Resource Increases by 104% with 84% now in Measured & Indicated

22 November 2022

Highlights

QMines delivers third & fourth Resource Estimate since listing in only May 2021;

- **104% increase** in Resource tonnes to **11.86Mt @ 1.22%** copper equivalent;
- **44% increase** in contained metal to **144,700t @ 1.22%** copper equivalent;
- **119% increase** in Measured & Indicated tonnes to **10.0Mt (84% of Resource)**;
- **160% increase** in meters drilled in 2022 compared with 2021 for total of 15,323m;

Several additional VHMS prospects remain outside Resource demonstrating further growth potential; and

Drilling continues unabated (+30,000m) with a fifth Resource update planned for H1-2022.

Overview

QMines Limited (**ASX:QML**)(**QMines** or **Company**) is pleased to announce its third Mineral Resource Estimate (**MRE**) for the Mt Chalmers deposit and maiden MRE for the Woods Shaft deposit at its flagship Mt Chalmers Project, located 17km north-east of Rockhampton in Queensland (Figure 1).

Hyland Geological and Mining Consultants (**HGMC**) have completed a new MRE based on additional drilling, improved geological modelling and a significant increase in bulk density readings. Importantly, the updated Mt Chalmers MRE delivers a more robust and expanded MRE with an increase to the Measured and Indicated categories which now accounts for **88%** of the Mt Chalmers MRE, shown in Table 1, and 84% of the combined resource base which includes the Woods Shaft deposit. This MRE includes the maiden MRE for the Woods Shaft deposit, located 700 metres to the southwest of the Mt Chalmers main deposit.

Overview (Continued)

The new MRE further strengthens the Company's view that Mt Chalmers has future development potential.

Mt Chalmers Resource

QMines' first MRE at Mt Chalmers was completed in February 2021 by Mr Simon Tear of H&S Consulting (**H&SC**) which was published in QMines Prospectus dated 16 March 2021. This maiden resource was based on a 2005 resource estimate by McDonald Spiejers as part of a prospectus for Echo Resources which itself was based on a 1996 estimate by McDonald Spiejers.

The Company's second MRE was completed in November 2021 by Mr Stephen Hyland of HGMC and announced on 1st December 2021.[1] This MRE included data from the maiden resource and the results from QMines drilling undertaken in 2021. HGMC estimated a 38% increase to 5.8Mt @ 1.7% copper equivalent (**CuEq**) for 101,000t contained CuEq with 78% in the Measured & Indicated categories.

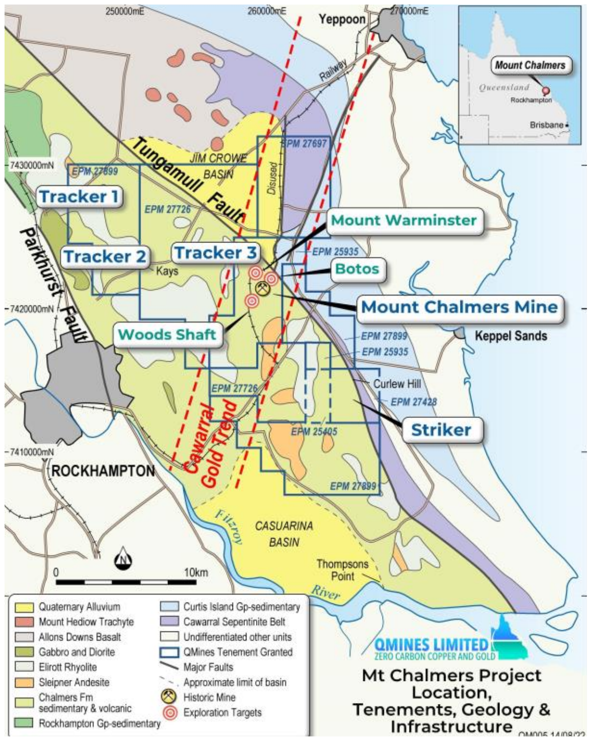

Figure 1: Location of Mt Chalmers Project, tenure, geology & infrastructure.

The Company's third Mineral Resource Estimate is a new independent estimate undertaken by HGMC for QMines. The MRE includes all historical drillhole data and all drilling results delivered by the Company since listing on the ASX in May 2021 (Table 5) with all relevant drilling announcements shown in Appendix 1.

Management Comment

QMines Executive Chairman, Andrew Sparke, comments;

"We are extremely pleased to have delivered our third and fourth resources at the Mt Chalmers project in just 18 months since listing. This achievement demonstrates the quality of the Mt Chalmers project, the motivation of our team and the projects development potential.

With drilling continuing and our team already working towards our fifth resource update, we look forward to continuing to deliver shareholder value as we seek to supply a green copper product that supports the global energy transition".

The Mt Chalmers resource (excluding Woods Shaft) now stands at 11.3Mt @ 0.76% Cu, 0.42g/t Au, 4.52g/t Ag, 0.22% Zn and 0.08% Pb for 85.6Kt Cu, 153,240oz Au, 1.6Moz Ag, 24.4kt Zn and 9.6kt Pb (see Table 1). Measured and Indicated categories now account for 88% of the total Mt Chalmers resource (Figure 2).

Mt Chalmers is a brownfields Volcanic Hosted Massive Sulphide (**VHMS**) deposit that was mined sporadically up to 1982. The MRE is reported in accordance with the guidelines of the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC 2012) with Resource Estimate categories shown in Table 1 and total resource estimate at different copper cut-off grades presented in Table 2.

[1] https://wcsecure.weblink.com.au/pdf/QML/02460632.pdf

Mt Chalmers Resource (Continued)

Resource Category	Tonnes (Kt)	Grades					Contained Metal				
		Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Cu (t)	Pb (t)	Zn (t)	Au (Oz)	Ag (Oz)
Measured	4,200	0.89	0.09	0.23	0.69	4.97	37,800	3,900	9,800	93,770	675,550
Indicated	5,800	0.69	0.07	0.19	0.28	3.99	39,900	3,900	11,100	51,510	741,940
Inferred	1,300	0.60	0.13	0.27	0.19	5.41	7,900	1,700	3,500	7,960	228,100
Total	**11,300**	**0.76**	**0.08**	**0.22**	**0.42**	**4.52**	**85,600**	**9,500**	**24,400**	**153,240**	**1,645,590**

Table 1: Mt Chalmers Resource Estimate by Resource Category reported at 0.3% copper cut-off, November 2022. (Note: Rounding errors may occur).

Cut-Off (Cu %)	Tonnes (kt)	Grades					Contained Metal				
		Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Cu (t)	Pb (t)	Zn (t)	Au (Oz)	Ag (Oz)
0.20	15,900	0.61	0.09	0.21	0.34	4.21	96,900	13,500	33,600	176,130	2,156,580
0.30	**11,300**	**0.76**	**0.08**	**0.22**	**0.42**	**4.52**	**85,600**	**9,500**	**24,400**	**153,240**	**1,645,590**
0.40	8,500	0.89	0.08	0.22	0.50	4.82	75,800	7,200	18,600	136,070	1,315,650
0.50	6,600	1.02	0.08	0.22	0.57	5.06	67,300	5,500	14,300	121,390	1,072,140

Table 2: Total Mt Chalmers Resource Estimate by Cut-off grade, November 2022. (Note: Rounding errors may occur).

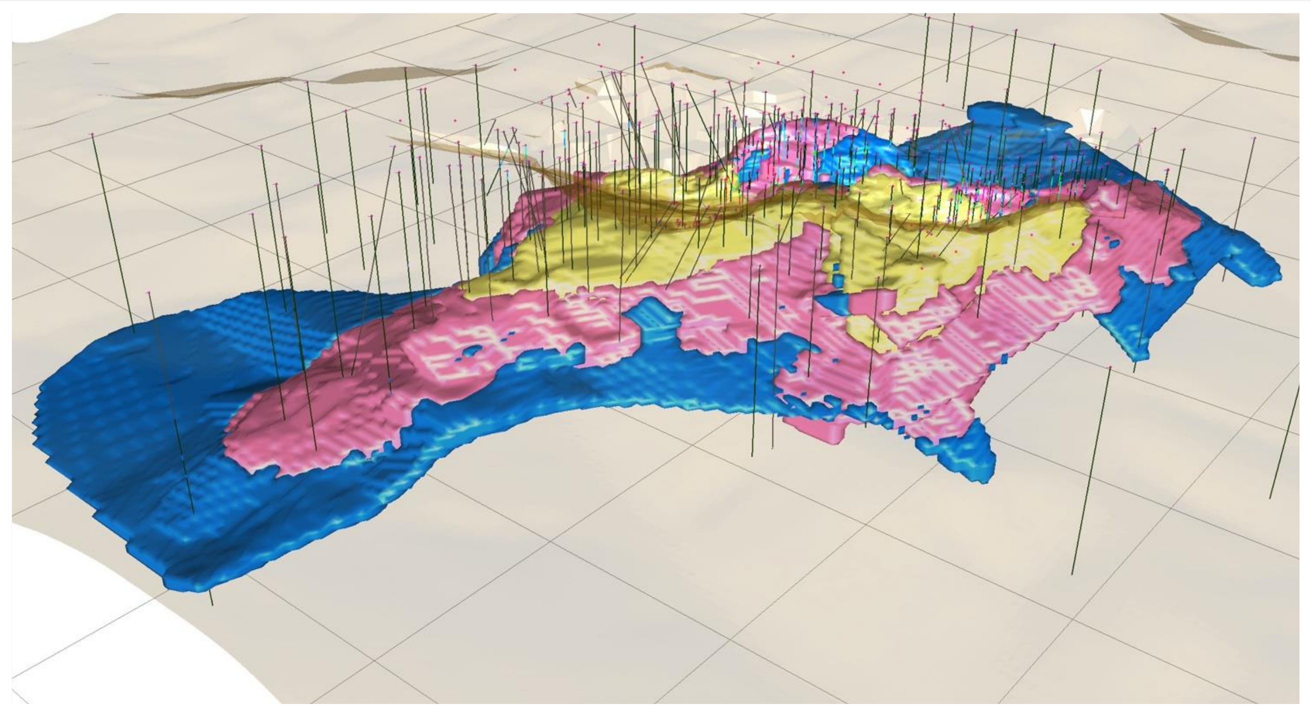

Figure 2: Mt Chalmers block model showing resource by category (yellow = Measured, pink = Indicated, blue = Inferred). Looking towards 140°, 30° dip. Grid cells are 200m x 200m.

Maiden Woods Shaft Resource

The Woods Shaft deposit is located 700 metres to the southwest of the Mt Chalmers main deposit. Drilling has defined mineralisation to extend over 250m in strike and up to 40m wide. Mineralisation is from surface to a depth of 90m in places and contains gold and base metal mineralisation.

Maiden Woods Shaft Resource (Continued)

The Woods Shaft deposit is a gold/copper dominant VHMS deposit. The mineral resource estimate is predominantly from the preserved stringer zone.

The Woods Shaft deposit was reported as an Exploration Target prior to listing, details of which can be found in the Company's Prospectus, Independent Geologist Report, prepared by H&S Consultants Pty Ltd.[1]

Recent drilling has provided sufficient confidence in historic drilling results to calculate a maiden Inferred Mineral Resource Estimate (Table 3). The total Inferred resource for Woods Shaft stands at 540kt @ 0.5% Cu and 0.95g/t Au for 2,700t Cu and 16,440 oz Au.

Resource Category	Lower Cut-Off (Cu %)	Tonnes	Grades		Contained Metal	
			Cu (%)	Au (g/t)	Cu (t)	Au (Oz)
Inferred	0.20	880,900	0.40	0.79	3,500	22,370
Inferred	**0.30**	**540,400**	**0.50**	**0.95**	**2,700**	**16,440**
Inferred	0.40	318,000	0.60	1.12	1,920	11,440
Inferred	0.50	181,200	0.73	1.31	1,320	7,610

Table 3: Mineral Resource Estimate for the Woods Shaft Deposit at different cut-offs, November 2022.

Mt Chalmers Project Resource

The Mt Chalmers project has demonstrated continual growth since QMines acquisition in January 2021. This includes three resource updates on the historic Mt Chalmers deposit and now the addition of a maiden Inferred resource at Woods Shaft. QMines remains focused on growing the resource by converting the two remaining Exploration Targets to mineral resources and by drilling a number of new copper and zinc soil anomalies and other regional targets with a view to making a potential discovery.

On a copper equivalent basis, the total resource now stands at **11.86Mt @ 1.22% CuEq for 144,700t CuEq**, an increase of 43% on a metal basis from the 1 December 2021 update. The total project resource base now includes contributions from Woods Shaft.

Resource Category	Tonnes (Kt)	Grades					Contained Metal				
		Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Cu (t)	Pb (t)	Zn (t)	Au (Oz)	Ag (Oz)
Measured	4,227	0.89	0.09	0.23	0.69	4.97	37,759	3,923	9,832	93,769	675,547
Indicated	5,784	0.69	0.07	0.19	0.28	3.99	39,925	3,916	11,058	51,508	741,936
Inferred	1,311	0.60	0.13	0.27	0.19	5.41	7,907	1,716	3,494	7,964	228,104
Total	**11,321**	**0.76**	**0.08**	**0.22**	**0.42**	**4.52**	**85,589**	**9,555**	**24,386**	**153,238**	**1,645,583**

Table 4: Mt Chalmers Project total Resource Base (reported at 0.3% Cu cut-off), November 2022. Note: Rounding errors may occur.

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**) mineralised system containing copper, gold, zinc, lead and silver. Mineral deposits of this type are deemed syngenetic and formed contemporaneously on, or close to, the sea floor during the deposition of the host-rock units. The mineralisation is believed to have been deposited from hydrothermal point and fissure fumaroles, as direct chemical sediments and/or as sub-seafloor massive sulphide replacement zones and layers, together with footwall disseminated and stringer feeder zones within the host volcanic and sedimentary rocks.

[1] QMines Prospectus, Annexure A, Independent Geologist Report, pages 93-104. Exploration Targets are reported in accordance with the JORC 2012 Code & Guidelines. Note: The Potential quantity and grade of the Exploration Target described in this announcement is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Geology (Continued)

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 120 kilometres long and up to 15 kilometres 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.

The geology of Woods Shaft is similar to that of Mt Chalmers but with greater siltstone thicknesses suggesting more distal deposition under lower energy conditions.

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. Figures 3 and 4 show the geology of the Mt Chalmers and Woods Shaft deposits along with long section lines for sections that appear in figures 5 and 6.

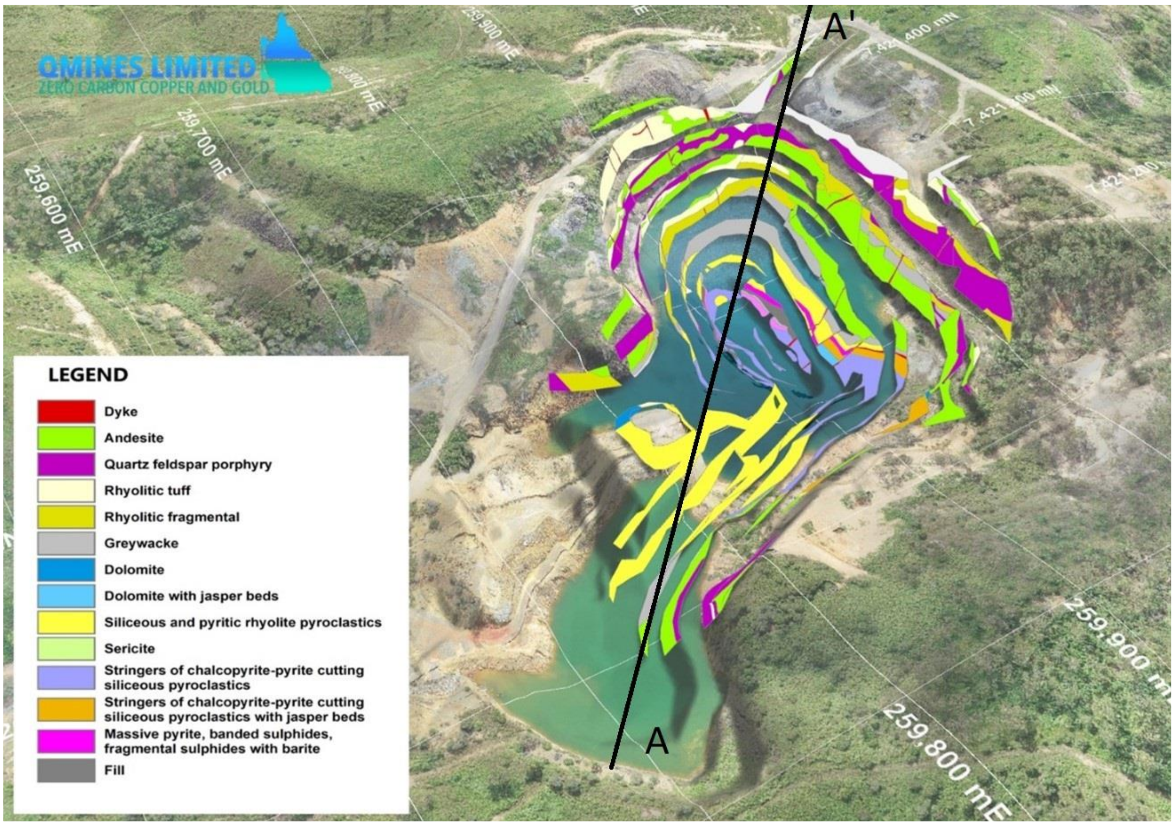

Figure 3: 3D Geological interpretation, Digital Terrain Model (DTM) and aerial view of the Mt Chalmers open pits with section line A-A’.

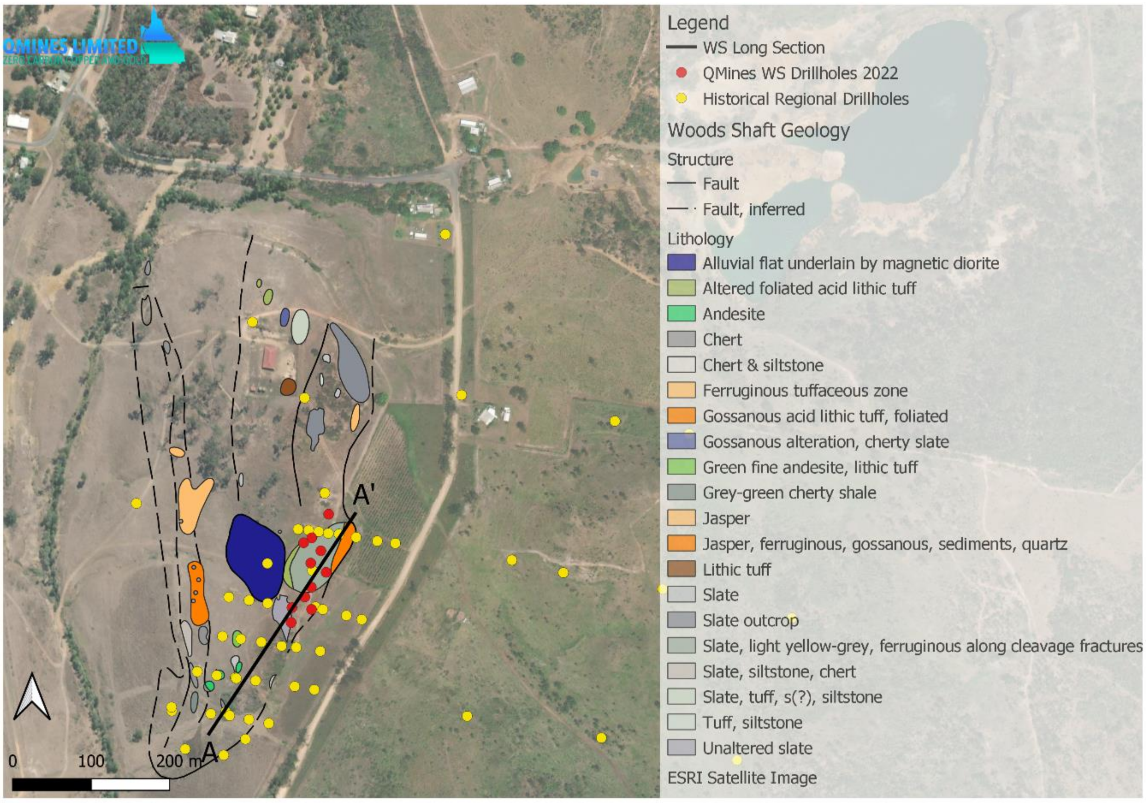

Figure 4: Woods Shaft geology map with section line A-A'

Mineralisation

The geometry of the Mt Chalmers deposit indicates a relatively flat lying asymmetrical massive sulphide mound (Figure 5) with both historical and recent drilling results intersecting higher grade copper/gold massive sulphides proximal to the centre of the deposit and high grade lead/zinc/silver in the massive sulphide and exhalate mineralisation distal from the centre of the deposit. Similar metal zoning has also been observed in the stringer/disseminated zone beneath the massive sulphide mineralisation where copper/gold grades are typically higher in the centre and lead/zinc/silver grades typically higher distally and at greater depths.

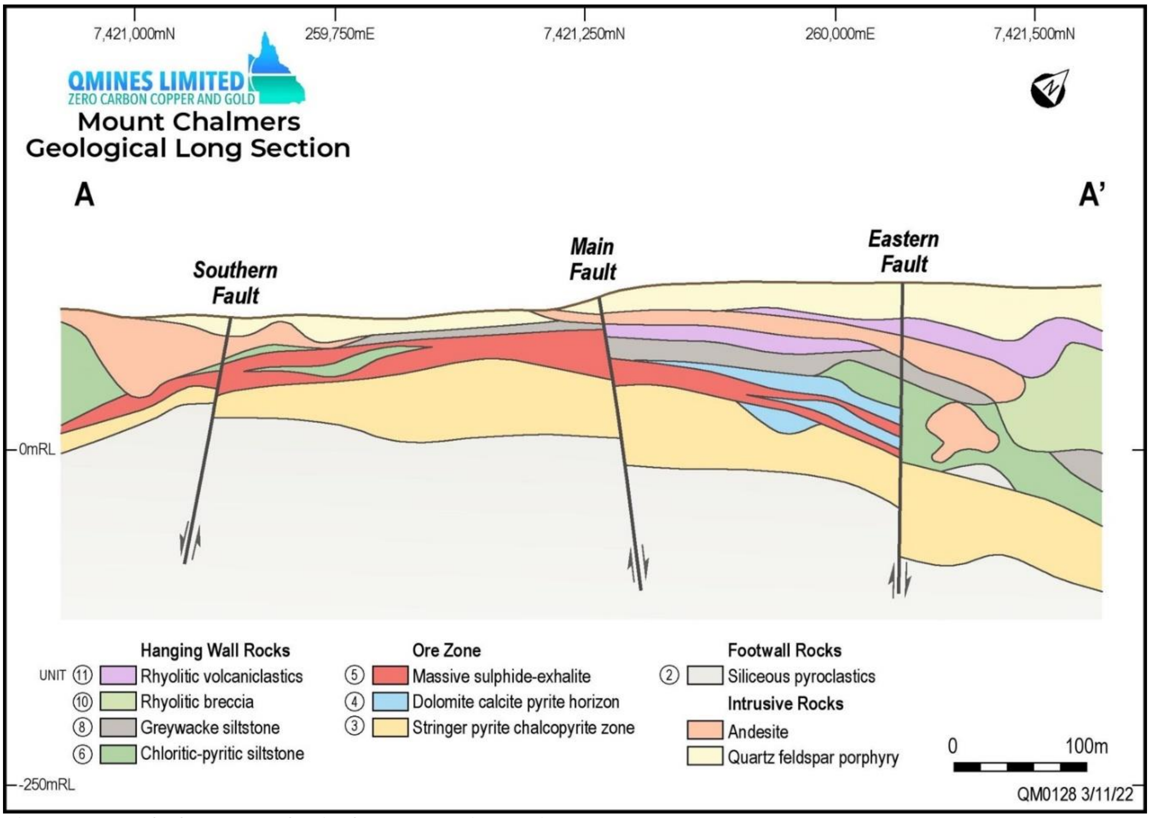

Figure 5: Mt Chalmers Geological Long Section AA'.

Mineralisation (Continued)

The resource is divided into two mineralisation types, namely massive/exhalite and stringer, and their oxide equivalents. The deposit has an overall strike length of approximately 700 metres north-south and an east-west extent ranging between 250 and 350 metres. Thicknesses of up to 50m for the stringer zone are common with 5 metres to 20 metres being typical for the massive sulphide / exhalite domains. Drilling in 2022 has extended the mineralisation outwards in all directions and has revealed the massive sulphide / exhalate horizon to be more widespread than previously interpreted.

At Woods Shaft sulfide stringer mineralisation is the main mineralisation style (Figure 6). Disseminated exhalative mineralisation occurs within the overlying siltstone pile but no massive sulfide has been detected to date. The sulfide stringer zone is largely restricted to siliceous pyroclastics, revealing a similar temporal and spatial mineralising event to that at Mt Chalmers.

Mt Chalmers mineralisation is exposed in the pits (Figure 3) and extends to a vertical depth of 200m below surface. Resource drilling has now closed off the deposit to the east and west, but it remains open along strike to the north and south. The current (November) drilling campaign is targeting these open extensions.

The massive sulphide and disseminated exhalite zones form a continuum which is irregular and suggests multiple feeder sources. In general, however, these sulphides are more massive close to both the Main Pit and the West Pit and grade distally to disseminated exhalate sulphides. Both deposit types are relatively flat lying and flank the rhyolite domes and faults with dips between 10° and 40°. These deposits are part of an encompassing exhalite horizon that immediately overlies a footwall stringer mineralised zone. Several massive sulphide mineral zones within the encompassing exhalite horizon were defined using logged geology with reference to copper, gold and sulphur assay grades.

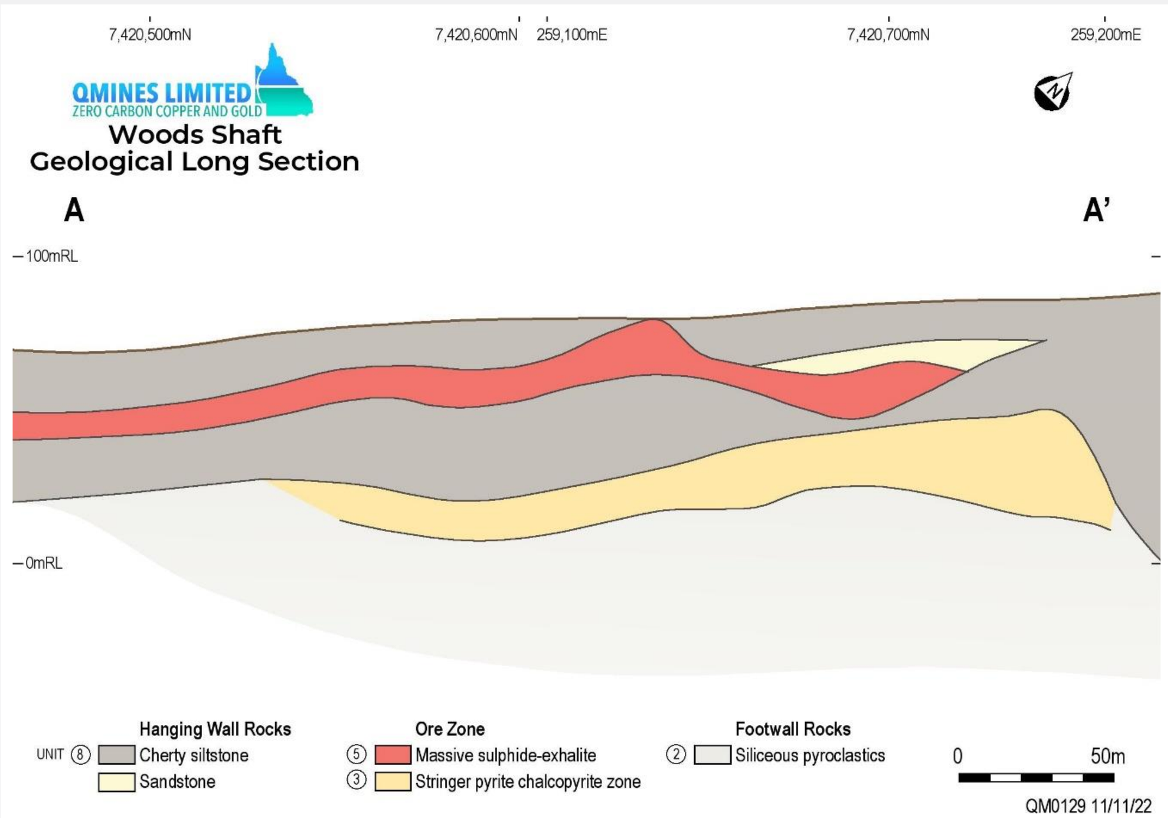

Figure 6: Woods Shaft Geological Long Section AA'.

Mineralisation (Continued)

There is no evidence of gold enrichment or depletion in the oxide zone but there is some evidence of copper depletion in the oxide zone and possibly some minor supergene copper enrichment locally.

Structure

Recent drilling, interpretation and modelling has confirmed block faulting and the structural dislocation (generally small off-sets) of mineralisation within the Mt Chalmers mine area. Late-stage faulting and uplift, probably by upward migration of the footwall rhyolite dome, has created a central horst block which includes the West Pit and part of the Main Pit areas (Figure 7). Downfaulting along the Southern Fault appears to have displaced mineralisation to the south by approximately 40 metres.

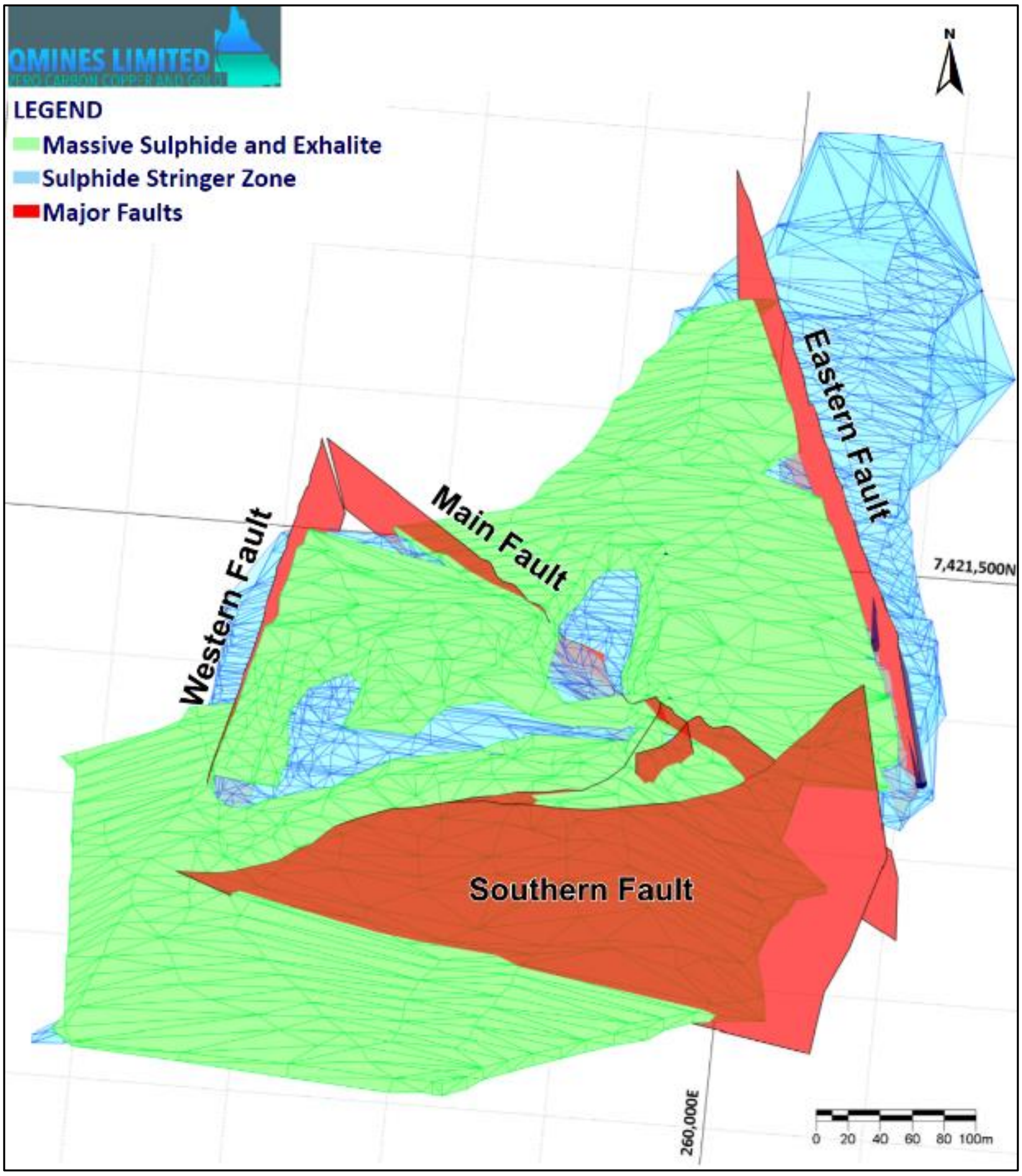

Figure 7: Mineralisation zones and major faults, oblique view looking north.

Structure (Continued)

Downfaulting of the west side of the Western Fault by approximately 50m coincides with a rapid increase in base metal sulphides to the east, suggesting that this fault may have also acted as an earlier conduit for mineralisation prior to reactivation during doming. Similarly, downfaulting has occurred on the east side of the Eastern Fault and this fault has notably restricted deposition of the massive sulphide. The Main Fault is also likely to have been active during mineralisation, with the sulphide stringer zone (**SSZ**) having been downthrown to the northeast and thickened to the southwest. Younger volcaniclastics of the Chalmers Formation drape this faulted lower topography, supporting a syngenetic to early epigenetic timing.

A structural study of drillcore from holes drilled in early 2022 has found that the sulphide stringer zone 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. The sulphide stringer zone at Mt Chalmers is also much more widely developed than at Kuroko or other VHMS deposits.

The geometry of the Woods Shaft mineralisation is to date less clear than at Mt Chalmers due to limited drillhole logging data. QMines drilling has shown the mineralisation in the limited drilling area to dip at around 40 degrees to the southeast. Surface mapping and drill data suggest a mineralised dome structure which has been slightly modified by folding to produce a north-south trending anticline (dome) with a mineralised core. It is envisaged that this dome has formed similarly to the domal uplift at the core of the Mt Chalmers mineral system.

Resource Geology Modelling

Both the massive sulphide / exhalite horizon and the sulphide stringer zones were modelled from the drilling data to produce separate mineralisation envelopes (Figures 8, 9a and 9b). Domaining at 5 metre section intervals then wireframing formed the basis of these high-quality models, which were delivered to HGMC as 3D string and DXF files, which were then imported into Surpac. Ongoing drilling continues to expand the model, which is regularly updated.

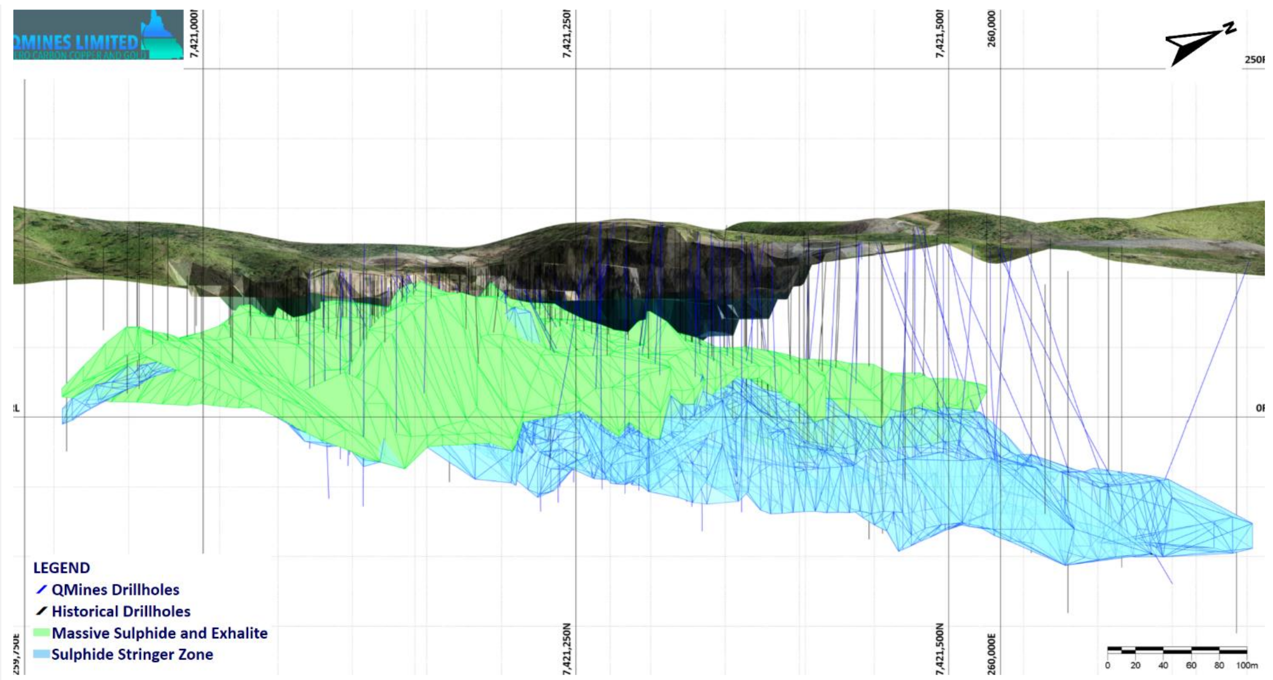

Figure 8: QMines wireframing of the Mt Chalmers mineralisation zones. Long section looking WNW.

Resource Geology Modelling (Continued)

A geological surface was created for the base of complete oxidation from information from current QMines logs and the historical Geopeko logs. The surface was inferred by interpolation from the digital terrain model (**DTM**) and appears in Figure 10. The recent QMines drilling programs have provided more specific information, validation of historical drilling undertaken by previous companies and QAQC for all holes drilled by QMines at the project.

Drillhole geology was checked by HGMC against the QMines interpretation. The interpretation was checked by HGMC in 3D against drillhole assays grades with no significant issues being noted. The geological understanding of the deposit appears to be significantly improved through work done in 2022 and is appropriate for resource estimation. The style and type of mineralisation means there is a strong lithological control to the grade and geological continuity.

In October, HGMC conducted a site visit to both Mt Chalmers and Woods Shaft to review drilling operations and technical procedures including, QAQC procedure, data logging, and geological modelling, and studied drillcore from several representative holes. No issues were encountered with this due diligence visit allowing the current MRE calculation to proceed with a stronger technical understanding.

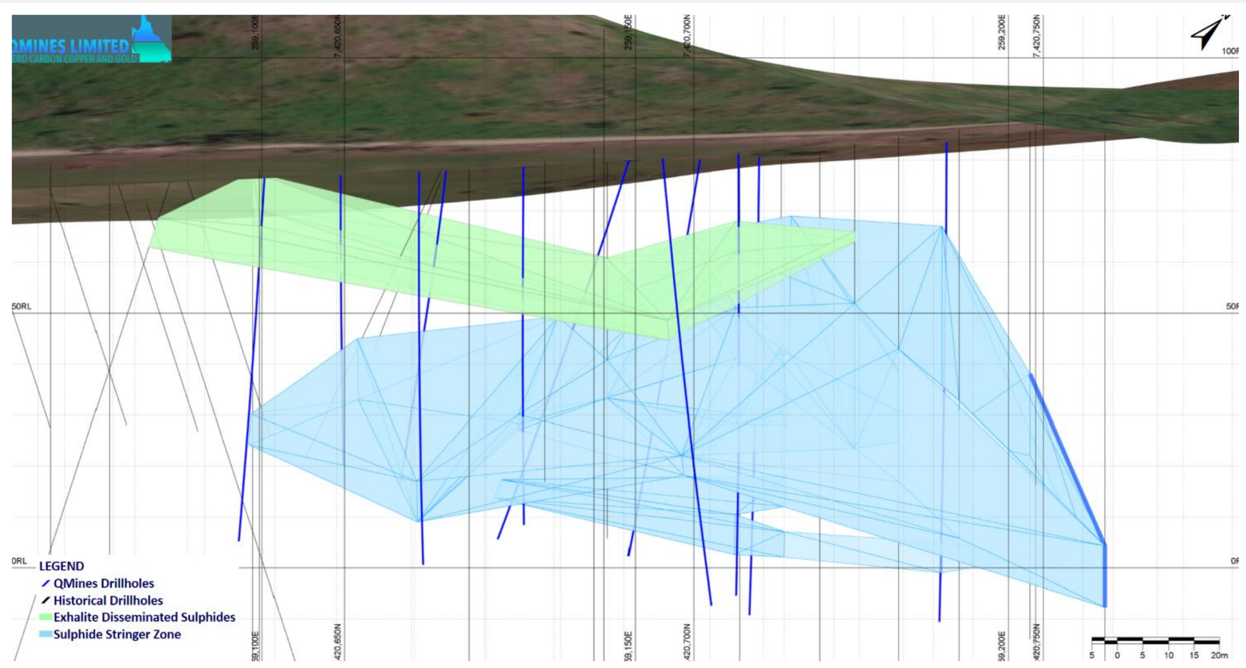

Figure 9a: QMines wireframing of the Woods Shaft mineralisation zones. Long section looking WNW.

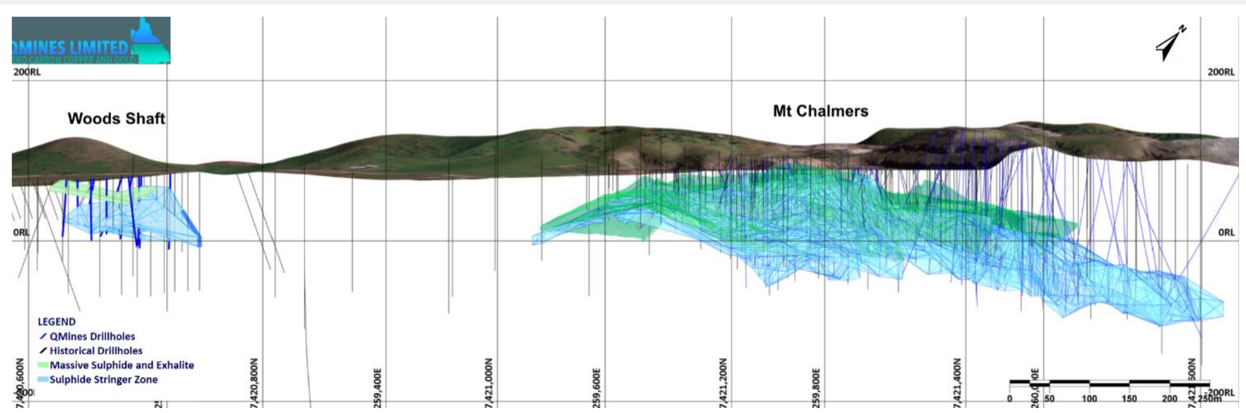

Figure 9b: QMines wireframing of the mineralisation zones. Long section looking WNW.

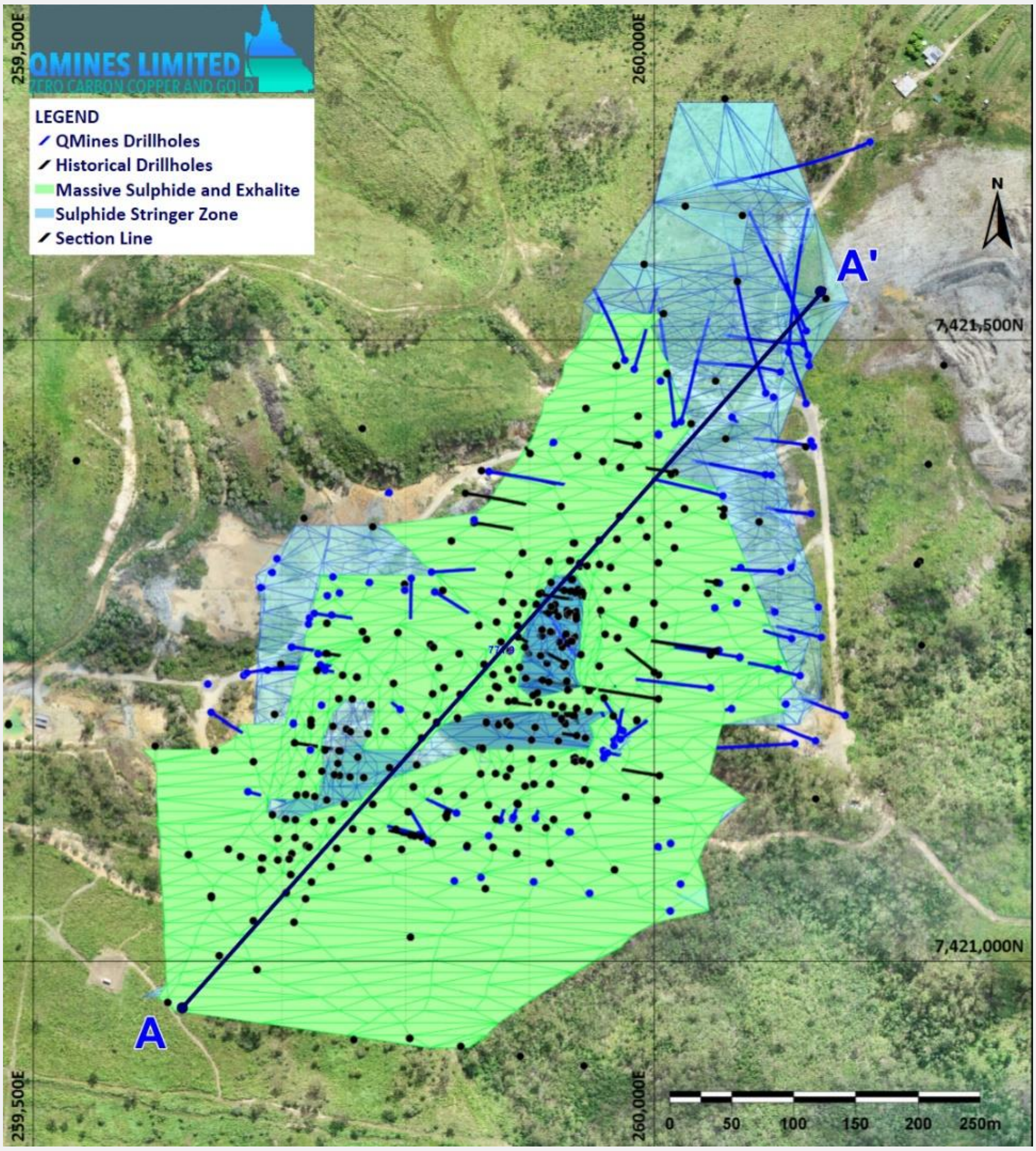

Figure 10: Mt Chalmers Mineral Zone Dimensions & Drillhole Locations in Plan View.

HGMC previously completed an upgraded MRE and Resource Report in December 2021 based on the digitisation of historic drill holes including some recently acquired historic databases and drilling undertaken by QMines since acquiring the project. QMines drilling commenced at Mt Chalmers in March 2021 including a series of new diamond and reverse circulation (RC) drillholes. This work enabled HGMC to update and upgrade the MRE under the 2012 JORC Code & Guidelines.

The Company's third MRE is a new independent estimate undertaken for Qmines and delivered by HGMC. The MRE includes all historical drillhole data and all new drillhole results delivered by the Company since listing on the ASX in May 2021 (Tables 1-3).

This MRE incorporates base and precious metals contained in the Mt Chalmers and Woods Shaft deposits including copper, gold, silver, lead and zinc using all data derived from historic and new drilling information as at end October 2022.

Drilling Technique & Data

Historical drilling at Mt Chalmers was complemented with near-mine exploration drilling by Geopeko at Woods Shaft and other exploration targets. The same drilling equipment and procedures used at Mt Chalmers were, to the best of QMines' knowledge, also used at Woods Shaft etc.

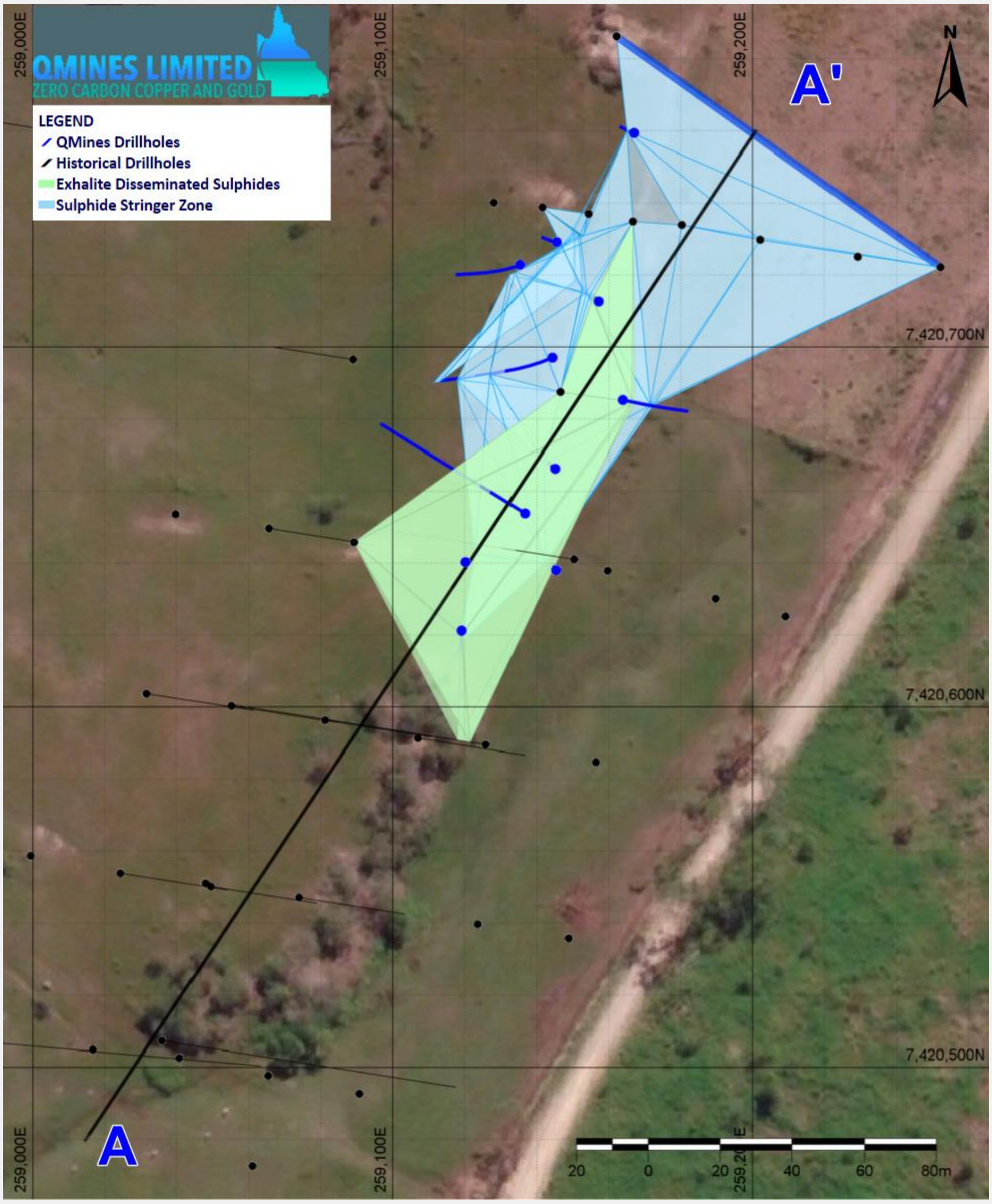

Figure 11: Woods Shaft Mineral Zone Dimensions & Drillhole Locations in Plan View.

Drilling Technique & Data (Continued)

Historical drilling techniques employed at Mt Chalmers and Woods Shaft included a combination of percussion drilling ("PDH") – both open hole and Reverse Circulation (RC)) and diamond core drilling (Tables 6 and 8). Percussion drilling was with a Mayhew 1000 or a Mayhew 1500 rig with 114.5mm down hole hammer bit. Diamond core drilling by Geopeko used core sizes ranging from NQ to BQ whereas Federation mostly used HQ with some NQ where required.

Historical holes were initially drilled using an open hole percussion or RC drilling method and tailed with a diamond drill hole. The vast majority of drillholes were vertical. No core orientation data is available from historical records.

In 1995 Great Fitzroy Mines NL drilled eight vertical RC holes at Woods Shaft using a Schramm RC rig. No sampling or procedural data is available however the program was managed by Alex Taube, former chief geologist with Geopeko at Mt Chalmers.

Drilling Technique & Data (Continued)

In 2022, QMines RC drilling was undertaken using a Reverse Circulation KWR 350 truck mounted rig with auxiliary air and on-board cone splitter, and a Sandvik 710 track mounted coring rig. RC drilling utilised 114.5mm diameter RC rods and 140mm percussion face-sampling hammer with auxiliary air packs and onboard air. Coring was completed with HQ triple tube with the recent core sample being orientated using REFLEX ACT111 core orientation tool.

No historical sample recovery data is available for either the diamond drilling or the RC drilling. Historic reports indicate 90% sample recovery from the Geopeko drilling except for weathered and oxide zones (these zones have now been mined out). No documentation for any RC sampling procedures was found in historical reports available to the Company.

Since delivering the second MRE, QMines has undertaken both diamond core and RC drilling programs since drilling commenced in March 2021 (Tables 5 and 7). The drilling was designed to validate historic work and extend the resource wireframes. The Company has delivered suitable quality control data (QAQC) with all QAQC data investigated and reported by independent consultants Orr and Associates, further reinforcing the confidence in the historical drilling undertaken by Geopeko and other explorers at Mt Chalmers.

Both the historical and current drilling methods used are typical of current industry practices and are considered to be reliable methods, delivering results suitable for resource estimation. The lack of historical sample recovery data has been remedied by the recent diamond and RC drilling work undertaken by QMines.

Figure 12: Drilling underway at QMines Mt Chalmers mine site, September 2022.

Drilling Technique & Data (Continued)

Diamond core and RC drilling sample recovery rates average 93 - 95% of all metres drilled in both the mineralised and unmineralised zones. It is now possible to establish the relationship between sample recovery and metal grade.

The Mt Chalmers deposit is a generally flat-lying mineral deposit and the majority of drillholes are vertical or steep, with most holes perpendicular to mineralisation. Holes drilled on a sixty-degree dip are estimated to represent 87% true width. There is no obvious sampling bias with the drilling orientation. At Woods Shaft the known extent of the deposit dips at 40 degrees to the southeast. Further drilling there will clarify the overall geometry.

Drillhole Database

QMines supplied a comprehensive recently digitised drillhole database for the Mt Chalmers and Woods Shaft deposits which HGMC reviewed and accepted as an accurate, reliable, and complete representation of the available data. HGMC imported the data into a 'resource' Microsoft Access database that was validated then transferred ultimately into the required 3D modelling software package. HGMC performed validation of the data including error checking. The drillhole database for the Mt Chalmers deposit was deemed to be satisfactory for resource estimation purposes; however, responsibility for the data and data quality resides with QMines. All historical drilling was competently logged by Geopeko with the production of hardcopy logs and cross sections.

Figure 13: Geologist, Glenn Whalan, reviewing RC drilling at QMines Mt Chalmers mine site.

Drillhole Database (Continued)

QMines drilling programs have been competently logged by Company geologists with all logging data directly recorded into a Panasonic Toughbook. Logging codes were established by the Company prior to commencement of drilling operations and were a mixture of quantitative and qualitative data. Geological information originally comprised 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 electronic database.

All hardcopies of historical drillhole data were compiled from open-file reports held by the Geological Survey of Queensland (GSQ) and together with current data was used to create a comprehensive drillhole database for resource estimation purposes (Table 4).

Digital geology data and Digital Terrain Models were supplied to HGMC in order to compare the assay data and the geological interpretation and mineral distribution. HGMC's assessment of the data confirms that it is suitable for resource estimation.

Substantial documentation on the validation of the database was provided and confirmed by HGMC. QMines state that all available data was compiled and verified by Lisa Orr and Tom Orr of Orr and Associates who used a complete set of original drill logs and mine records held in open-file reports submitted to the GSQ.

QMines Drill Hole Table (Mt Chalmers)

Hole Type	Number	RC (m)	Diamond (m)
Diamond	20		2,466.4
RC Pre-collar Diamond Tail	24	1,714.2	1,721.5
RC Only	50	8,003.0	
RC Pre-collar – Incomplete Diamond Tails	9	513.1	
Sub Total:	**103**	**10,230.3**	**4,187.9**

Table 5: Table showing all QMines drilling at Mt Chalmers to date.

Historic Drill Hole Table (Mt Chalmers)

Hole Type	Number	RC (m)	Diamond (m)
Diamond	32		3,393.95
PDH Pre-collar Diamond Tail	72	4,106.81	3,894.82
PDH Only	237	11,824.43	
Sub Total:	**341**	**15,931.24**	**7,288.77**

Table 6: Table showing all historic drilling at Mt Chalmers to date.

QMines Drill Hole Table (Woods Shaft)

Hole Type	Number	RC (m)	Diamond (m)
RC Only	11	905	
Sub Total:	**11**	**905**	

Table 7: Table showing all QMines drilling at Woods Shaft to date.

Historic Drill Hole Table (Woods Shaft)

Hole Type	Number	PDH (m)	Diamond (m)
Diamond	7		1,154.58
PDH Pre-collar Diamond Tail	1	150.0	43.40
PDH Only	33	3,273.8	
RC Only	8	754.0	
Sub Total:	**59**	**4,177.8**	**1,197.98**

Table 8: Table showing all historic drilling at Woods Shaft to date.

Combined Total (Mt Chalmers & Woods Shaft)

Hole Type	Number	RC (m)	Diamond (m)
Mt Chalmers	444	26,161.54	11,476.64
Woods Shaft	70	5,082.80	1,197.98
Total:	**514**	**31,244.34**	**12,674.62**

Table 9: Table showing combined QMines and historical drilling at Woods Shaft.

Sampling & Sub-Sampling

Historical sampling consists of either 1m intervals of chip material sub-sampled to 2kg for RC samples or 1m sawn or split half core samples yielding approximately a 3-5kg sample. All sample material submitted to the laboratory are crushed and pulverized to give a 200g sample from which a sub-sample of 0.25g is taken for base metal analysis and a 30g charge for gold by fire assay.

There is no documentation concerning the analytical method used by Geopeko, but the work was completed at the Mount Morgan minesite laboratory. The Mt Morgan operation has since shut down and the laboratory no longer operates.

Analysis of the 1994 Federation drillcore was completed by ALS using a mixture of ICP for base metals and 50g charge fire assay with atomic absorption spectroscopy (AAS) for gold. Analysis initially used ICP-AES method (IC587) on a 4-acid digest for Cu, Pb, Zn, S, Ag, As, Ba, Fe and Mn. After the initial 3-4 batches of samples the laboratory introduced an AAS method (A101) on an aqua regia digest to check Cu, Pb, Zn and Ag assays for higher grade (ore-grade) samples. Fire assaying using a 50g charge with an AAS finish (PM209) were used for the gold analysis.

Sampling & Sub-Sampling (Continued)

Historical QAQC programs were limited and are not considered to be consistent with current industry practices. There are few reports from the historical drilling campaigns of any certified reference materials (CRM) being used to assess the accuracy of the analysis. Despite the lack of documentation describing the analytical methods and the lack of QAQC it is reasonable to assume that the historical analysis was to an acceptable level at the time of its completion and that the results, in the opinion of the Competent Person, are useable.

All core and RC samples from QMines recent drilling programs were submitted to ALS Laboratories in Brisbane for assay, with appropriate QAQC procedures and validation of historical drillholes. ALS base metal suite ME-ICP61 (ICP-AES on a four-acid digest, 25g sample) was used to analyse for Ag, As, Ba, Cu, Pb, S and Zn with Au analysed by AA25 (fire assay with AAS finish on a 30g sample) method. Sample preparation and base metal analysis was undertaken in Brisbane, and Au determined by Fire Assay completed at ALS laboratory in Townsville.

The Company submits batches to ALS from all drill programs as they come to hand. Blanks are inserted at the start of each hole for diamond core samples, with additional blanks, certified reference material (CRM) standards and ¼ core duplicates inserted at the geologist's discretion based on lithology and visible mineralisation. For RC samples, blanks are inserted every 1 in 33 samples (3%), CRM standards every 1 in 20 samples (5%) and duplicate splits every 1 in 25 samples (4%). Internal laboratory QAQC reports are delivered by ALS with certification of assay method used and certified assay results. These results are delivered to the project geologist, drillhole data base manager and the Company.

Total QMines drilling at Mt Chalmers to date has produced 5,768 primary samples and 635 QAQC samples for a total 6,403 samples, with QAQC samples representing 11% of the total. At Woods Shaft a total of 873 primary samples and 96 QAQC samples for a total 969 were submitted, with QAQC samples representing 14%.

QAQC data for each assay reporting batch is reviewed they are received. Analysis of all Mt Chalmers QAQC results received to date was performed by Orr and Associates who found that 21 of 635 or only 3% of QAQC samples were non-conforming.

Topography

The current Mt Chalmers topography was defined by the Company who delivered a Digital Terrain Model (**DTM**) flown by drone survey. The quality and accuracy of the DTM data capture has been validated and independently processed by Minecomp Surveying. Queensland Government Lidar topographic data was used for the Woods Shaft resource.

Sample Locations

All work was completed in the Geopeko local grid which was an orthogonal grid rotated approximately 9° anti-clockwise i.e. a magnetic north grid. Percussion holes (Geopeko) were not surveyed downhole; however, it should be noted that virtually all of them were vertical and are considered by QMines to have had very limited deviation. Pre-Federation diamond drill holes, logs and sections only showed evidence of down hole surveying for one hole but the survey details are not recorded in the log.

Sample Locations (Continued)

The remainder of the diamond drill holes are assumed not to have downhole surveys. Federation drill holes were surveyed at intervals of approximately 50m using an Eastman single shot borehole survey camera supplied by the drilling contractors. QMines have assumed that all pre-1995 holes were straight, simply using the recorded collar bearings and dips as downhole surveys. This will no doubt result in some errors in the 3D location of samples, but since hole depths are typically about 50m-150m and most holes were vertical into relatively flat-dipping rocks, serious hole deviations are not expected to have been common.

The Geopeko drilling was initially on a nominal pattern of 40 metre x 40 metre which was subsequently infilled to a nominal 20 metre x 20 metre over most of the deposit, but with considerable local variation in hole spacings (Figure 9). Federation locally infilled or extended the 40 metre x 40 metre pattern, but on an irregular basis because of the access difficulties presented by the water-filled open pit. At the northern end of the stringer zone where the mineralisation becomes deeper the pattern ranges from about 40 metre x 40 metre to 40 metre x 80 metre. Downhole sampling was at 1m intervals. The data point spacing is appropriate for its use in generating Mineral Resources at the appropriate levels of confidence.

Geopeko drilling at Woods Shaft covered a nominal 25 metre x 50 metre grid with gaps and extensions that were partly infilled by Great Fitzroy.

QMines have implemented a complete conversion of all historical drill collar surveys and local gridding utilised be previous explorers with local mine surveyors undertaking the conversion with the local work being validated by MINECOMP Surveying. The Company has converted from local historical grid to GDA 94 MGA Zone 56. All drill hole collars are picked up by and validated by the site surveyors.

Estimation Methodology

All available Diamond, RC drilling data was used for the updated MRE. Drillhole collar positions have been accurately surveyed. Some historical drill hole collars had their Reduced Levels (**RL**) adjusted by draping onto a 'triangulated' Digital Terrain Model surface and were checked in order to match the drill holes with actual collar surveys. The survey control for collar positions was considered adequate for the estimation of the reported resources for Mt Chalmers as stated.

The mineralised domains were interpreted from the drilling data by QMines as 3D strings (in Surpac software) which were then linked to generate 3D wire-frames by HGMC.

These mineralised wire-frame domains were used for statistical analysis and grade estimation. Similar wire-frame or boundary surfaces were used to flag different geological (rock type) domains and weathering and oxidation zones. Material types designated as the 'Stringer', and 'Massive Sulphide/Exhalite' zones which were further sub-divided as necessary according to being oxidised, transitional or fresh/sulphide material. These different material type zones were primarily used to designate deposit profile bulk density differences and metallurgical recovery domains.

Dry bulk density (**Density**) was assigned by both 'nearest neighbor' interpolation of bulk density measuremts from a drill-hole samples and by material type with values assigned representing the average measured bulk density for that material type.

Estimation Methodology (Continued)

The data was measured using Archimedes' principal or densiometer based bulk density measurements and were recorded in the drilling database. The nearest neighbor precursor interpolation pass was carried out first before subsequent average density values were applied in the main material types. The 'overprint' bulk density assignmants by material tyes as as follows: Stringer Zone = 3.10 t/m³, Exhalite Zone 3.20 t/m³, Massive Sulphide/Exhalite zone = 3.80 t/m³, Weathered/Oxide = 2.20 t/m³, Transition = 2.50 t/m³ and Fresh (Sulphide) = 3.00 t/m³.

General statistical analysis and localised spatial geostatistics of the main grade element items were analysed using the composited drilling data. Composites for all zones were set to 1m (based on the main Cu analytical item) and were used to generate semi-variogram models to analyse the spatial continuity of Cu, Zn, Ph, Au and Ag in the main mineralisation domain.

One (1) block model was constructed for the Mt Chalmers deposits using 5m x 8m x 2m block cells covering the entire extents of the mineralisation.

The Mt Chalmers block model coordinate boundaries (GDA94 datum, MGA94 Zone 56 UTM grid system) are:

259,200m E to 260,600m E	- (280 x 2.5m blocks)
7,420,400m N to 7,421,800m N	- (175 x 8.0m blocks)
-240m RL to 160m RL	- (200 x 2.0m benches)

The Ordinary Kriging interpolation method was used for the estimation of the Cu, Pb, Zn, Au and Ag items using variogram parameters defined from the geostatistical analysis. The kriging interpolated items used different interpolation parameters as determined from the independent variographic analysis. A geostatistical review was completed to check correlation between the various estimated elements.

An outlier 'distance of restriction' approach was applied to each element during the interpolation process and were set individually to each of the nine designated AREA mineralisation geometry domains. The outlier restriction level is determined based on analysis of the observed localised geostatistics and is intended to reduce the influence of very high-grade outlier composite samples.

The outlier restrictions ranges applied during Kriging interpolation to each AREA domain were:

Copper - 1 to 11.4%
Lead - 0.4 to 6%
Zinc - 1.2 to 15.4%
Gold - 1 to 28g/t
Silver - 15 to 100g/t

During Kriging interpolation a minimum of 1 and a maximum of 24 composites were allowed within search ellipses. Anisotropic search ellipse in each AREA domain were set with different orientations to match the local dip and strike changes associated with each of the different mineral domains. Maximum search distance was 80m.

Estimation Methodology (Continued)

This new resource model and resource estimation was prepared by HGMC and is considered in line with current industry best practice. The block model produced fairly represents the grades observed in the drill holes.

Density Model

Historical default density values utilised by both H&S and MS in their resource estimates were derived for the mineral domains from limited measured data. QMines during their diamond core drilling operations have taken multiple specific gravity (**SG**) measurements across all lithological domains using the water displacement method. The following bulk density values have been applied to the HGMS Resource Estimate.

Mt Chalmers:

- 3.1 t/m^3 for stringer mineralisation;
- 3.4 t/m^3 for exhalite mineralisation;
- 4.0 t/m^3 for massive sulphide mineralisation;
- 2.5 – 3.0 t/m^3 for oxidised versions of the above mineral domains.

Woods Shaft:

- 2.9 t/m^3 average for all mineralised domains.

Cut Off Grade

HGMC has used a default 0.3% Cu as the lower cut-off for reporting mineral resources from the final block model. The three-dimensional wireframe models of mineralisation were based on 0.3% Cu lower cut-off grades for gold, silver, lead and zinc.
Reconciliation

Production figures from mining by Geopeko comprise both underground and subsequent open pit operations are incomplete. However, reconciliation between the historical block model prepared by McDonald Spiejers in 1995 and the historical production are considered adequate. The historical block model results were reliable within the constraints of the interpreted geology, drillhole distribution, historic assay results and the recorded position and extent of historic mine workings. HGMC concurs with this conclusion.

Mineral Resources

QMines advised HGMC to prepare a range of estimates using cut-off grades between 0.2% and 0.5% Cu which can be seen in Tables 1 and 2. The Company considers the 0.3% Cu lower cut-off is an appropriate grade for reporting the Resource Estimate as it reflects the current base and precious metal prices and likely mining approach.

The resource estimate is now reported by HGMC for a copper equivalent cut-off based on the following nominal 2021 metal price assumptions, metallurgical recovery assumption, exchange rate and copper equivalent formula.

Assumptions

Metal Prices

- Copper (USD) $6,655
- Gold (USD) $1,900
- Zinc (USD) $3,450
- Silver (USD) $25
- Lead (USD) $2,450

For comparison purposes, the assumed metal prices used are based on the prices used in the February 2021 Resource by Mr Simon Tear of H&S Consulting which was published in QMines Prospectus dated 16 March 2021.

Metallurgical Recovery

- Copper 97.0%
- Gold 86.5%
- Zinc 77.5%
- Silver 70.5%
- Lead 85%

Metallurgical recovery assumptions were based on an early-stage metallurgical sighting study currently being undertaken by the Company. In August 2021 QMines delivered approximately 230kg of diamond core from holes drilled at the Mt Chalmers Project to ALS Metallurgical Laboratory in Balcatta Western Australia.

Under the supervision of COMO Engineering, drill core representing the copper/gold stringer ore and the copper, lead and zinc exhalite ore were prepared as two master composites to generate bench scale flotation testwork.

Preliminary results from this float testwork are thought to be indicative of expected metallurgical recoveries for Mt Chalmers mineralisation and have been used as recovery data in the copper equivalent resource estimate calculation. However, the metallurgical sighting study has not been completed in its entirety with several additional tests currently being undertaken to potentially improve recoveries and is expected to be competed in Q1-2022.

Exchange Rate

For comparison purposes, the exchange rate used was based on the rate used in the February 2021 Resource by Mr Simon Tear of H&S Consulting which was published in QMines Prospectus dated 16 March 2021.[1] The exchange rate was US$0.70.

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

CuEq(%) = (Cu grade x Cu recovery) + ((Pb grade x Pb recovery x Pb price)/Cu Price) + (Zn grade x Zn price x Zn recovery)/Cu price) + ((Au grade x Au price x Au recovery)/Cu price) + ((Ag grade x Ag price x Ag recovery)/Cu price). All grades are converted to % and prices converted to $/t prior to calculating CuEq.

[1] QMines Prospectus, Annexure A, Independent Geologist Report, pages 93-104. Exploration Targets are reported in accordance with the JORC 2012 Code & Guidelines. Note: The Potential quantity and grade of the Exploration Target described in this announcement is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Assumptions (Continued)

Tables 10 and 11 show the estimates for a range of copper equivalent cut-off grades and Figure 7 presents the same data in a graphical format.

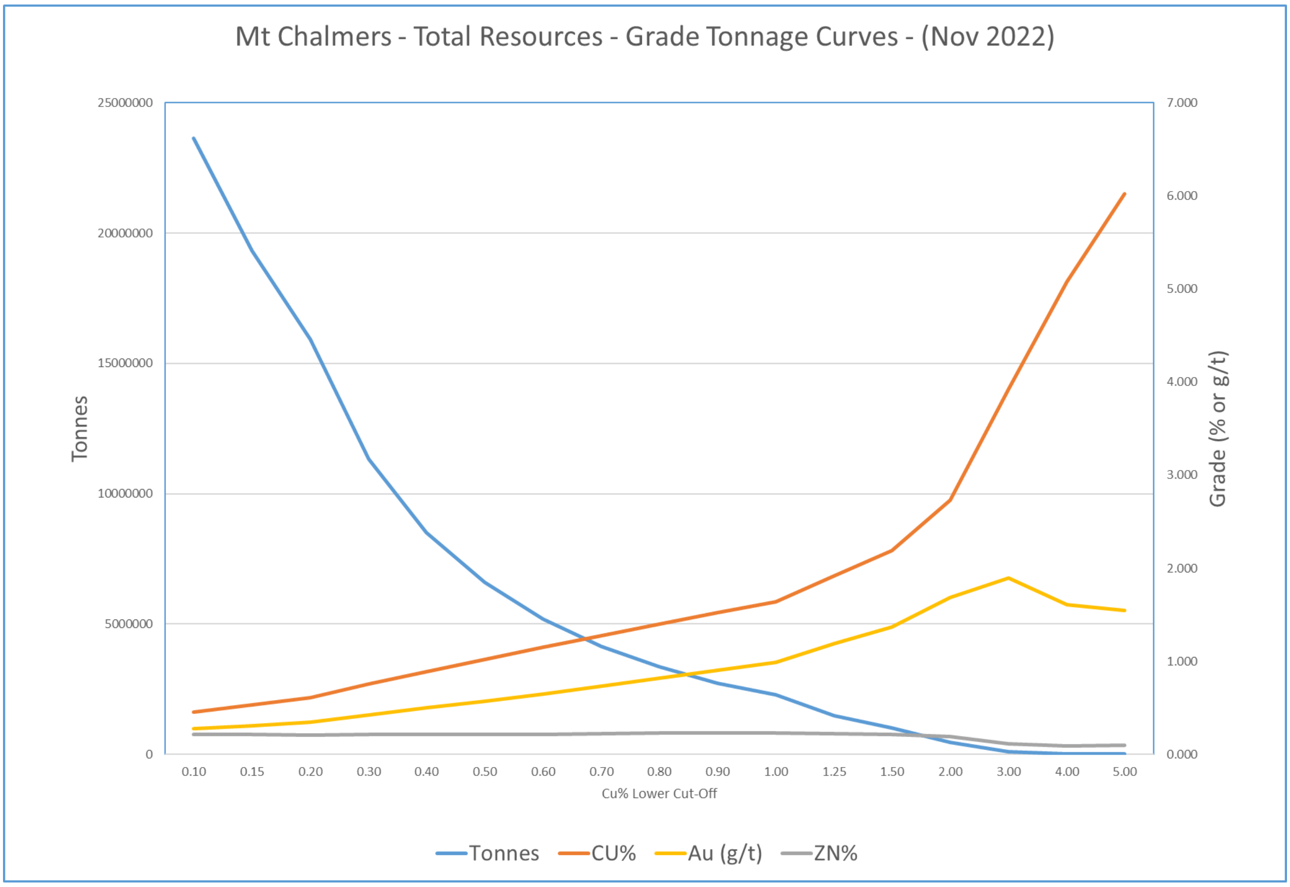

Figure 14: Grade Tonnage Curves for the Mt Chalmers Deposit, November 2022.

The updated Mt Chalmers resource estimate (Table 10) is reported at a copper cut-off grade of 0.3% Cu with resources in the Measured, Indicated and Inferred categories. The classification appropriately reflects the Competent Person's view of the Mt Chalmers deposit.

Resource Category	Tonnes (Kt)	Grades					Contained Metal				
		Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Cu (t)	Pb (t)	Zn (t)	Au (Oz)	Ag (Oz)
Measured	4,227	0.89	0.09	0.23	0.69	4.97	37,759	3,923	9,832	93,769	675,547
Indicated	5,784	0.69	0.07	0.19	0.28	3.99	39,925	3,916	11,058	51,508	741,936
Inferred	1,311	0.60	0.13	0.27	0.19	5.41	7,907	1,716	3,494	7,964	228,104
Total	**11,321**	**0.76**	**0.08**	**0.22**	**0.42**	**4.52**	**85,589**	**9,555**	**24,386**	**153,238**	**1,645,583**

Table 10: Mt Chalmers Measured, Indicated and Inferred Mineral Resource Estimate (at 0.3 % Cu cut-off), November 2022.

Assumptions (Continued)

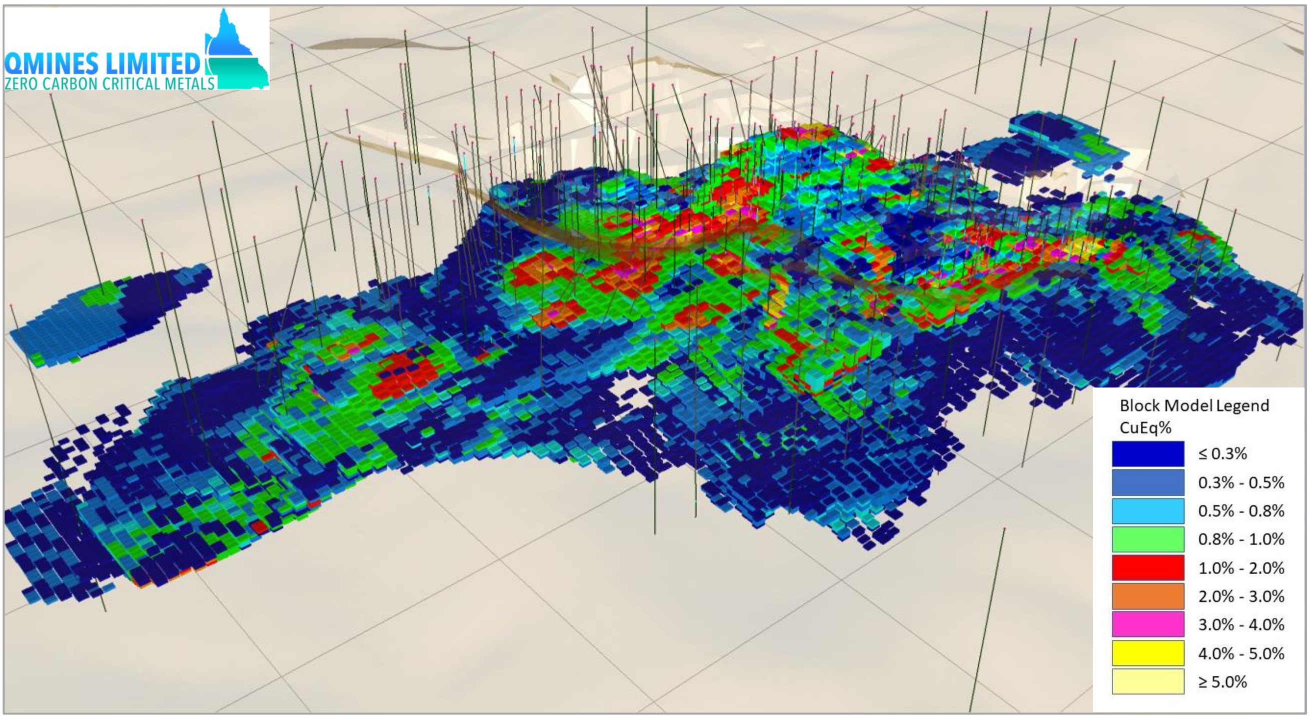

Figure 15: Mt Chalmers Resources Block Model colored by grade for Copper Cut Off of 0.3% Cu (Oblique View: Looking Azim 140, Dip - 30 Degrees – Grid Shown 200m x 200m.

The new Woods Shaft resource estimate (Table 11) is reported at a copper cut-off grade of 0.3% Cu with resources in Inferred category only. The classification appropriately reflects the Competent Person's view of the Mt Chalmers deposit.

Resource Category	Tonnes	Grades		Contained Metal	
		Cu (%)	Au (g/t)	Cu (t)	Au (Oz)
Inferred	540,400	0.50	0.95	2,700	16,440

Table 11: Woods Shaft Inferred Mineral Resource Estimate (at 0.3 % Cu cut-off), November 2022.

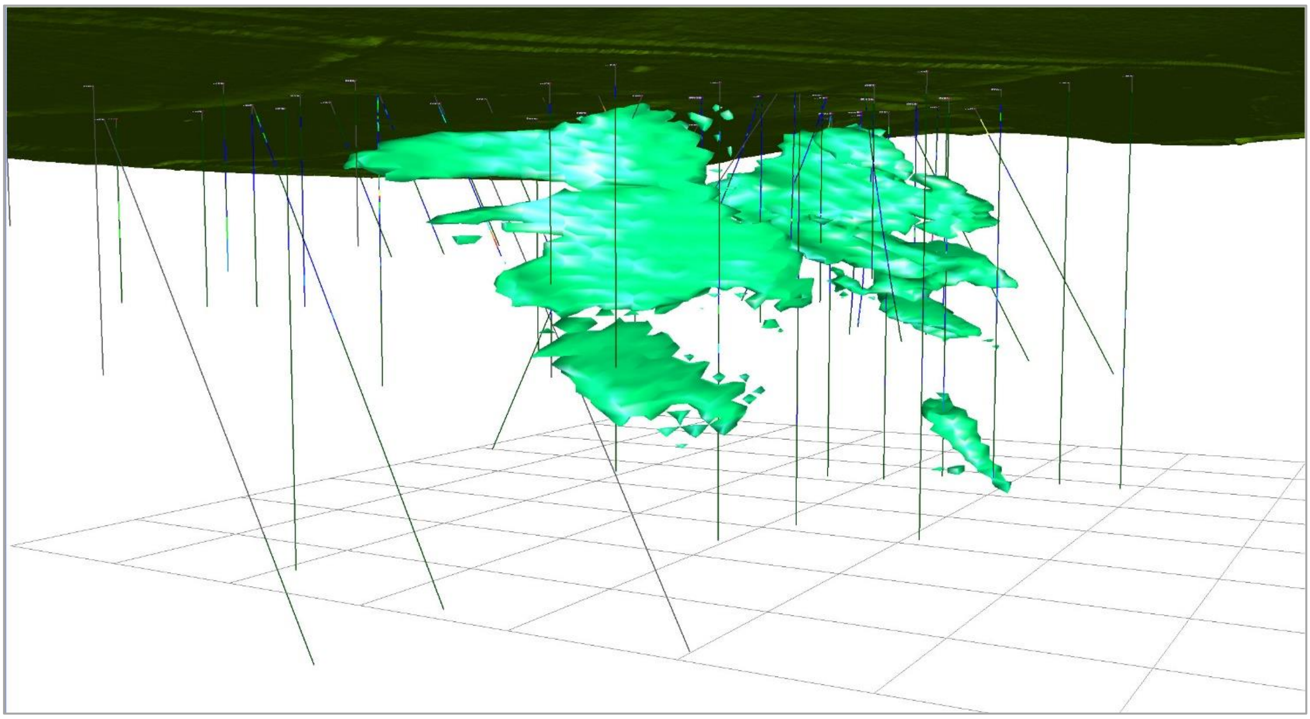

Figure 16: Woods Shaft Inferred Resources Block Model for Copper Cut Off of 0.3% Cu (Oblique View: Looking Azim 330, Dip -5 Degrees – Grid Shown 50m x 50m).

Mineral Resource Statement

The resource estimates are classified in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC, 2012).

The MRE contained in this report covers the Mt Chalmers deposit and has been completed by an independent resource geologist, Mr Stephen Hyland, Principal Consultant Geologist with Hyland Geological and Mining Consultants (HGMC). Mr Hyland is a Fellow of the Australian Institute of Mining and Metallurgy and holds relevant qualifications and experience as a qualified person for public reporting as required by the JORC Code in Australia. **Mr Hyland consents to the inclusion in this report of the information in the form and context in which it appears.**

The classifications, summarised in Tables 1 and 2, are considered appropriate on the basis of drill hole spacing, sample interval, geological interpretation and representativeness of all available assay data. The defined mineralisation within the deposit are classified as Measured, Indicated and Inferred resources and shown as block model in Figures 6. The resource is based on an ordinary Kriging interpolated block model. The resource upgrade information contained in this report is subdivided by mineralised domains and material type.

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.**

Mineral Resource Estimate

The information in this report that relates to mineral resource estimation is based on work completed by Mr. Stephen Hyland, a Competent Person and Fellow of the AusIMM. Mr. Hyland is Principal Consultant Geologist with Hyland Geological and Mining Consultants (HGMC), who is a Fellow of the Australian Institute of Mining and Metallurgy and holds relevant qualifications and experience as a qualified person for public reporting according to the JORC Code in Australia. Mr Hyland is also a Qualified Person under the rules and requirements of the Canadian Reporting Instrument NI 43-101. **Mr Hyland consents to the inclusion in this report of the information in the form and context in which it appears.**

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.

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. he Mt Chalmers project now has a Measured, Indicated and Inferred Resource (JORC 2012) of 11.86Mt @ 1.22% CuEq for 144,700t CuEq.

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

137,360,102

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)

Registered Address: Suite J, 34 Suakin Drive, Mosman NSW 2088
Postal Address: PO BOX 36, Mosman NSW 2088
Website: www.qmines.com.au

Telephone: +61 (2) 8915 6241 | **Email**: info@qmines.com.au
Peter Nesveda, Investor Relations | **Email**: peter@qmines.com.au
Andrew Sparke, Executive Chairman | **Email**: andrew@qmines.com.au

Climate Active Carbon Neutral ORGANISATION

Appendix 1 – QMines Drilling Announcements

https://wcsecure.weblink.com.au/pdf/QML/02431839.pdf
https://wcsecure.weblink.com.au/pdf/QML/02455979.pdf
https://wcsecure.weblink.com.au/pdf/QML/02460632.pdf
https://wcsecure.weblink.com.au/pdf/QML/02394744.pdf
https://wcsecure.weblink.com.au/pdf/QML/02411724.pdf
https://wcsecure.weblink.com.au/pdf/QML/02376055.pdf
https://wcsecure.weblink.com.au/pdf/QML/02514628.pdf
https://wcsecure.weblink.com.au/pdf/QML/02528718.pdf
https://wcsecure.weblink.com.au/pdf/QML/02532158.pdf
https://wcsecure.weblink.com.au/pdf/QML/02544796.pdf
https://wcsecure.weblink.com.au/pdf/QML/02573413.pdf

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.*	• The Mt Chalmers and Woods Shaft deposits have been drilled with a combination of percussion drilling ("PDH" open hole percussion, reverse circulation drilling ("RC") and diamond core holes ("DD") amounting to 514 drill holes for 43,919 metres.

Drill Hole Table - QMines	Mt Chalmers		
Hole Type	**Number**	**RC (m)**	**Diamond (m)**
Diamond	20		2466.4
RC Precollar Diamond Tail	24	1714.2	1721.47
RC Only	50	8003.0	
RC Precollar - diamond tails incomplete	9	513.1	
Sub Total:	**103**	**10,230.3**	**4,187.87**
Drill Hole Table - Historic			
Hole Type	**Number**	**PDH (m)**	**Diamond (m)**
Diamond	32		3,393.95
PDH Precollar Diamond Tail	72	4,106.81	3,894.82
PDH Only	237	11,824.43	
Sub Total:	**341**	**15,931.24**	**7,288.77**
Total:	**444**	**26,161.54**	**11,476.64**

Criteria	JORC Code explanation	Commentary

Drill Hole Table - QMines	Woods Shaft		
Hole Type	**Number**	**RC (m)**	**Diamond (m)**
RC Only	11	905	
Sub Total:	**11**	**905**	
Drill Hole Table - Historic			
Hole Type	**Number**	**PDH (m)**	**Diamond (m)**
Diamond	7		1,154.58
PDH Precollar Diamond Tail	1	150	43.4
PDH Only	33	3,273.8	
RC Only	**8**	**754**	
Sub Total:	**59**	**4,177.8**	**1,197.98**
Total:	**70**	**5,082.8**	**1,197.98**

Hole Type	Number	RC (m)	Diamond (m)
Mt Chalmers	**444**	**26,161.54**	**11,476.64**
Woods Shaft	**70**	**5,082.8**	**1,197.98**
Total:	514	31,244.34	12,674.62

- Sampling consists of either 1 m intervals of chip material sub-sampled to 2 kg for RC samples or 1 m sawn or split half core samples yielding approximately a 3-5 kg sample.
- At the laboratory, all sample material from each diamond core and RC sample submission is crushed and pulverized to give a 200 g representative sample from which a sub-sample of 30 g is taken for base metal analysis and a 30 g charge for gold.
- There is no documentation concerning the analytical method used by Geopeko, but the work was completed at the Mt Morgan ("MML") minesite laboratory and presumably the analysis was to industry standard for the time. The Federation sample prep and analysis was completed by a commercial laboratory using a mixture of ICP and 50 g charge fire assay with atomic absorption spectroscopy ("AAS") for base metals and gold, respectively.
- Diamond drilling utilised HQ triple tube with diamond core sampling consisting of between 0.3 m and 1.5 metre intervals of core.

Criteria	JORC Code explanation	Commentary
		Samples were cut with a Sandvik wet core saw yielding 1-5 kg core samples (dependent on sample intervals) into calico sampling bags. 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 except for duplicate samples with each being 1-2kg, or approximately 5% of the total sample. In each case 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 g pulp for base metal and precious metal assay. • Handheld portable XRF (pXRF) measurements of base metals i.e. Cu, Pb and Zn were taken of unsieved RC drilling material at appropriate horizons to check for fine grained disseminated base metal mineralisation. Anomalous readings resulted in these samples being submitted for conventional assay.
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).*	• In 2021 percussion drilling was with a Mayhew 1000 or a Mayhew 1500 rig with 114.5 mm down hole hammer bit and 140mm percussion face sampling hammer. In early 2022 QMines acquired a KWLRC350 rig with booster and auxiliary compressor and using 5 m, 102 mm diameter RC rods and a 143 mm percussion face sampling hammer and this was used to drill all RC holes in 2022. • For the Peko diamond drilling core sizes ranged from NQ to BQ whereas for Federation diamond drilling was mostly HQ size with some NQ where needed. • In 1995 Great Fitzroy Mines NL drilled eight vertical RC holes at Woods Shaft using a Schramm RC rig. No sampling or procedural data is available however the program was managed by Alex Taube, former chief geologist with Geopeko at Mt Chalmers. • Many historical holes were initially drilled using an open hole percussion or RC drilling method and tailed with a DD hole. • The vast majority of drillholes were vertical. • QMines diamond drilling was undertaken using a multi-purpose UDR 650 track mounted rig, and a Hydco 1000 Dual purpose truck mounted rig. Diamond tails were drilled by a track mounted Hyundai Dasco 7000 diamond core rig.

Criteria	JORC Code explanation	Commentary
		• Coring was by HQ triple tube with the core sample being orientated using REFLEX ACT111 core orientation tool. No historical core orientation data is available.
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.*	• No historic sample recovery data is available for either the DD or the RC drilling. Historical reports indicate 90% recovery from the Geopeko drilling except for weathered and oxide zones (these zones have been mined out). • No documentation of historical RC sampling procedures is available • Geopeko investigated the risk of sample bias due to loss of fines. Only a small number of samples were collected, too few for anything conclusive, but there were indications of a small preferential concentration of sulphides in the samples of retained drill cuttings with an associated increase in Cu, Ag and possibly Au grade (results for Au were reported as erratic). • The drilling methods are considered to be of industry standard at the time of drilling and would normally have been expected to give reliable results suitable for resource estimation. • With a lack of recovery data it is not possible to establish if there is a relationship between sample recovery and metal grade. • 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. Calico sample bags were of a sufficiently fine weave as to retain almost all of the sample fine fraction even when saturated. • 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*	• All historical drilling was competently logged with the production of hardcopy logs and cross sections. All hardcopies had appropriate levels of information for a resource estimate to be completed. • McDonald Speijers Pty Ltd ("MS"), consultant resource geologists, built the current digital database in 1995 from sighting the original drill logs and kept records. John Macdonald, Principal Geologist with MS, transcribed and compiled some of the hardcopy data including visual verification into digital data.

Criteria	JORC Code explanation	Commentary
	intersections logged.	• Logging consisted of a series of codes that were a mixture of quantitative and qualitative data. • Geological information originally consisted of lithology descriptions, alteration, mineralisation, and oxidation levels. Not all of this data is available in a digital format. • QMines drilling output has been competently logged by Company geologists with all logging data digitised electronically into Panansonic 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 and chip trays have been digitally photographed and stored in the Company NAS drive.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Geopeko diamond core was sampled under geological control, but generally averaged about 1 m in sample length. Most of it was sampled using a mechanical core splitter with 50% taken for sample prep and assay. Some mineralised intervals were cut with a diamond saw with 50% of the interval sent to the MML laboratory at the Mt Morgan mine site for preparation and assay. No information is available about sample prep procedures used for this work. • Geopeko percussion drilling involved dry cuttings being collected via cyclones and riffled to give a sample of about 2 kg for submission to the laboratory. The RC samples were submitted to the MML laboratory at the Mt Morgan mine site for preparation and assay. No information is available about sample prep procedures used for this work. • Wet samples were collected in 2 ways. In the West Lode area samples were collected in a fine gauze catcher and mixed on a groundsheet before being coned and quartered. Sample intervals ranged from 1-2m. This sample collection method would have led to large losses of fines. In the Main Lode area wet samples were collected in half 44-gallon drums and transferred to hessian bags.

Criteria	JORC Code explanation	Commentary
		When dry they were riffle split. This was a better method, but fines would still have been lost when water flows were high and the collecting drum overflowed. Sample collection methods from Woods Shaft drilling are unknown. • The larger core from the 1995 Federation diamond holes was logged and mineralised intervals were selected on the basis of visual assessment. Quarter core samples (HQ core size) were collected using a diamond saw with the samples sent for sample prep and assay. • The Federation core samples were submitted to Australian Laboratory Services P/L for preparation at their Rockhampton facility and assay at their Townsville laboratory. The sample preparation scheme involved jaw crushing to an unknown size followed by pulverisation of the total sample in a Labtechnics LM5 mill to a nominal 90% passing -75um. • A barren quartz flush was used after each set of sulphide-rich samples at an unknown insertion ratio. • QMines Operations – All recovered diamond core was cut using a Sandvik core cutting wet saw. • Core was cut in half (parallel to the long-core axis) for submission with duplicates cut in quarters (parallel to the long-core axis) • ALS Laboratories dry the samples prior to crushing and pulverising. All sample material from each diamond core and 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 30 g charge for gold. • RC sampling was collected using a cyclone with a cone splitter delivering 10% representative sampling per metre drilled. Duplicate samples were collected every 25 m and 75 m drilled in the drilling sequence with duplicate samples being 50-50% split sample from the same cone splitter. • Drill core sample size was based on lithological, mineralisation or recovery boundaries and the minimum 30-centimetre core length is generally considered adequate. The RC sample weights of 3-5 kilograms exceed Gy's minimum.

Criteria	JORC Code explanation	Commentary
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.*	• Geopeko samples were submitted to the MML laboratory at the Mt Morgan mine site for analysis. No technical details have been located regarding sample preparation procedures or assaying methods. The Mt Morgan operation has since shut down and the laboratory no longer operates. • Federation initially used an ICP method (1C587) for Cu, Pb, Zn, S, Ag, As, Ba, Fe and Mn. After about the first 3-4 batches of samples the laboratory introduced an AAS method (A101) to check Cu, Pb, Zn and Ag assays for higher grade samples. Fire assaying of a 50 g charge with an AAS finish (PM209) was used for gold. • Great Fitzroy submitted drill samples to the ALS laboratory at Townsville for analysis of Cu Pb Zn and As by method G001 and Au by method PM209. No sampling or QAQC data is available. • Peko submitted 352 samples for check assaying to Australian Laboratory Services (ALS) in Brisbane on a regular basis during their drilling programmes, although results for Au, Ag and Pb in particular were not always available. The drill logs recorded the results for these "duplicates" and MS were able to compile and analyse. They concluded there was no significant bias for Cu, Au, Ag and Zn. However, there was a significant positive bias with the check laboratory for Pb but this was not significant for the resource as Pb is not treated as an economic commodity. The MML silver results were adjudged to have poor precision but for relatively low silver values. • Federation undertook check assaying at an independent laboratory, but the results are not available. • There are no reports from any of the drilling campaigns of any standards being used to assess the accuracy of the analysis. • Despite the lack of documentation describing the analytical methods and the lack of QAQC it is reasonable to assume that the analysis was to an industry standard for the time and that the results would be reasonable, especially for the level of classification of the resource estimate. • QMines Operations – All samples for assay were submitted to ALS Laboratories in Brisbane.

Criteria	JORC Code explanation	Commentary
		• Ag, As, Ba, Cu, Pb, S and Zn were determined by ALS (ME-ICP61) by ICP-AES on a four-acid digest, Au was determined using ALS method AA25 (fire assay with AAS on a 30 g pulp). Sample preparation and base metal analysis was undertaken in Brisbane and Fire Assay undertaken by ALS in Townsville. • 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 2022 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. • Duplicate samples of riffle splits (RC samples) and quarter core (diamond drilling samples) are utilised to monitor laboratory reproducibility. With coefficients of variation under 17% there is no significant bias in assayed results from duplicates assayed. • Certified Reference Materials (CRM) and blanks (supplied by OREAS and GEOSTATS Pty Ltd) are inserted at regular intervals with suitable CRMs being used to monitor laboratory accuracy. With 275 out of 294 CRMs reporting within 2 standard deviations of certified values a success rate of 94% was achieved. • Blank samples of barren gravel are inserted at 33 m intervals. 194 of 196 blanks reported within 2 SDs for 99% success. • Internal laboratory QAQC reports are delivered by ALS with certification of assay method used and certified assay results. These results are delivered to the project Geologist, Drill hole data base manager and the Company. • A Thermo Scientific Niton XL3t handheld portable pXRF unit was used as a first pass check for fine grained disseminated base metal mineralisation in RC drilling material. Reading times were 20 seconds. The device has automatic calibration after switch on, and 4 CRM standards were also used to test for precision.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical*	• Historical drillhole intersections have now been digitised and viewed by QMines Geologists and by HGMS resource Geologist. • QMines has cross checked selected data, while building a new geological database, based on scanned open files held by the

Criteria	JORC Code explanation	Commentary
	and electronic) protocols. • *Discuss any adjustment to assay data.*	Queensland Dept of Mines, all drillhole collars were checked and random drill logs checked. No issues were noted. • QMines state that all available data was compiled and verified by John Macdonald, Principal Geologist with McDonald Speijers Pty Ltd and documented in "MOUNT CHALMERS DEPOSIT UPDATED MINERAL RESOURCE ESTIMATE & REVIEW OF ASSOCIATED DATA COLLECTION PROCEDURES" • John Macdonald used a complete set of original drill logs, plus mine records which at the time were available at the MML mine site offices. • There is no documentation of any adjustment to the data that has included inserting half lower detection limit values into the database, insertions of blank values where no sample recorded etc. • QMines Operations – Significant intersections have been validated by the Company's project geologist. • A number of historical holes at Mt Chalmers and at Woods Shaft have been twinned as part of the validation process of historical data. • Documentation and digitisation of historical data has been undertaken by Lisa Orr of Orr and Associates the Company geological data base manager with all historical data verified. Drill hole data base is stored in an Access database and housed independently in an external NAS drive and backed up in a cloud storage system.
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• The earliest grid shown on plans was an exploration grid established by CEC which originated at the North Shaft, which was assigned coordinates of zero for both easting and northing. • Geopeko subsequently established a mine grid, again using the North Shaft as the origin, which was assigned coordinates of 5,000 m E & 5,000 m N. A network of local control stations was set out by MML staff surveyors. • All previous data (such as drill collar locations) were converted by Geopeko to mine grid which appears to have been used consistently for both exploration and production work. This includes Woods Shaft. • Control points for the Geopeko mine grid survive and this grid was

Criteria	JORC Code explanation	Commentary
		also used for all Federation and MS work. A Rockhampton based surveyor (R E Harris) who previously worked as a mine surveyor on the project with MML conducted all surface surveys for Federation. • Local mine control survey points are still in existence, and these have been re-surveyed by QMines using a Differential Global Positioning System. • QMines has converted the Local Grid to GDA94 MGA Zone 56 grid using ArcGIS software, using a combination of local mine control survey points and landmarks. • The current topography was defined using a photogrammetric survey conducted by Capricorn Survey Consultants Pty Ltd on behalf of Federation in May-June 1995. This was based on photography flown in November 1992 and used ground controls established by MML in the 1970's to provide a tie in between AMG and mine grid coordinates. • Pre-open pit topography was available as photogrammetric contour plans dated November 1978, generated by Geo-Spectrum (Aust) for MML. These were presented at 1:500 and 1:1000 scale over the mine area with contour intervals of 1 m and 2 m, respectively. They were apparently based on photography flown in 1973. • MS digitised the 1:1000 scale plan over the area of the resource model to allow volumes to be estimated for the Peko pit and for subsequent excavations at the south end of the pit, pit backfill and surface dumps • Percussion holes, which make up 73% of the total number of holes available, were not surveyed downhole. However, it should be noted that virtually all of them were vertical and are considered by QMines to have had very limited deviation. • For pre-Federation diamond drill holes, logs and sections only showed evidence of down hole surveying for 1 hole but the survey details are not recorded in the log. The remainder of the diamond drill holes are assumed not to have been surveyed downhole. • Federation drill holes were surveyed at intervals of approximately 50 m using an Eastman single shot borehole survey camera supplied by the drilling contractors. • QMines have assumed that all pre-1995 holes were straight, simply

Criteria	JORC Code explanation	Commentary
		using the recorded collar bearings and dips for downhole surveys. This will no doubt result in some errors in the 3D location of samples, but since hole depths are typically about 50-150 m and most holes are vertical into flat-dipping rocks, serious hole deviations are not expected to have been common. • QMines has implemented a complete conversion of all historical drill collar surveys and local gridding utilised by previous explorers with Rockhampton based mine surveyors undertaking the conversion with the local work being validated by MINECOMP Surveying. • Conversion from local grid to GDA 94 MGA Zone 56. • All drill hole collars are picked up by and validated by the site surveyors. • The Company has flown a new Digital Terrain Model (DTM) over Mt Chalmers using drone survey technology. • The quality and accuracy of the DTM has been validated and processed independently of the data capture by MINECOP Surveying. • Queensland Government Lidar has been used as the DTM at Woods Shaft.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The Geopeko drilling was initially on a nominal pattern of 40 m x 40 m which was subsequently infilled to a nominal 20 m x 20 m over most of the deposit, but with considerable local variation in hole spacings. • Federation locally infilled or extended the 40 m x 40 m pattern, but on an irregular basis because of the access difficulties presented by the water-filled open pit. • At the northern end of the stringer zone where the mineralisation becomes deeper the pattern ranges from about 40 m x 40 m to 40 m x 80 m. • Geopeko drilling at Woods Shaft covered a nominal 25 metre x 50 metre grid with gaps and extensions that were partly infilled by Great Fitzroy. • Historical downhole sampling was between 1 m and 3m intervals. • The data point spacing is appropriate for the use in generating Mineral Resources at the appropriate levels of confidence. • No sample compositing has been undertaken.

Criteria	JORC Code explanation	Commentary
		• QMines drill programs have been designed to validate historical drill hole data, expand the resource envelope and make new discoveries. • Line and drill hole spacing is not applicable • No composite sampling has been applied
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• The Mt Chalmers deposit is generally flat-lying and virtually all drillholes are vertical thus giving a good intersection angle with the mineralisation. • QMines angled holes have been oriented such to reach otherwise inaccessible targets. • Downhole intersections in drill holes with for example ~60-degree dip represent approximately 87% true width of the assayed mineralised intersections. • At Woods Shaft the known extent of the deposit dips at 40 degrees to the southeast. Further drilling there will clarify the overall geometry. • There is no obvious sampling bias with the drilling orientation.
Sample security	• *The measures taken to ensure sample security.*	• There is no documentation describing the process of securing historical samples at site and their transportation to the laboratory. • QMines core samples were cut onsite by Company workers and inserted into individual numbered calico sample bags. RC samples were collected directly from the cone splitter into individual numbered calico sample bags. In each case 4 calico bags were inserted into sealed, cable tied polyweave bags, which were numbered in sequence and placed in large bulka bags. • 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.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• MS essentially completed an audit of the sampling techniques with the 2005 Mineral Resources. The audit concluded that "After extensive validation and editing MS are satisfied that the drill hole database files used for resource estimation are reasonably complete and free of serious errors, within the practical limitations imposed by the age of some of the data". • QMines sampling techniques have been established by the Company Geologist. Results are reviewed and validated by the

Criteria	JORC Code explanation	Commentary
		Company database geology manager. • Exploration results are not audited independently.

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. Woods Shaft is included in EPM 25935. • 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.

Criteria	JORC Code explanation	Commentary
		• 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 both Mt Chalmers and Woods Shaft 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 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

Criteria	JORC Code explanation	Commentary
		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 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.

Criteria	JORC Code explanation	Commentary
		• 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. • At Woods Shaft sulfide stringer mineralization is the main mineralization style with an overlying disseminated sulphide exhalite horizon. Massive sulfides not detected to date. Hosted by volcanics of the Berserker Beds, the geology is similar to that of Mt Chalmers but with greater siltstone thicknesses suggesting more distal deposition under lower energy conditions. The sulfide stringer zone at Woods Shaft is largely restricted to siliceous pyroclastics underlying this siltstone. As such, a similar temporal mineralizing event to that of Mt Chalmers is recognized. The disseminated sulfide exhalite is similar to that at the more distal margins of Mt Chalmers. • The geometry of the Woods Shaft mineralization is so far less clear than at Mt Chalmers due to less drillhole data. Surface mapping and drill data suggest a mineralized dome structure which has been slightly modified by folding to produce a north-south trending anticline (dome) with a mineralized core. It is envisaged that this

Criteria	JORC Code explanation	Commentary
		dome has formed similarly to the domal uplift at the core of the Mt Chalmers mineral system.
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:* 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* o *down hole length and interception depth* o *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.*	• No exploration results are presented in this release.
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 Operations -** 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. • All Copper Equivalent (CuEq) figures included in this announcement are calculated based on the following formula: CuEq(%) = (Cu grade x Cu recovery) + ((Pb grade x Pb recovery x Pb price)/Cu Price) + (Zn grade x Zn price x Zn recovery)/Cu price) + ((Au grade x Au price x Au recovery)/Cu price) + ((Ag grade x Ag price x Ag recovery)/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,

Criteria	JORC Code explanation	Commentary
		Pb price of US$2,450/t, and Zn price of US$3,450/t. The following metallurgical recoveries have been applied: 86.5% Au, 70.5% Ag, 97.0% Cu, 85.0% Pb and 77.5% Zn • Mt Chalmers VHMS is a polymetallic base and precious metal mineral system, cut off grades used by the Company in calculating mineralised intersections are 2,500 ppm Cu, 0.1 ppm Au and 1 ppm Ag, 0.5% Zn and 0.5% Pb or 2,000 ppm Cu, 0.1 ppm Au, 1 ppm Ag, 2,000 ppm Zn and 2,000 ppm Pb (mid-2022 change).
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 Operations – 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 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. • The geometry of the Woods Shaft mineralization is to date less clear than at Mt Chalmers due to limited drillhole logging data. QMines drilling has shown the mineralization in the limited drilling area to dip at around 40 degrees to the southeast.
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.*	• No exploration results are presented in this release
Other substantive	• *Other exploration data, if meaningful and material, should be reported including (but not limited to):*	• CEC and Geopeko completed some brownfields exploration to assist with defining the resource including Induced Polarisation surveys and Sirotem (electromagnetic method) surveys.

Criteria	JORC Code explanation	Commentary
exploration data	*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.*	• Federation concentrated on defining the resource estimates. • Great Fitzroy compiled known geophysics and collected magnetic data which has not been made public. • 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. • Mitre Geophysics Pty Ltd completed a downhole EM survey for QMines in June 2022. • No other exploration data is considered meaningful at this stage.
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 being undertaken at Mt Chalmers to upgrade and potentially expand the current resource estimate. • Infill and resource drilling at nearby exploration target Woods Shaft will continue in 2023. • An airborne VTEM electromagnetic survey has been planned and is scheduled to occur in December 2022. • Evaluation of other QMines VHMS prospects in the Berserker Beds is underway.

Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• The drill hole databases for Mt. Chalmers and Woods Shaft are maintained by QMines (In conjunction with Orr & Associates). • The Competent Person has verified the internal referential integrity of the databases use in resource modelling and resource estimation. • Some historic drill holes required elevation adjustment to the 'pre-mining' topographic surface. • No other significant errors or concerns were encountered.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person consolidating the drilling and sampling data is a contractor to QMines and has not visited the site. • A site visit to both the Mt. Chalmers and Woods Shaft deposit areas has been undertaken by the Competent Person responsible for the resource estimation on October 3rd to October 5th 2022. The competent person has also relied upon reports from various different personnel that have visited and worked at the Mt. Chalmers Mine and nearby exploration area.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• Comprehensive Pit mapping at Mt. Chalmers to capture both the geological and structural information used to guide resource modelling has been carried out with a comprehensive structural mapping study carried out by Dr Brett Davis of Olinda Gold Pty Ltd. Mineralization modelling has been guided by the combined geological and structural information as is currently available. • Only a limited amount of mapping and geological interpretation information is available for the Woods Shaft deposit area. • Mineralisation envelopes developed for both Mt. Chalmers and Woods Shaft were interpreted in section from drill hole data. A nominal 0.2-0.3% Cu edge lower cut-off was initially developed. The mineralization developed was also locally adjusted to capture and delineate the majority of significant and related Zinc, Lead, Gold and Silver mineralisation where possible. • The mineralisation envelopes are contained within a reliably

Criteria	JORC Code explanation	Commentary
		interpreted geological and structurally mapped package that is confirmed to correlate with the majority of sulphide mineralization.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The majority of the geologically interpreted Mt. Chalmers mineralised occurrence has an approximate >1.2 km strike length. • The mineralisation thickness ranges from approximately 5 m to 50 m, with average thickness being approximately 10-30 m. Mineralization in the majority of deposit areas extends to approximately 200 m below topographic surface. • Mineralisation has been modelled both above pre-existing pit excavation surface to ensure mineralization modelling continuity. • The approximate dimensions for the historic pit area is: 1. Old Mt. Chalmers Pit – 480 m long, 200 m wide and 80 m deep. • The Woods Shaft deposit area has an approximate 350 m strike length. The mineralisation thickness ranges from approximately 5 m to 30 m, with average thickness being approximately 10-20 m. Mineralization in the majority of deposit areas extends to approximately 140 m below topographic surface.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*	• All available RC and Diamond drilling data was used to build the Mt. Chalmers and Woods Shaft mineralisation models and for guiding Mineral Resource estimation. Recent verification RC and Diamond drilling carried out by QMines at Mt. Chalmers has also enabled consolidation of some of the estimated resources designated to a higher level of resource category. • QMines has acquired new assay information from recent drilling programs (up to end October 2022). An updated drilling, geological logging and assay database was used to define and model the mineralised domains for Cu, Pb, Zn, Au & Ag. • The majority of drill collar positions at both Mt. Chalmers and Woods Shaft have been surveyed. Newly drilled holes were accurately surveyed by QMines. Some of the collar positions were adjusted according to LiDAR acquired Topographic DTM surface data. Some historical un-surveyed drill hole collar

Criteria	JORC Code explanation	Commentary
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	elevations were draped onto a 'pre-mining' topographic DTM surface and were checked in order to match the known surveyed drilling. The survey control for collar positions is considered adequate for the estimation of resources as stated. • The mineralised domains at both Mt. Chalmers and Woods Shaft were interpreted from the drilling data provided by QMines. Sets of cross- sectional 3D strings were generated throughout the deposit area. These were then linked to generate 3D wire-frames. Mineralised wire-frame domains were used for statistical analysis and grade estimation. The development of wire-frames was tightly controlled and were mostly not extended (extrapolated) beyond 1 average section spacing from the last drill-hole 'point of observation'. • All known (small scale) remnant mining stope volumes below the current Mt. Chalmers pit have been removed from the mineralisation coding wire-frames. These volumes are not included in the resource estimate. • A set of wire-frame weathering surfaces and broad material type wire-frames at the Mt. Chalmers deposit area were also modelled to highlight lithological and bulk density characteristics and differences that overprint the mineralized zones. These codes are used to flag bulk density differences and preliminary metallurgical domains. • At Mt. Calmers a series of nine (9) mineralisation AREA domains were also defined to segregate major changes in mineralization zone orientation. These AREA domains were used to define localized mineralization distribution characteristics and search ellipsoid orientation for block model interpolation. • At Woods Shaft a total of four (4) mineralisation AREA domains were also defined to segregate major changes in mineralisation zone orientation. • Spatial statistical analysis was carried out on the main assay data items. Sample data was composited to one metre down-hole

Criteria	JORC Code explanation	Commentary
		intervals initially based on the Copper item. This also included equivalent compositing for the Pb, Zn, Au & Ag items at Mt. Chalmers. At Woods Shaft the Au item in addition to the Cu item at were statistically reviewed. The composite probability distributions were interrogated for each element within each AREA domain to review localized average grades, composite 'outlier' values and related coefficient of variation. • Composites in each AREA domain were used to generate both down-hole and where possible longer range between hole semi-variograms models to establish interpolation ranges and relative nugget and sill ratios used in Ordinary Kriging interpolation for block model grade assignment. • One (1) block model was constructed for the total deposit area at Mt. Chalmers, combining geology and mineralization modelling for the Cu, Pb, Zn, Au and Ag elements. The Block model was constructed using a 3D array of blocks with dimensions of using 5.0 m x 8.0 m x 2.0 m (E-W, N-S, Bench) block cells coded with the mineralisation wire-frames. • At Woods Shaft a new block model describing the Copper and Gold Mineralisation was constructed with the same 5.0 m x 8.0 m x 2.0 m (E-W, N-S, Bench) block cell sizes used at Mt. Chalmers. • The Block Model coordinate boundaries at Mt. Chalmers (GDA94 MGA Zone 56) are; 259,200 m E to 260,600 m E – (280 x 5.0 m blocks) 7,420,400 m N to 7,421,800 m N - (175 x 8.0 m blocks) -240 m RL to 160 m RL - (200 x 2.0 m benches) • The Block Model coordinate boundaries at Woods Shaft (GDA94 MGA Zone 56) are; 258,800 m E to 259,500 m E – (140 x 5.0 m blocks) 7,420,360 m N to 7,421,000 m N - (80 x 8.0 m blocks) • -70 m RL to 130 m RL - (100 x 2.0 m benches)The Ordinary Kriging (OK) interpolation method was used for the

Criteria	JORC Code explanation	Commentary
		estimation of Cu, Pb, Zn, Au and Ag items using variogram parameters defined separately from the geostatistical analysis if each element. A minor outlier 'distance of restriction' approach was applied during the interpolation process for all items in selected domains in order to reduce the unwanted spatial influence of very high-grade outlier composite samples. The distance of restriction was set at 16m and when the local AREA domain threshold value was at approximately the 99th percentile level. • The kriging interpolated grades for each element used different interpolation parameters as determined from an independent 'AREA' domain variography analysis and was contained within the main mineralized zone wire-frame. No extrapolation of grades outside the mineralization wire-frame was permitted. • At Mt. Chalmers Dry Bulk Density ("density") was assigned by using a nearest neighbour precursor interpolation pass before subsequent The average bulk density values were applied in the main material types and oxidation state with the designation of vales assigned representing the average bulk density for each material type. All bulk density measurements used for assignment in the block model were taken from the available measured bulk density measurements from the historic drilling database and the new diamond core samples acquired during all the recent QMines drilling programs. • The average bulk density assigned values used at Mt. Chalmers are : Stringer Zone = 3.10 t/m^3, Exhalite Zone 3.20 t/m^3, Massive Sulphide/Exhalite zone = 3.80 t/m^3, Weathered/Oxide = 2.20 t/m^3, Transition = 2.50 t/m^3 and Fresh (Sulphide) = 3.00 t/m^3. • At Woods Shaft there is currently limited bulk density information is available thus a default 2.9 t/m^3 has been assumed for all mineralisation zones which are observed to be contained in fresh rock material extending very close to the topographic surface.

Criteria	JORC Code explanation	Commentary
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• All tonnages at Mt. Chalmers and Woods Shaft are reported on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• A 0.3% Cu cut off has been applied to reported tonnes and grade. This cut-off is considered in line with current copper price in conjunction with associated beneficial elements Pb, Zn, Au & Ag and favourable mineral processing considerations.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• It is assumed the majority of the Mt. Chalmers deposit will be mined using open pit mining methods with some limited underground mining in deeper locations as may be necessary as per previous small scale underground mining carried out historically. • Any future mining activity at Woods Shaft is also likely to be open pit as mineralisation is observed to be present very close to the topographic surface. • Detailed grade control at both the Mt. Chalmers and Woods Shaft areas will refine resource geometry and grade distribution and is expected will provide reserve detail prior to any mining activity.

Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Metallurgical Recovery Assumptions used for the Mt. Chalmers area are as follows :
		  • Copper 97%
		  • Gold 87.0%
		  • Zinc 77.0%
		  • Silver 70.5%
		  • Lead 85.0%
		• Metal recovery parameters are as yet not known for the Woods Shaft deposit mineralisation.
		• Metallurgical recovery assumptions at Mt. Chalmers have been based on an early-stage metallurgical sighting study currently being undertaken by the Company. In August 2021 QMines delivered ~230 kg of diamond core from holes drilled at Mt Chalmers Copper Project to ALS Metallurgical Laboratory in

Criteria	JORC Code explanation	Commentary
		Balcatta Western Australia. • Under the supervision of COMO Engineers drill core representing the copper/gold stringer ore and the copper, lead and zinc exhalite ore were prepared as two master composites to generate bench scale flotation testwork. • Initial results from this float testwork are indicative of metallurgical recoveries for Mt Chalmers base and precious metals ore and have been used as recovery data in the copper equivalent Resource Estimate calculation. The metallurgical sighting study has not been completed in entirety with several additional tests now being undertaken to potentially improve recoveries and is expected to be finalised early in Q1 2022.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Both the Mt. Chalmers and Woods Shaft resources are located in an area of historic mining which included waste dump and tailings disposal it is assumed no environmental factors would prevent reactivation/extension of these disposal options.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for*	• Dry Bulk Density (DBD) has at Mt. Chalmers been determined from both historical and new Archimedes and densitometer measurements taken from core samples from the recent QMines drilling programs. Additionally, some rock chip samples and bulk samples acquired during recent exploration activity have also been used. • Laboratory based Archimedes methods have been used to

Criteria	JORC Code explanation	Commentary
	void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	determine bulk density from RC Chip and diamond core samples. The bulk densities derived appear appropriate for the rock material and mineralization types described and for the main weathering and oxidation material states present. • The density measurements have been averaged in all deposit areas according to the geologically logged domains and according to their weathered (oxidized or fresh) characterization. Some bulk density values were retained from previous (historic) block model. • The Mt. Chalmers 'overprint' bulk density assignments by material type are as follows: Stringer zone = 3.10 t/m^3, Exhalite Zone = 3.20 t/m^3, Massive Sulphide Zone = 3.80 t/m^3, Weathered/Oxide = 2.20 t/m^3, Transition = 2.50 t/m^3; Fresh (Sulphide) = 3.00 t/m^3.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The classifications or resources arrived at for Mt. Chalmers and Woods Shaft is considered appropriate on the basis of drill hole spacing, sample interval, geological interpretation, history of mining, and representativeness of all available assay data. • The classification criteria have employed multiple 'ancillary' interpolation parameters including 'distance of composite to model block' (DIST1), 'number of composite available within the search ellipsoid' (COMP1) for each block interpolation and the local kriging variance' (KERR1) for each block. • The DIST1, COMP1 and KERR1 item values are 'condensed into a 'quality of estimate' (QLTY) or resource estimation confidence item which is in turn the used a guide to help define the 'resource category. • From the final QLTY item a set of 3D 'consolidated' Resource Category wireframes were developed. These are refined where necessary and then applied to the RCAT Resource Reporting Item in the block model. • At the Woods Shaft deposit area all modelled and defined mineralisation has been designated as Inferred Resources only, reflecting the underlying geological understand confidence for this project currently at an early stage of development. • Classification of the resources has been assigned by the Competent Person and includes a series of project specific

Criteria	JORC Code explanation	Commentary
		'modifying factors' appropriate for the Resource estimation.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The mineral Resource models and associated resource estimations for Mt. Chalmers and Woods Shaft has been reviewed in comparison with the previous preliminary resource estimation and mineralisation target work as defined and estimated by QMines Ltd. No major unexpected changes, discrepancies or issues have been identified.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The Competent Person considers the mineral resource to be a robust and accurate global estimate of the contained metal as the estimation has been constrained within defined mineralisation wire-frames. • The Resource classification applied to the Resource reflects the Competent Person's confidence in the estimate.