QMINES LIMITED
ZERO CARBON COPPER AND GOLD

23 November 2021 **ASX:QML**

QMINES LIMITED

Australia's Next Copper & Gold Developer...

Further Broad High-Grade Copper, Gold and Zinc Intersections at Mt Chalmers

Highlights

Step out drilling continues to intersect broad zones of high-grade copper, gold, silver, lead and zinc mineralisation;

Results include multiple wide and high-grade intersections with peak values of **5.3% Cu, 11.75g/t Au, 243g/t Ag, 33% Zn and 19% Pb**;

Significant intersections from recent drilling include:

- 35.3m @ 2.75g/t Au, 1.4% Cu and 4g/t Ag from 96.4 metres;
    - Including 5.5m @ 9.91g/t Au and 4.0% Cu and 13g/t Ag from 96.4 metres;
- 15.5m @ 0.47g/t Au, 0.4% Cu, 42g/t Ag, 2.3% Pb and 3.9% Zn from 50 metres;
    - Including 5.0m @ 1.14g/t Au, 1.1% Cu, 119g/t Ag, 6.9% Pb and 11.3% Zn from 50 metres;
- 8.6m @ 1.98g/t Au, 0.2% Cu, 36g/t Ag, 1% Pb and 2% Zn from 49 metres; and
- 10m @ 0.45g/t Au, 0.21% Cu, 21.1g/t Ag, 1.0% Pb and 3.4% Zn from 39 metres.

Recent drilling results to be included in pending resource upgrade; and

The Company's 30,000m drilling program continues with two rigs onsite where the resource remains open in all direction and further results are awaited.

Overview

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

Peak grades have been intersected in multiple drill holes from the diamond drilling program, including 11.75g/t Au and 5.3% Cu from MCDD030 and 1.15g/t Au, 243g/t Ag, 3% Cu, 19% Pb and 33% Zn from MCDD020.

Management Comment

QMines Executive Chairman, Andrew Sparke, comments:

"The current drilling program is focused on near-mine resource extension drilling. It is pleasing to see further wide, high-grade and shallow intersections outside the current resource. Given recent results, and the fact that QMines is yet to drill its three near-mine Exploration Targets and four large soil anomalies, management see an opportunity to accelerate its exploration and development plans to fast-track value creation for our shareholders."

Drilling Activities Update

During October and November 2021, QMines has completed an additional fifteen diamond tails from RC pre-collars drilled with assay results from twelve holes having now been received for a total of 2,182 metres. The drilling program is now focussing on step out and extensional drilling outside the current resource. The current drilling program has completed three further diamond tails with drillholes MCDD034 and MCDD035 now underway and two drill rigs onsite in operation.

Completed diamond, RC, RC pre-collar and planned step out drill hole locations are shown in Figure 2. Significant results from the recent Mt Chalmers RC and diamond drilling programs can be seen in Table 1. Three diamond tails MCDD031-033 have been cut and delivered to ALS laboratory in Brisbane.

The RC and diamond drilling programs have been designed to expand the resource model, with several step out holes having now been drilled on the western, southern and eastern sides of the open pits. The drillholes reported here are largely outside the current resource wireframe, with additional pre-collars drilled ready to complete diamond tails.

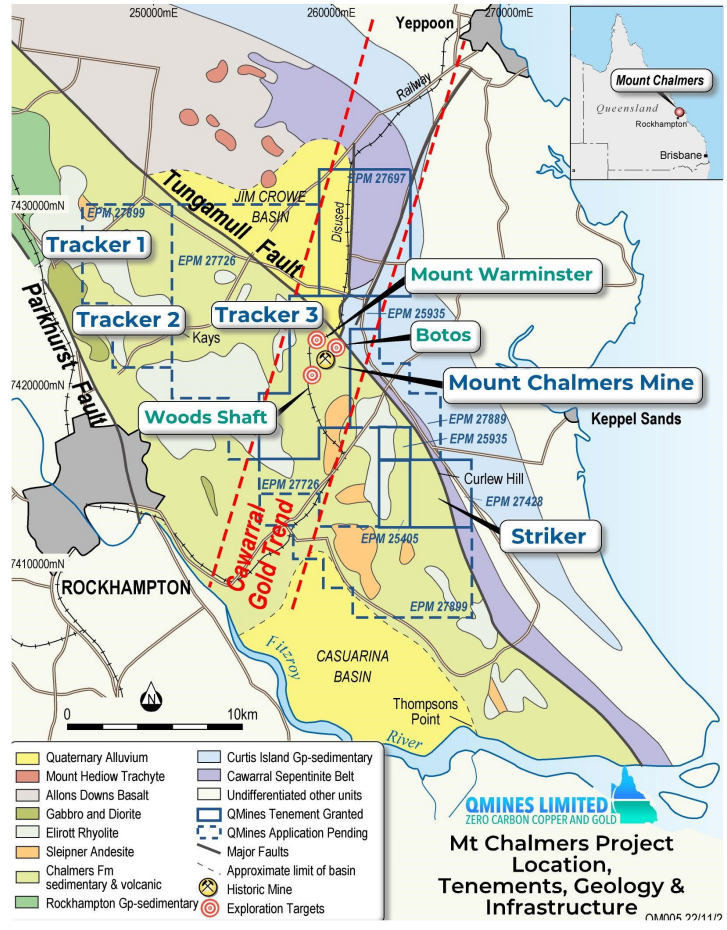

Figure 1: Location of Mt Chalmers Project, tenure, geology & infrastructure.

Examples of the recent mineralised intersections can be seen in Sections AA', BB' and CC' (Figures 3-5), with several drillholes, including MCDD20, MCDD30 and MCDD036/PC018, intersecting high-grade mineralisation. The Company is drilling several holes in previously untested areas on the western side of the main pit and behind previously reported drillholes MCDD015 and MCDD014[1].

Drill hole MCDD030 (Figure 3) intersected high-grade mineralisation at 96.4 metres down hole. **MCDD030 intersected 35.3 metres of chalcopyrite stringer mineralisation returning 2.75g/t Au and 1.4% Cu with a high-grade section of 5.5 metres at 9.91g/t Au and 4% Cu from 96.4 meters**. MCDD031 has been drilled 50m to the east of MCDD030 and is has been cut for sampling.

[1] Multiple Wide High-Grade Intersections Outside Resource, 6 October 2021, https://wcsecure.weblink.com.au/pdf/QML/02431839.pdf

Figure 2: Diamond, RC and RC pre-collar drill hole locations, Mt Chalmers project including Sections AA', BB' and CC' (October - November 2021).

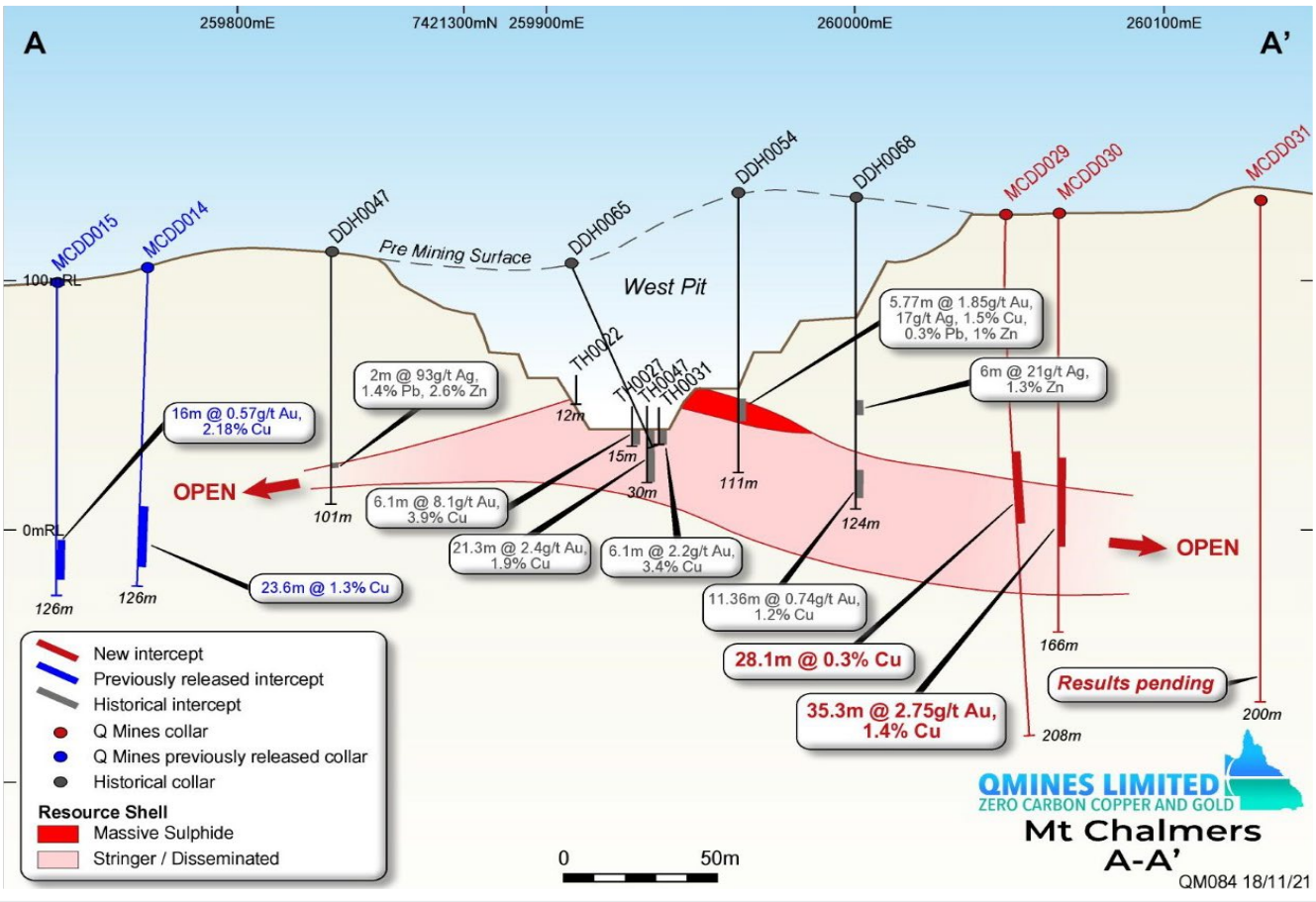

Figure 3: Section "AA' MCDD029 and MCDD030 mineralised intersections with resource wireframe (November 2021).

[1] Acquisition of Strategic Land Package, 19 October 2021, https://wcsecure.weblink.com.au/pdf/QML/02437590.pdf

Section CC' (Figure 5) is a the southern-most fence drilled by the Company to date and is in an area undrilled by previous explorers. All drill holes along the fence intersected mineralisation. This drill fence is expected to extend the resource to the south, and confirms the Company's view that mineralisation remains open to the south of the pits. It also illustrates potential to increase the resource with further drilling in the new year.

QMines has recently acquired fifty acres of freehold land adjacent to the southern drill fence on the boundary of the mine site which will allow the Company to fast track drilling to the south early in Q1-2022[1].

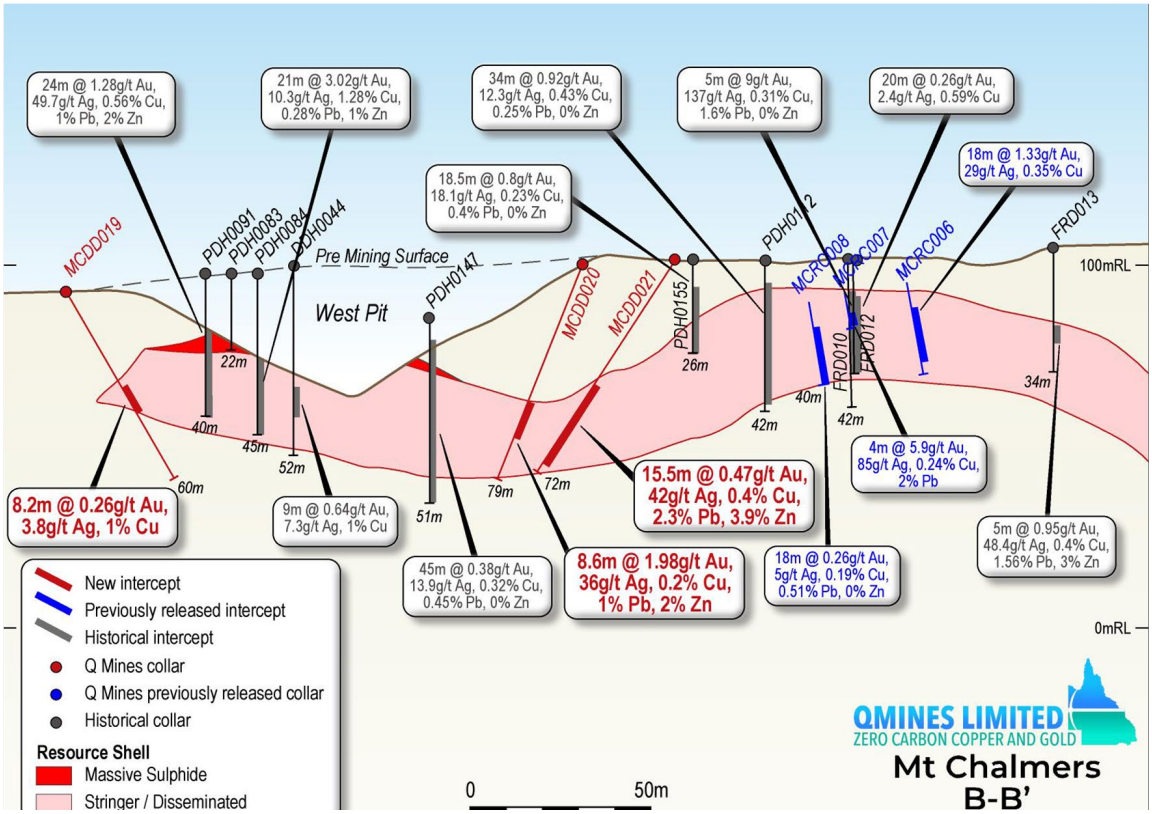

Figure 4: Section showing BB' MCDD019-MCDD021 mineralised intersection with resource wireframe (November 2021).

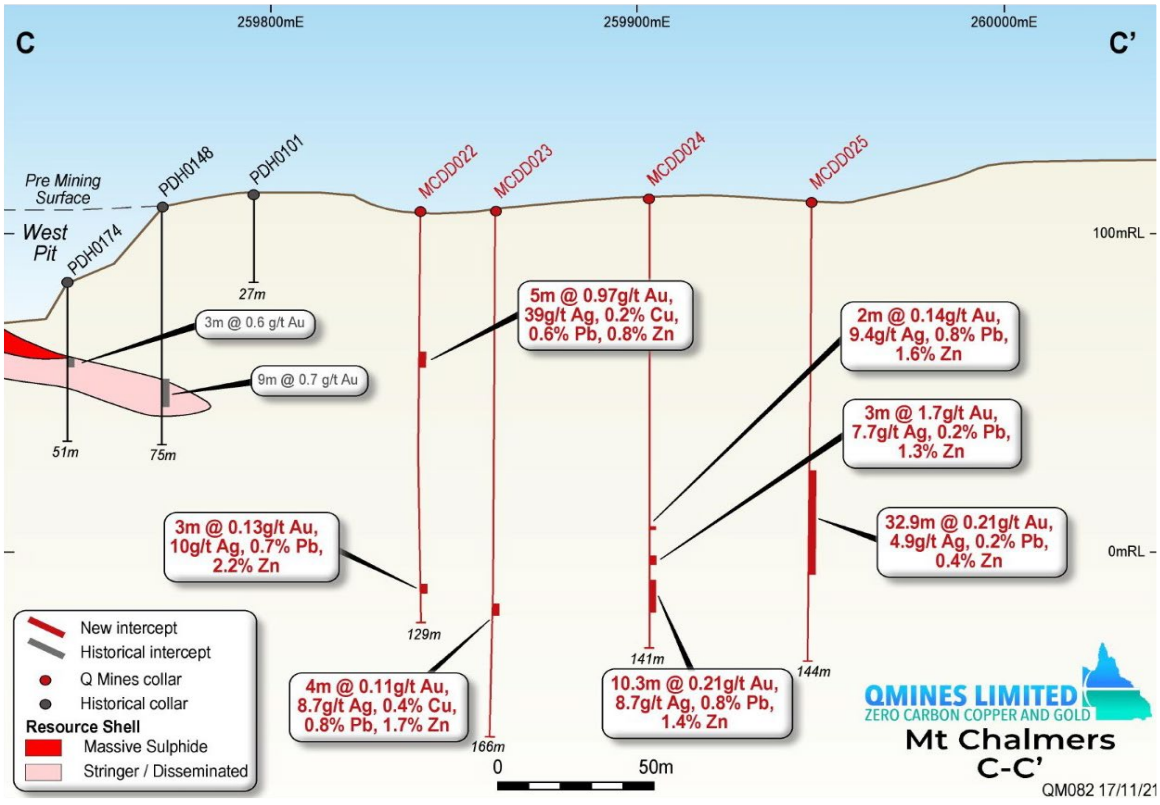

Figure 5: Section showing CC' the southern-most drill fence with mineralised intersection with resource wireframe (November 2021).

[1] Acquisition of Strategic Land Package, 19 October 2021, https://wcsecure.weblink.com.au/pdf/QML/02437590.pdf

Pending Resource Upgrade

The pending resource upgrade is based on drilling results completed by QMines this year and all historical holes drilled by previous explorers. The total number of holes and metres drilled to be used in the resource calculation can be seen in Table 2.

Hole Type	Number	RC Meters	Diamond Meters
Resource Drill Hole Table – QMines Drilling			
Diamond	12		1,520.40
RC Pre-Collar & Diamond Tails	20	1,442.20	1,267.33
RC	9	685.00	
RC Pre-Collar Drilling	13	900.00	
TOTAL	**54**	**3,027.20**	**2,787.73**
Resource Drill Hole Table – Historic Drilling			
Diamond	32		3,393.95
RDH Pre-Collar & Diamond Tails	72	4,106.81	3894.82
RDH	237	11,824.43	
TOTAL	**341**	**15,931.24**	**7,288.77**
GRAND TOTAL	**395**	**18,958.44**	**10,076.50**

Table 2: All new and historical drillholes drilled to be used in the resource upgrade.

A 3D interpretation of the resource wireframes over the digital terrain model (DTM) showing holes drilled outside the resource envelope in an area of the project where little historical drilling has been undertaken can be seen in Figure 6.

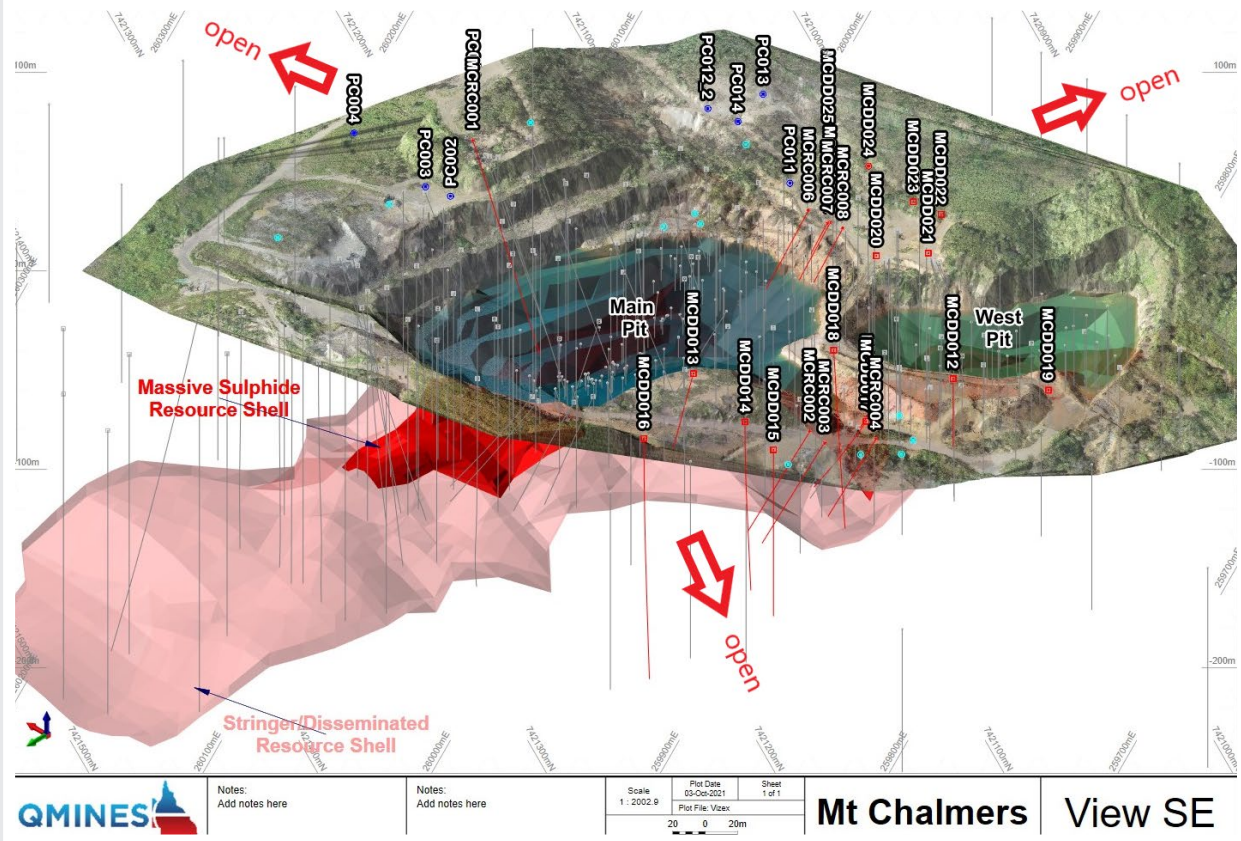

Figure 6: 3D image of Mt Chalmers with the recent DTM, pit shell, RC and diamond drill collar locations and resource model.

Structural Geological Report

In October 2021, QMines engaged Dr Brett Davis to undertake a detailed study of the structural geological constraints of the Mt Chalmers VHMS deposit. Dr Davis spent several days reconnaissance mapping at Mt Chalmers with the primary aim of providing a detailed structural geology interpretation to better inform the upcoming resource model.

Summary

- Mapping has been restricted to all accessible areas of the pits and a geology interpretation has been compiled for areas not currently modelled by QMines. The current mapping campaign has found that historical mapping, which is restricted to a moderate-quality scan, is of good quality and only requires interrogation or amendment where scanned features are illegible;
- Structures comprising the architecture of the deposit have been divided into seven populations and tabulated on Table 3. Of these, four main structure sets are considered important for potential shape modification of mineralisation:
    - Population #2 - Associated with intense zones of ~N-S trending cleavage development;
    - Population #3 - The structures have localised mafic dyke emplacement and been active post-dyke, creating sheared intrusions that occupy the same planar structures;
    - Population #4 – These structures are inferred as occurring at the southern end of Main Pit and traversing the West Pit. They are interpreted as a bounding structure to the interpreted geometry of the porphyritic rhyolite unit and potentially associated with Population #5;
    - Population #5 – Visually obvious, moderately-dipping structures in the eastern wall of the main pit and causing SE-side down displacement;
- The presentation details the fault populations in terms of inferred kinematics, morphology, relative ages, orientations and potential.

Fault Populations

The Mt Chalmers deposit is dissected by several sets of faults, all of which have potential to modify the 3D shape of the mineralisation. The fault populations are tabulated in inferred order of formation from oldest (Population #1) to youngest (Population #7).

Geological mapping derived from historical Geopeko records combined with Dr Brett Davis' recent mapping have been digitised by Orr & Associates and can be seen in Figures 7 and 8.

The complete Dr Brett Davis structural model of the Mt Chalmers VHMS deposit report can be found on the Company's website via the hyperlink below; https://bit.ly/3CGUrwT

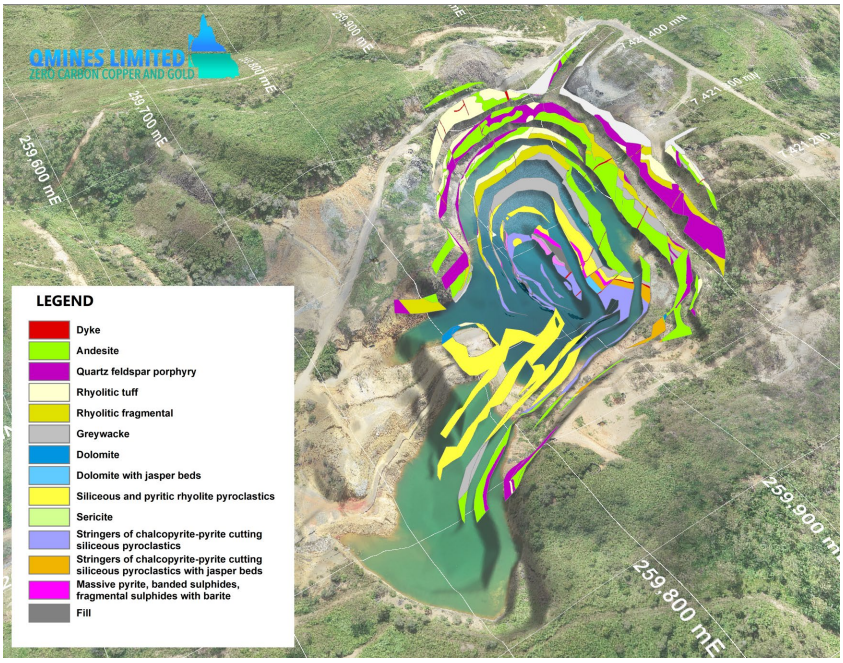

Figure 7: Geological interpretation draped over DTM aerial view Mt Chalmers open pits (Orr & Associates, November 2021).

Table 3: Fault Populations Mt Chalmers VHMS Deposit

Population #	Location	Orientation	Inferred Kinematics	Potential Displacement Magnitude	Characteristics
1 – Ductile shears 1	Bounding upper surface of mineralised zone	~N-S striking and moderate dip to east on east side of Main Pit. Moderate dip to the west on the west side?	Sinistral on eastern side of the Main Pit	Probably minimal	May represent deformation of the exhalate and sericite-altered units that could accommodate shearing strain.
2 – Ductile shears 2	Throughout the deposit but less common in andesite	Strike is ~160-340 and dip is steep to east and west	Sinistral in plan, both W- side-down and E-side-down in section depending on location relative to domal mineralisation shape	Unknown, possibly metres to 10s of metres	Associated with intense zones of ~N-S trending cleavage development.
3 - Dyke faults	Occupy same positions as mafic dykes; only noted in Main Pit	Strike is ~140-320 and dip is steep	W-side-down, both sinistral and dextral in plan. Suggests movement is dominantly dip-slip.	Unknown, possibly metres to 10s of metres	The structures have localized mafic dyke emplacement and been active post-dyke, creating sheared intrusions that occupy the same planar structures.
4 - E-W to NE- SW faults	Southern end of Main Pit and traversing West Pit. Inferred as a bounding structure to the interpreted geometry of the porphyritic rhyolite unit.	E-W to NE-SW strikes with inferred steep dips	Possibly sinistral based on change in cleavage orientation.	Unknown. 10's of metres?	Inferred as marking boundary between sequences of markedly different orientation and competency. Potential continuous with fault set #5
5 - WNW-ESE faults	South of Main Pit		Dextral separation	Several metres	Possibly part of the E-W fault population #4
6 - NE-SW faults	East wall of Main Pit	NE-SW striking and moderately dipping	Oblique, sinistral, SE-side- down	Metres, but probably not more than 10m on individual faults	Visually obvious in east wall of Main Pit, progressively steeping the sequence down to the south.
7 - Brittle fracture arrays	Berms on northern side of Main Pit	ENE-WSW strikes and steep dips	Dextral, E-side-down	Probably minimal	Characterised by brittle deformation and Fe-carbonate veining

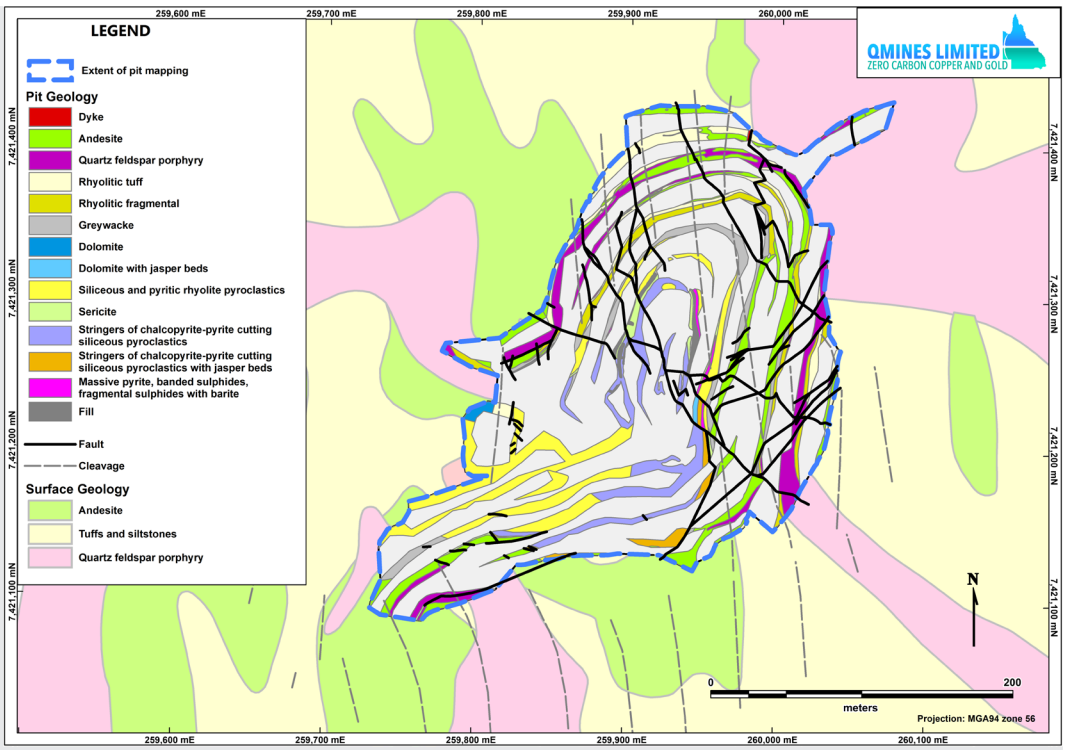

Figure 8: Plan view of the geological interpretation (Orr & Associates November 2021).

Geology

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

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

The Mt Chalmers mineralisation is situated in the early Permian Berserker Beds, which occur in the fault-bounded Berserker Graben, a structure 120km long and up to 15km wide. The graben is juxtaposed along its eastern margin with the Tungamull Fault and in the west with the Parkhurst Fault (Figure 1). The Berserker Bed lithologies consist mainly of acid to intermediate volcanics, tuffaceous sandstone and mudstone (Kirkegaard and Murray 1970). The strata are generally flat lying, but locally folded. Most common lithotypes are rhyolitic and andesitic lavas, ignimbrites or ash flow tuffs with numerous breccia zones.

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

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

Figure 9: Stringer zone sulphides (chalcopyrite, pyrite) hosted in silica-chlorite altered, felsic pyroclastic breccia.

Discussion

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

The recent drilling program has demonstrated the potential to upgrade and increase the resource at Mt Chalmers, with drill targeting focussed mainly on peripheral footwall stringer zones. Extensional drilling will continue based on the recent results, testing areas previously undrilled. The alteration halo appears to extend beyond the massive sulphide mound of the ore body and historical drilling at Mt Chalmers does not appear to have fully tested the extensive stratabound stringer zones in the footwall below, and extending from the historically mined sulphide mound.

The geometry of the Mt Chalmers ore body indicates a relatively flat lying, asymmetrical massive sulphide mound with both historical and recent drilling results intersecting higher grade Cu-Au massive sulphides proximal to the interpreted source rhyolite dome. High grade Pb, Zn, Ag in the massive sulphide and exhalate ore body distal from the interpreted source rhyolite dome. Similar metal zoning has also been observed in the stringer/disseminated zone beneath the Massive Sulphide ore body where Cu-Au grades are typically higher proximal to the dome, and Pb, Zn, Ag grades are typically higher distal from the dome.

Historical drilling is largely constrained in and around the existing Mt Chalmers mine. It appears that the Western Lode may have been transported downslope from the source and areas of low relief during seafloor sulphide deposition may be potential zones for transported high-grade mineralisation. This theory is largely untested at Mt Chalmers and drilling is currently underway on the western flank of the pits as seen in Figure 2 where the Company has now commenced diamond drilling.

What's Next?

- Ongoing drilling results from the planned +30,000m drilling program with two rigs currently in operation;
- Downhole EM on several holes already drilled with results to be released upon completion;
- Expanded soil sampling utilising Niton Portable PAS XRF delivering real-time soil geochemical data for future drill targeting;
- Planned 1,800-line kilometre Heli-EM survey expected to commence in H1-2022 to identify further drill targets; and
- **Pending resource upgrade.**

* The current resource for the Mt Chalmers Project is located on the QMines website. It can be found in the recent QMines Prospectus in ANNEXURE A – Independent Geologists Report, https://qmines.com.au/prospectus-2/

Competent Persons Statement

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

Table 1: Significant intercepts Mt Chalmers RC and diamond core program October-November 2021*

Hole ID	MGA East*	MGA North*	mRL	Dip	MGA Azi*	Max Depth	M from	M to	Int (m)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)
MCDD019	259673.4	7421136.9	92.9	-60	105	60.1	31	39.2	8.2	0.26	3.8	1.0		
MCDD020	259817.9	7421097.6	105	-55	330	78.7	49	57.6	8.6	1.98	36	0.2	1.0	2.0
MCDD021	259841.2	7421119.7	102	-55	115	72.0	47.5	63	15.5	0.47	42	0.4	2.3	3.9
Including							50	55	5	1.14	119	1.1	6.9	11.3
MCDD022	259839.3	7421064.9	107	-90	Vertical	129.4	44	49	5	0.97	39	0.2	0.6	0.8
and							117	120	3	0.13	10	0.2	0.7	2.2
MCDD023	259860.8	7421067.6	107	-90	Vertical	165.5	123	127	4	0.11	8.7	0.4	0.8	1.7
MCDD024	259903.5	7421064.2	111	-90	Vertical	141.0	103	105	2	0.14	9.4		0.8	1.6
and							112	115	3	1.70	7.7		0.2	1.3
and							119.7	130	10.3	0.21	8.7	0.1	0.8	1.4
MCDD025	259947.8	7421054.9	110	-90	Vertical	144.4	84	116.9	32.9	0.21	4.9		0.2	0.4
MCDD026	259932.1	7421104.4	104	-90	Vertical	123.3	32	87.3	55.3	0.10	2			0.3
MCDD027	260013.2	7421095.1	115	-90	Vertical	132.5	105	114.1	9.1	0.15	3	0.4		
MCDD028	260000.0	7421060.0	115	-90	Vertical	189	153.7	185	31.3	0.11	3			
MCDD029	260048.9	7421284.6	126	-90	Vertical	207.0	93.9	122	28.1	0.10	2	0.3		
MCDD030	260066.8	7421288.4	126	-90	Vertical	166.4	96.4	131.7	35.3	2.75	4	1.4		
including							96.4	101.9	5.5	9.91	13	4.0		
MCDD036/PC018	259746.6	7421296.6	96	-90	Vertical	57.0	38	48	10	0.45	21.1	0.21	1.0	3.4
MCDD031	260132.6	7421285.1	132	-90	Vertical	200.0	**Assays Pending**							
MCDD032	260055.7	7421207.7	129	-90	Vertical	158.8	**Assays Pending**							
MCDD033	260069.9	7421317.1	134	-90	Vertical	157.1	**Assays Pending**							
MCDD034	259959.2	7421165.5	91.3	-80	245	120.0	**Diamond Tail Underway**							
MCDD035	259702.7	7421326.6	90.2	-80	Vertical	165.0	**Diamond Tail Underway**							
Pre-Collar 014	260002.2	7421079.8	114	-90	Vertical	145.0	**Completed**							
Pre-Collar 019	259724.6	7421277.2	96	-90	Vertical	38.0	**Completed**							
Pre-Collar 020	259690.8	7421243.5	86	-90	Vertical	45.0	**Completed**							
Pre-Collar 021	259670.1	7421230.2	95	-90	Vertical	91.0	**Completed**							
Pre-Collar 022	259641.7	7421223.6	94	-90	Vertical	104.0	**Completed**							
Pre-Collar 023	259702.7	7421326.6	95	-90	Vertical	86.0	**Completed**							
Pre-Collar 024	259701.2	7421314.0	100	-90	Vertical	81.0	**Completed**							
Pre-Collar 025	259692.1	7421300.3	101	-90	Vertical	82	**Completed**							

***Note MGA 94_56**

· In reported exploration results, length weighted averages are used for any non-uniform intersection sample lengths. Length weighted average is (sum product of interval x corresponding interval assay grade), divided by sum of interval lengths and rounded to two decimal points.

· No top cuts have been considered in reporting of grade results, nor was it deemed necessary for the reporting of significant intersections.

· No metal equivalent values have been reported.

* Downhole intersections contained in this announcement in the vertical drill holes reported, represent true widths of the assayed mineralised intersections contained in Table 1.

* Downhole intersections contained in the announcement in drill holes at 60-degree dip represent approximately 87% true width of the assayed mineralised intersections contained in Table 1.

About QMines

QMines Limited (**ASX:QML**) is a Queensland based copper and gold exploration and development company. **QMines vision is to become Australia's first zero carbon copper and gold developer**. The Company owns 100% of four advanced projects covering a total area of 1,096km^2. 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 @ 3.6g/t Au, 2.0% Cu and 19g/t Ag between 1898-1982. Mt Chalmers has an Inferred Resource (JORC 2012) of 3.9Mt @ 1.15% Cu, 0.81g/t Au and 8.4g/t Ag. [1]

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

Mt Chalmers (100%)

Silverwood (100%)

Warroo (100%)

Herries Range (100%)

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

HAMISH GRANT
Project Geologist

QMines Limited

ACN 643 212 104

Shares on Issue

111,372,748

Unlisted Options

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

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

Contact

QMines Limited (ASX:QML)

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Peter Nesveda, Investor Relations — **Email**: peter@qmines.com.au
Andrew Sparke, Executive Chairman — **Email**: andrew@qmines.com.au

[1] Refer to the Independent Geologist Report commencing on page 84 of the Prospectus dated 16 March 2021 available at https://qmines.com.au/prospectus-2/. The Company confirms that it is not aware of any new information or data that materially affects the information included in the Prospectus dated 16 March 2021 and that all material assumptions and technical parameters underpinning the resources estimates in the Prospectus dated 16 March 2021 continue to apply and have not materially changed.

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

Section 1 Sampling Techniques and Data

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

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Sampling techniques</td><td>

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.

</td><td>

The Mt Chalmers deposit has been drilled with a combination of percussion drilling ("PDH" open hole percussion, reverse circulation drilling ("RC")) and diamond core holes ("DD") amounting to 395 drill holes for 29,034 metres.

<table>
<tr><td>Drill hole table QMINES</td><td></td><td></td><td></td></tr>
<tr><td>Hole Type</td><td>Number</td><td>RC mtrs</td><td>Diamond mtrs</td></tr>
<tr><td>Diamond</td><td>12</td><td></td><td>1520.4</td></tr>
<tr><td>RC precollar Diamond tail</td><td>20</td><td>1442.2</td><td>1267.33</td></tr>
<tr><td>RC only</td><td>9</td><td>685</td><td></td></tr>
<tr><td>RC Precollar - diamond tails incomplete</td><td>13</td><td>900</td><td></td></tr>
<tr><td>Total</td><td>54</td><td>3027.2</td><td>2787.73</td></tr>
<tr><td>Drill hole table - HISTORIC</td><td></td><td></td><td></td></tr>
<tr><td>Hole Type</td><td>Number</td><td>PDH mtrs</td><td>Diamond mtrs</td></tr>
<tr><td>Diamond</td><td>32</td><td></td><td>3393.95</td></tr>
<tr><td>PDH precollar Diamond tail</td><td>72</td><td>4106.81</td><td>3894.82</td></tr>
<tr><td>PDH only</td><td>237</td><td>11824.43</td><td></td></tr>
<tr><td>Total</td><td>341</td><td>15931.24</td><td>7288.77</td></tr>
<tr><td>Grand Total</td><td>395</td><td>18958.44</td><td>10076.5</td></tr>
</table>

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

</td></tr>
<tr><td></td><td></td><td>

base metal analysis and a 50 g charge for gold.
There is no documentation concerning the analytical method used

</td></tr>
</table>

Criteria	JORC Code explanation	Commentary

		by Peko, 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.
		• The mineralisation is considered a classic example of a Kuroko-style volcanogenic massive sulphide deposit. The stratabound Cu and Au (Pb, Zn, Ag) mineralisation is strongly related to a combination of pyrite-rich host lithologies and spatial positioning relative to a central rhyolite dome.
		• The deposit was mined in three phases: 1890 – 1912; during World War 2 and 1979-1981 by MML
		• **In 2021 QMINES** has undertaken drilling operations at Mt Chalmers drilling 11 diamond core holes for 1,575 metres, 685 of RC, 157 metres of pre-collars and 407 metres diamond core tails
		  • The company drilled HQ triple tube with diamond core sampling consisting of between 300 mm and 1.5 metre intervals of core.
		  • Samples were cut with a Sandvik wet core saw yielding 1-5 kg core samples (dependent on sample intervals) into calico sampling bags. 4 individual calicos are placed in polyweave bags and sealed for delivery to the assay lab.
		  • Samples are sent by road to ALS Laboratories in Brisbane, crushed, pulverised and riffle split delivering 200 g pulp for base metal and precious metal 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).*	• Percussion drilling was with a Mayhew 1000 or a Mayhew 1500 rig with 114.5 mm down hole hammer bit. • 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. • Many 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. • No core orientation data is available.

Criteria	JORC Code explanation	Commentary
		• **QMines Operations – 2021** drilling was undertaken using a multi-purpose UDR 650 track mounted rig, and a Hydco 1000 Dual purpose truck mounted rig. RC drilling utilised 114.5 mm diameter RC rods and 140 mm percussion face-sampling hammer with auxiliary air packs with onboard air. Diamond tails being drilled by a track mounted Hyundai Dasco 7000 diamond core rig. • Coring was HQ triple tube with the core sample being orientated using REFLECX ACT111 core orientation tool.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• No historic sample recovery data is available for either the DD or the RC drilling. Historical reports indicate 90% recovery from the Peko drilling except for weathered and oxide zones (these zones have been mined out). • No documentation of RC sampling procedures is available • Peko 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 Operations – 2021** diamond drilling core recovery was excellent with between 93 - 95% of all diamond core recovered from both the mineralised and unmineralized zones. RC sampling recovered dry samples every metre drilled with each metre rock chipped logged and collected in chip trays. • Drilling method is consistent with current industry practices with no sample bias and is 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.*	• All 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

Criteria	JORC Code explanation	Commentary
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	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. • 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 Operations – 2021** drilling programs have 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 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.*	• Peko 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. • Peko 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

Criteria	JORC Code explanation	Commentary
		to large losses of fines. In the Main Lode area wet samples were collected in half 44-gallon drums and transferred to hessian bags. 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. • 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 – 2021** 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 75µ giving a 200 g representative sample from which a sub-sample of 30 g is taken for base metal analysis and a 50 g charge for gold. • RC sampling was collected using an OX engineering cyclone with a cone splitter delivering 10% representative sampling per lineal metre drilled. Duplicate samples are taken every 25 and 75 metre drilled in the drilling sequence with duplicate samples being 50-50% split sample from the same cone splitter. • RC sampling recovery was dry with pre collars being completed at the water table.
Quality of assay data and	• *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*	• Peko 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

Criteria	JORC Code explanation	Commentary
laboratory tests	*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.*	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 50g charge with an AAS finish (PM209) was used for gold. • 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 – 2021** samples for assay were submitted to ALS Laboratories in Brisbane. • 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 • There is no significant bias in assayed results from duplicates assayed

Criteria	JORC Code explanation	Commentary
		• Certified Reference Materials (CRM) and blanks (supplied by GEOSTATS Pty Ltd) are inserted at regular intervals with suitable CRMs being used to monitor laboratory accuracy. Duplicates are utilised to monitor laboratory reproducibility. • 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 •
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• 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 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 – 2021** significant intersections have been validated by the Company's project geologist. • A number of historical holes 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.

Criteria	JORC Code explanation	Commentary
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. • Peko subsequently established a mine grid, again using the North Shaft as the origin, which was assigned coordinates of 5000mE & 5000mN. A network of local control stations was set out by MML staff surveyors. • All previous data (such as drill collar locations) were converted by Peko to mine grid which appears to have been used consistently for both exploration and production work. • Control points for the Peko mine grid survive and this grid was 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 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 1m and 2m, 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

Criteria	JORC Code explanation	Commentary
		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 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 for downhole surveys. This will no doubt result in some errors in the 3D location of samples, but since hole depths are typically about 50-150m and most holes are vertical into flat-dipping rocks, serious hole deviations are not expected to have been common. • **QMines Operations** 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. • 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) using drone survey technology. • The quality and accuracy of the DTM has been validated and processed independently of the data capture by MINECOP Surveying.
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 Peko drilling was initially on a nominal pattern of 40m x 40m which was subsequently infilled to a nominal 20m x 20m over most of the deposit, but with considerable local variation in hole spacings. • Federation locally infilled or extended the 40m x 40m 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 40m x 40m to 40m x 80m. • Downhole sampling was at 1m intervals.

Criteria	JORC Code explanation	Commentary
		• 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. • **QMines Operations – 2021** 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 deposit is generally flat-lying and virtually all drillholes are vertical thus giving a good intersection angle with the mineralisation. • 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 samples at site and their transportation to the laboratory. • **QMines Operations – 2021** samples are cut onsite by Company workers, inserted into individual numbered calico sample bags then 4 calico bags are inserted into sealed cable tied polyweave bags. Polyweave bags are numbered in sequence. • Samples are then delivered by Company staff to Centurion Freight Rockhampton, loaded into bulka bags by Company staff and shipped directly to ALS Laboratory 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 Operations – 2021** sampling techniques have been established by the Company Project Geologist. Results are reviewed and validated by the 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. • The Project is free and unencumbered by either joint ventures or any other equity participation of the tenement. • QMines has yet to negotiate any landowner provisions or Government royalties or yet to commence environmental studies within the project area. Currently the Queensland Department of Natural Resources & Mines is conducting remediation works on minor acid mine waste draining from a mineralised mullock dump. • All the tenements are for “all minerals” excepting coal. • Note that the granted tenements allow QMines to carry out many of their planned drilling programs under relevant access procedures applying to each tenement. • All the EPMs are subject to the Native Title Protection Conditions with respect to Native Title. • Declared Irrigation Areas, Declared Catchment Areas, Declared Drainage Areas, Fossicking areas and State Forest, are all land classifications that restrict exploration activity. These are not affecting QMines’ main prospects but may have impact on regional programs in places. • All annual rents and expenditure conditions have been paid and fully compliant
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• CEC and Peko are generally recognised as competent companies using appropriate techniques for the time. Written logs and hardcopy sections are considered good. • Federation was a small explorer that was entirely focussed on defining the Mt Chalmers resource. They used a very competent geologist, Alex Taube, for the drilling programme. Alex Taube is

Criteria	JORC Code explanation	Commentary
		widely respected for his knowledge about VHMS deposits in North Queensland.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Mt Chalmers mineralisation is situated in the early Permian Berserker Beds, which occur in the fault-bounded Berserker Graben, a structure 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 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

Criteria	JORC Code explanation	Commentary
		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. • 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.

Criteria	JORC Code explanation	Commentary

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

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 – 2021** • In reported exploration results, length weighted averages are used for any non-uniform intersection sample lengths. Length weighted average is (sum product of interval x corresponding interval assay grade), divided by sum of interval lengths and rounded to two decimal points. • No top cuts have been considered in reporting of grade results, nor was it deemed necessary for the reporting of significant intersections. • No metal equivalent values have been reported. • Mt Chalmers VHMS is a polymetallic base and precious metal mineral system, cut off grades used by the Company in calculating mineralized intersections are 2500 ppm Cu, 0.1 ppm Au and 1 ppm Ag, 0.5% Zn and 0.5% Pb
Relationship between mineralisation widths and	• *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*	• **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.

Criteria	JORC Code explanation	Commentary
intercept lengths	*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').*	• Holes drilled on 60 degree dip are reported in the Significant intercept table. True widths in 60 degree dip are not reported. True Width is approximately 87% of the down hole intersection.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Maps, sections, mineralised intersections, plans and drill collar locations are included in the body of the relevant announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Table 1 in the body of the announcement
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• CEC and Peko completed some brownfields exploration to assist with defining the resource including Induced Polarisation surveys and Sirotem (electromagnetic method) surveys. • Federation concentrated on defining the resource estimates. • No other exploration data is considered meaningful at this stage. • **QMines Operations – 2021** the company delivered soil geochemical grids obtained from the Geological Survey of Queensland consisting of 19,000 samples collected by various workers and digitized by the Company during 2021.
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 to upgrade and potentially expand the current resource estimates.