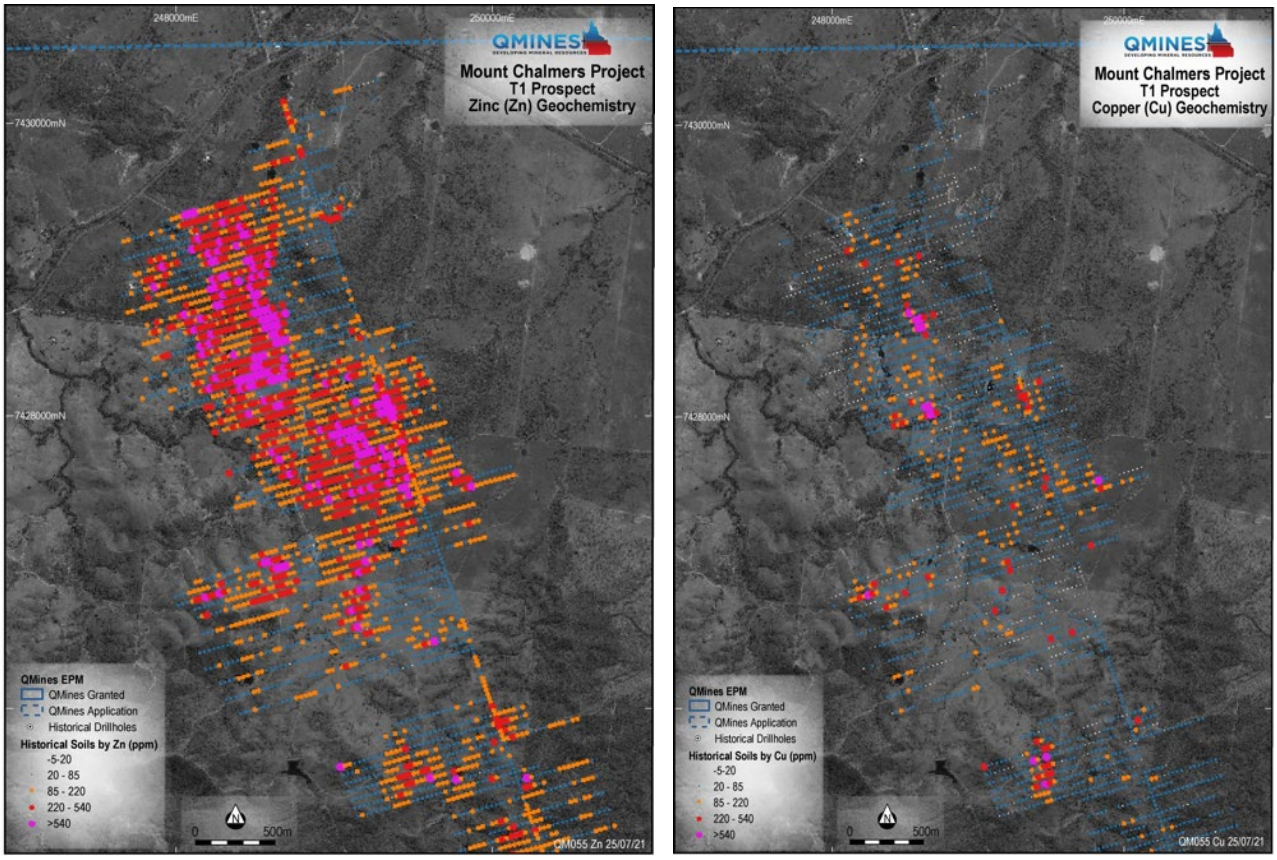
Soil gridlines varied between companies, ranging from 30 to 200 metre line spacings and 25 to 100 metre sample spacings with the soil grids covering large areas of the prospective Berserker Beds with the focus of this update being the Tracker T1, T2 and T3 copper soil anomalies as seen in Figure 1.

The recently acquired and digitised soil geochemical signatures from the Tracker T1, T2 and T3 prospects are similar in scale and tenor to that found at the Mt Chalmers VHMS deposit and represent exciting new drill targets for the Company. Importantly all of these anomalies are within the Permian Berserker Beds which hosts the Mt Chalmers VHMS deposit. Figures 2-2 illustrate the copper and zinc soil anomalies over the broader Tracker prospect areas with Figures 3-8 displaying deposit scale images of the soil signatures from the T1, T2 and T3 prospects.

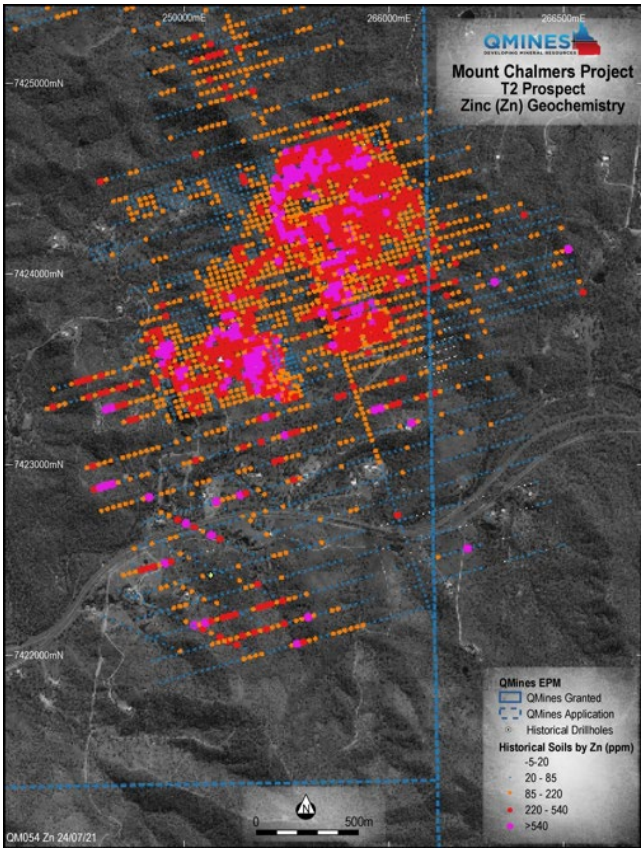
	Mean	Max	0 - 20 ppm	20 - 85 ppm	85 - 200 ppm	220 - 540 ppm	>540 ppm
Copper	49	2200	7963 (42%)	8481 (44%)	2021 (11%)	451 (2.4%)	76 (0.4%)
Zinc	105	7300	4066 (21%)	9258 (48%)	3539 (19%)	1660 (9%)	566 (3%)

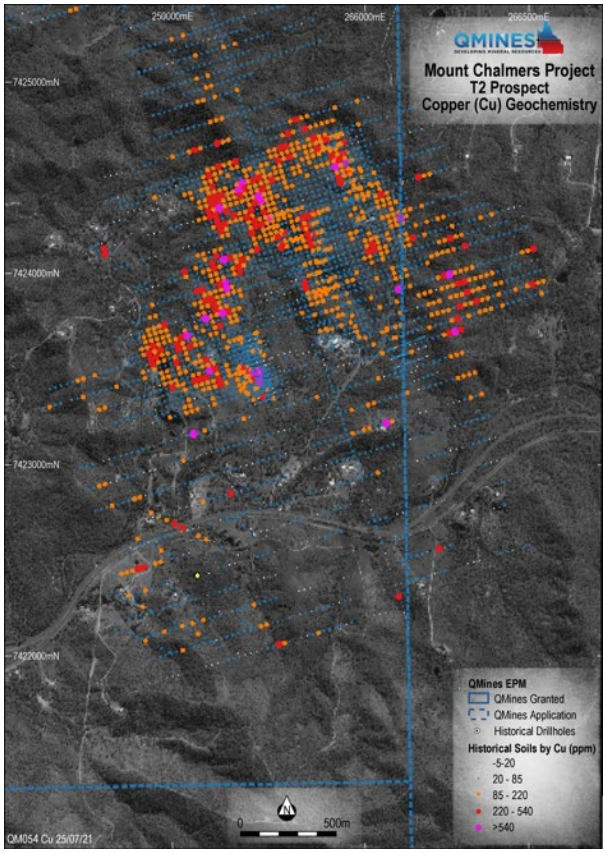
Table 1: Mt Chalmers historic soil statistics

Table 1 illustrates the grade of the historic soil sampling over the Mt Chalmers Project is notably high in both Cu and Zn which are both target metals in Kuroko style VHMS mineralisation. Importantly 11% of all samples were greater than 85ppm Cu and 9% of all samples were greater than 220ppm Zn. The USGS worldwide average igneous derived soil abundance for copper being 70ppm and 132ppm Zinc.

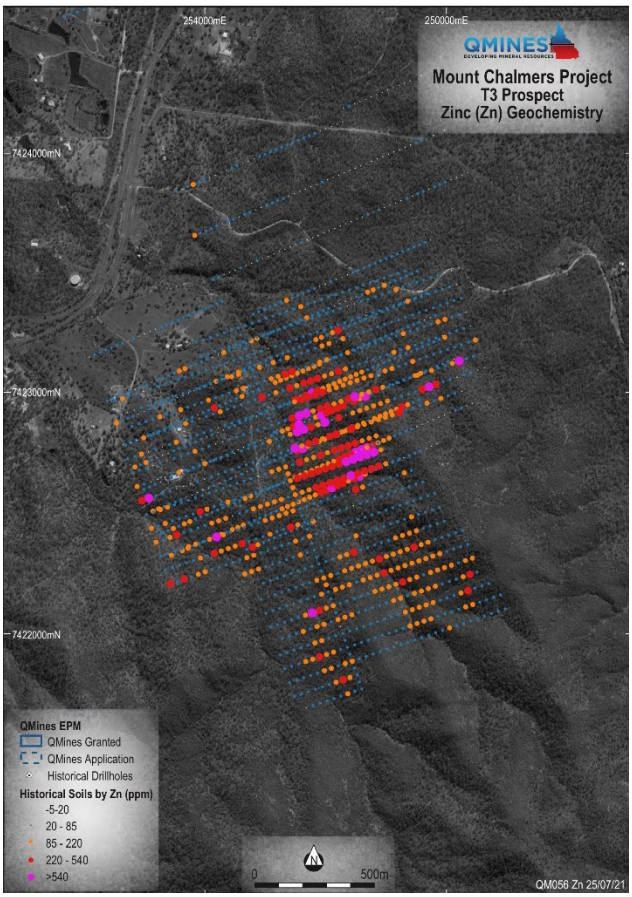


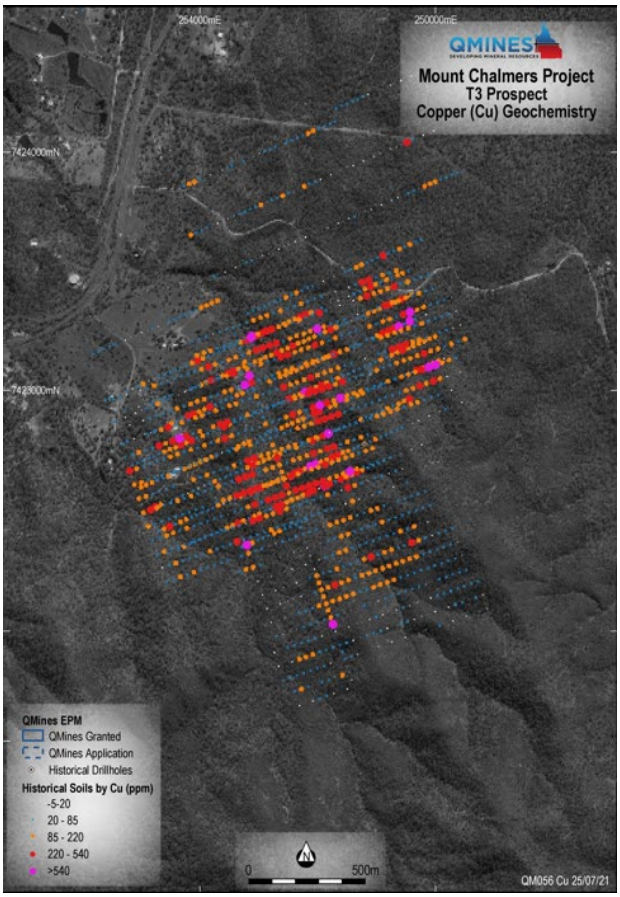
Figures 3-4: Tracker T1 prospect copper and zinc historical soil sampling gridline geochemical anomalies.





Figures 5-6: Tracker T2 prospect copper and zinc historical soil sampling gridlines and geochemical anomalies.





Figures 7-8: Tracker T3 prospect copper and zinc historical soil sampling gridlines and geochemical anomalies.

Tracker T1, T2 and T3 soil anomalies potentially represent higher level erosional surfaces than displayed at Mt Chalmers which is evident in the lateral dispersion of zinc in soils at the Tracker prospects and a less pronounced copper anomalous core in the centre of the Tracker soil anomalies. The planned airborne EM survey will aid in delineating potential undercover VHMS mineralisation at the T1, T2 and T3 prospects. The Company believes that the remnant massive sulphides at the Mt Chalmers deposit will provide a baseline EM signature for ongoing VHMS exploration inside the Berserker Beds.

GEOLOGY

The geology of the Mt Chalmers area is relatively well-known with the Mt Chalmers mineralisation being identified as a well-preserved, volcanic-hosted massive-sulphide (**VHMS**) with a flat lying asymmetric mound geometry (Figure 9) this system contains copper, gold, zinc, lead and silver mineralisation and is recognised as being one of the **highest grade gold VHMS mineral systems in the world**[2]. 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[3].

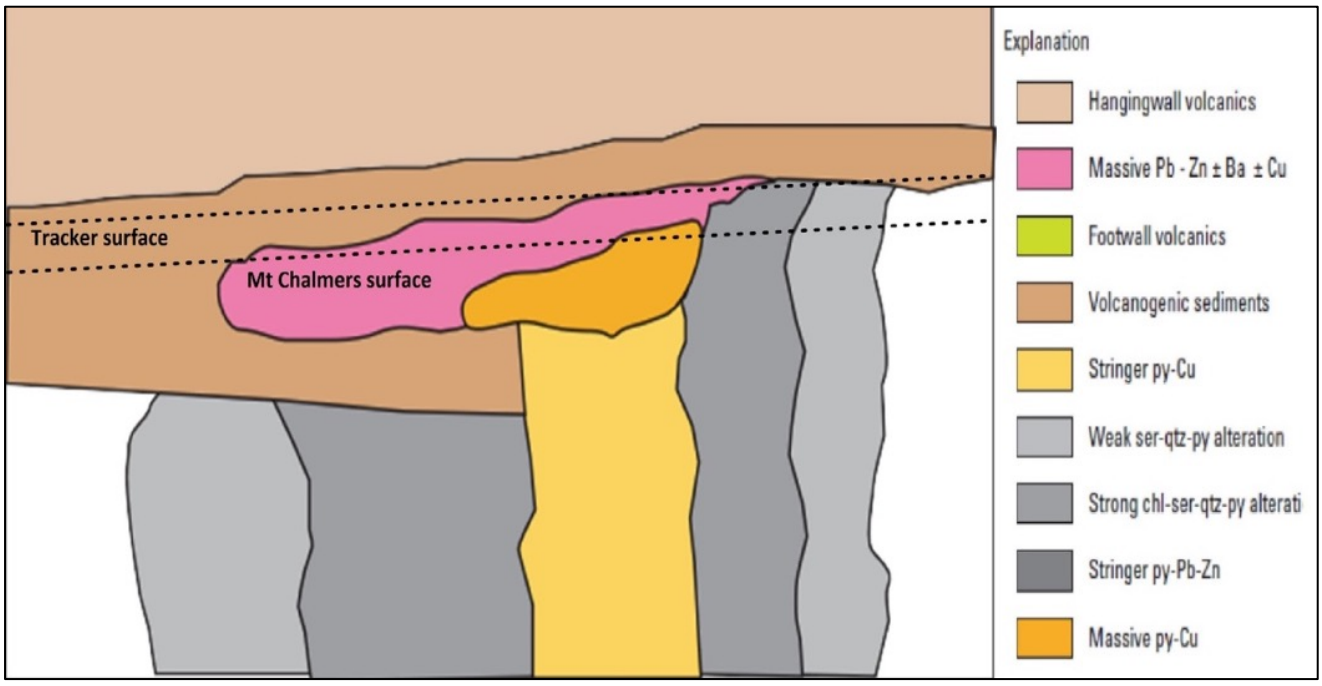


Figure 9: Mt Chalmers asymmetric mound geometry with proposed current erosional surfaces for the Mt Chalmers Deposit and the Tracker Prospects [4].

[2] The Gold Content of VMS Deposits, Patrick M Langevin, 11 May 2010.
[3] Taube A., 1990. Mount Chalmers gold-copper deposits. In Geology of the Mineral Deposits of Australia and Papua New Guinea.
[4] USGS, Volcanogenic Massive Sulfides Occurrence Model, 2010.

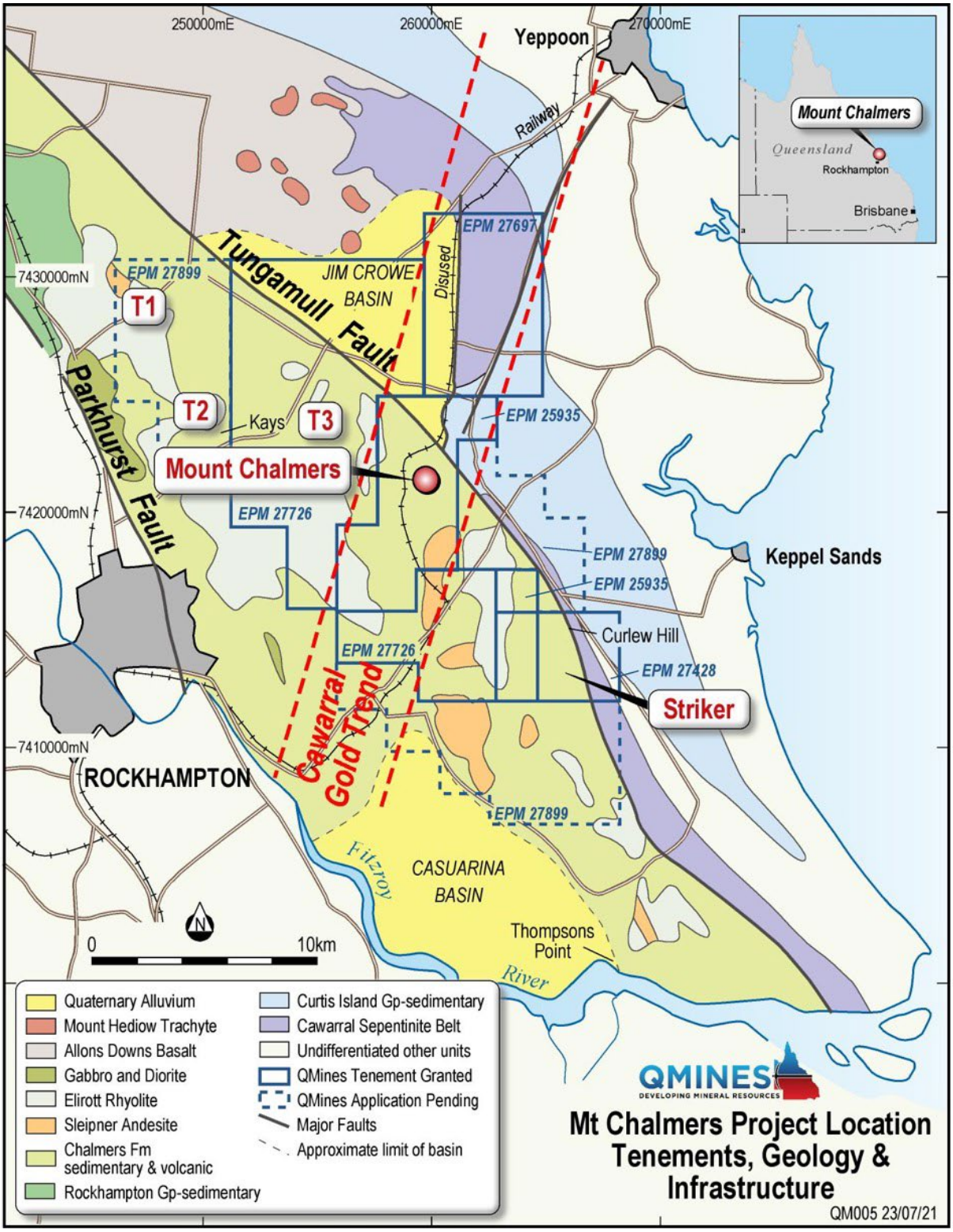


Figure 10: Location of the Mt Chalmers Project, granted tenure, geology and related infrastructure.

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[5]. 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.

[5] Kirkegaard A.G., Shaw R.D. and Murry C.G., 1970. Geology of the Rockhampton and Port Clinton 1:250 000

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.

DISCUSSION

Kuroko style of 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 Tracker T1, T2 and T3 prospects along with the Striker prospect display similar geochemical properties in soils to that found at the Mt Chalmers Copper Project.

QMines will expand drilling operations at the Mt Chalmers Project utilising all historical and newly acquired geological, geochemical and geophysical datasets. The systematic exploration methods adopted by the Company are designed to locate other preserved undercover VHMS mineralised systems that may be present within the Berserker Beds.

ONGOING EXPLORATION ACTIVITY

- Large planned drilling program underway (+30,000m) with second rig now onsite and assays expected shortly;
- RC drilling will be ongoing for several weeks with the current batch of drilling designed to infill and validate historical drillhole data and be used to potentially expand and upgrade the current resource[1];
- The Company has engaged Planetary Geophysics to manage and deliver a large REP-TEM airborne EM survey over the Mt Chalmers area extending both to the north-west and south-east of the Mt Chalmers mine covering an extensive area of the Berserker Beds;
- The survey is scheduled to commence in Q3-2021 and will be used in conjunction with all current data sets to define future potential VHMS drill targets;
- Soil sampling will continue over a much larger area with extensive soil grids utilising Niton portable handheld PAS XRF which delivers real time base metal suite analysis;
- The Company has applied for further exploration permits around Mt Chalmers extending the ground position to cover the Berserker Beds.

COMPETENT PERSON'S STATEMENT

The information in this announcement that relates to exploration results is based on information compiled by Hamish Grant a competent person who is a member of the Australian Institute of Geoscientists (AIG). Hamish Grant is a contractor of by QMines Limited as Project Geologist. Hamish has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the JORC Code. Hamish Grant consents to the inclusion in this announcement of the matters based on his work in the form and context in which it appears.

ABOUT QMINES

QMines Limited (**ASX: QML**) (**FSE:81V**) is a Queensland based copper and gold exploration and development company. QMines is seeking to become Australia's first zero carbon copper and gold developer. The Company owns 100% of four advanced projects with a total area of 1,096km². The Company's flagship project, Mt Chalmers, is located 17km North East of Rockhampton. The Project is a high-grade historic mine that produced 1.2Mt @ 3.6g/t Au, 2.0% Cu and 19g/t Ag between 1898-1982. Mt Chalmers has an Inferred Resource (JORC 2012) of 3.9Mt @ 1.15% Cu, 0.81g/t Au and 8.4g/t Ag.[1,2]

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.

DIRECTORS

ANDREW SPARKE
Executive Chairman

DANIEL LANSKEY
Managing Director

ELISSA HANSEN
Non-Executive Director & Company Secretary

QMINES LIMITED

ACN 643 212 104

SHARES ON ISSUE

111,372,748

UNLISTED OPTIONS

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

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

QMINES LIMITED

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Notes:

[1] Refer to the Independent Geologist Report commencing on page 84 of the Prospectus dated 16 March 2021 available at https://qmines.com.au/prospectus-2/

[2] The Company confirms that it is not aware of any new information or data that materially affects the information included in the Prospectus dated 16 March 2021 and that all material assumptions and technical parameters underpinning the resources estimates in the Prospectus dated 16 March 2021 continue to apply and have not materially changed.

JORC Code, 2012 Edition – Table 1 Mt Chalmers Regional Historic Soils

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*	**Geopeko** Samples collected from b-zone, c-zone and "unknown" using -80#mesh or unspecified **International Nickel Limited (INAL)** Samples collected from b-zone, c-zone and "unknown" using -80#mesh or unspecified
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurementtools or systems used.*	• Unspecified in historical GSQ reports
	• *Aspects of the determination of mineralisation that are Material to the Public Report.*	• Not applicable
	• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Not applicable
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Not applicable
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• Not appliable
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• Not appliable

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *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.*	• Not appliable
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriateMineral Resource estimation, mining studies and metallurgical studies.*	• Not specified
	• *Whether logging is qualitative or quantitative in nature. Core (or costean,channel, etc) photography.*	• Not specified in historical GSQ reports
	• *The total length and percentage of the relevant intersections logged.*	• Not appliable
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	• Not appliable
	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	• Not appliable.
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• Unable to verify from historical geological reports.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	• Unable to verify from historical geological reports.
	• *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.*	• Unable to verify from historical geological reports.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Unable to verify from historical geological reports.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratorytests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• Geopecko used either the Mt Morgan Limited Laboratory or Australia Laboratory Services while INAL used Australian Laboratory Services • Gepecko soil assays were by atomic absorption methods although further details were not reported. No information is available in the historical reports on the assay methods used for INAL.
	• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*	• No geophysical instruments used.
Quality of assay data and laboratorytests	• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• No information is available in the historical GSQ reports on laboratory QAQC procedures. Geopecko have reported that duplicate samples were taken.
Verification of Sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• Not appliable.
	• *The use of twinned holes.*	• Not appliable.
	• *Documentation of primary data, data entry procedures, data verification,data storage (physical and electronic) protocols.*	• Primary data for the reported historical geochemical sampling at the Mt Chalmers Project was collated from historical GSQ reports by independent geological database management company Orr and Associates. Historical protocols are identified in multiple reports by previous explorers.
	• *Discuss any adjustment to assay data.*	• No known adjustments or calibrations are made to any assay data from the Mt Chalmers Project
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	• The surveying system used to locate the sample location is not identified in historical reports and the Company converting the local grids used into MGA94 z56.
	• *Specification of the grid system used.*	• The historical soil sampling was on various local grids. These local grids where located using a combination of control points, aerial imagery and topographic features on the base plans. All local grids were reprojected into MGA94 z56 using Mapinfo software. The Mt Chalmers grid has been converted to MGA94 z56 by Vision Surveys (QLD) Pty Ltd using multiple ground control points
	• *Quality and adequacy of topographic control.*	• The topographic control is judged as adequate for geochemical samples

Data spacing and distribution	• *Data spacing for reporting of Exploration Results.*	• New data reported in this announcement relates to historical geochemical sample results and is therefore not applicable
	• *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.*	• Not applicable for the reporting of geochemical sampling results.

Data spacing and distribution	• *Whether sample compositing has been applied.*	• Not applicable for the reporting of geochemical sampling results.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	• Not applicable, this is early stage exploration geochemical sampling and the orientation of sampling to the mineralisation is not known.
	• *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.*	• Not applicable.

Criteria	**JORC Code explanation**	**Commentary**
Sample security	• *The measures taken to ensure sample security.*	• The chain of custody of the samples taken was not detailed in the historical GSQ reports.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No QAQC or sample audit information was identified in the historical GSQ reports.

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 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^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. • 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 recognised 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 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.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Mt Chalmers mineralisation is situated in the early Permian Berserker Beds, which occur in the fault-bounded Berserker Graben, a structure 120km

Criteria	JORC Code explanation	Commentary
		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. • 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 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

Criteria	JORC Code explanation	Commentary
		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 10m to 250m 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.

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent*
		• Exploration Results are reported in the body of the relevant announcements in Table 1

Criteria	JORC Code explanation	Commentary
	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.*	• **QMINES Feb 2021** • 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. • No metal equivalent values have been reported. • Mt Chalmers VHMS is a polymetallic base and precious metal mineral system, cut off grades used by the Company in calculating mineralized intersections are 3000ppm Cu, 0.1ppm Au and 1ppm Ag.
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').*	• **QMINES Feb 2021** • At Mt Chalmers, the drilling has generally intersected the mineralisation at high angles. • The majority of holes drilled at Mt Chalmers Copper Project are vertical in nature. • Holes drilled on 60 degree dip are reported in the Significant intercept table. True widths in 60 degree dip are not reported. True Width is approximately 87% of the down hole intersection.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Maps, sections, mineralised intersections, plans and drill collar locations are included in the body of the relevant announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Table 1 in the body of the announcement
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,*	• CEC and Peko completed some brownfields exploration to assist with defining the resource including Induced Polarisation surveys and Sirotem (electromagnetic method) surveys. • Federation concentrated on defining the resource estimates. • No other exploration data is considered meaningful at this stage.

Criteria	JORC Code explanation	Commentary
	geotechnical and rock characteristics; potential deleterious or contaminating substances.	
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.*	• Infill and resource expansion drilling is planned to upgrade and potentially expand the resource estimates.