

Finally, an Australian copper developer that looks like getting into production

Mt Chalmers PFS showcases a financially robust project

QMines' Mt Chalmers Pre-Feasibility Study (PFS), April 2024, highlights a technically and financially robust project based on treating 1.0 Mtpa of ore over an initial 10.4 year mine life using standard equipment to produce copper, zinc and pyrite concentrates. The PFS boasts a pre-tax NPV₈ of A\$373m, an IRR of 54%, and total EBITDA of A\$828m over the project life. The project is expected to produce 105,000 tonnes copper equivalent (CuEq). Life of mine C1 costs are estimated at just US\$2.14/lb CuEq

This one looks like getting into production

Mt Chalmers is shallow, high-grade, and open-pit. Recoveries are high. Situated in Rockhampton, Queensland, an established mining area, the project stands to benefit from excellent infrastructure, and a ready labour force. Initial capital costs are expected to be low. The project has significant environmental advantages. It is expected to receive strong support from potential funders in equity, debt, and offtake linked financing.

Project economics to improve with further development.

Mt Chalmers is open along strike and down plunge suggesting additional material may be brought into the mine plan. The PFS does not factor in any contribution from the Sulphide City and Scorpion deposits at Develin Creek, the other deposits around Mt Chalmers (Woods Shaft is located just 700m to the SW), the new base metals discovery at Artillery Road, nor any potential upside from the further processing of concentrates.

Current valuation A\$0.35/share (35 cents a share)

Valuing Mt Chalmers at 20% of pre-tax NPV₈ and Develin Creek at A\$180/t of CuEq resource, suggests a current valuation of A\$0.35/share. This is 5x the current share price. Production based valuations are A\$0.81/share to A\$1.17/share.

QMines shares look incredibly undervalued. The company offers critical exposure to a copper market that is widely expected to face a supply-side deficit before the end of the decade with the added bonus that this project actually looks like getting into production.

29 May, 2024

Key financial data

Share price, A\$/share	0.07
Shares on issue, millions	225.4
Options, warrants, millions	13.1
Fully diluted shares, millions	238.5
Market cap., A\$ m	15.8
Net cash, estimate, A\$ m	(0.1)
EV, A\$ m	15.9

Valuation

Current, A\$/share	0.35
Mt Chalmers valued at 20% of PFS pre-tax NPV ₈ and Develin Creek valued at A\$180/t CuEq resource	
3 Years, A\$/share	0.81-1.17
Mt Chalmers PFS production and financial metrics, 6-8x EV/EBITDA, estimated funding structure, excludes production from other assets such as Develin Creek	

Website

www.qmines.com.au

Company snapshot

QMines is exploring and developing mining assets in Queensland, Australia. The flagship project, Mt Chalmers is a high-grade historical mine that was in production until 1982. Current attributable resources stand at 11.3Mt at a grade of 1.22% CuEq. QMines released a PFS for Mt Chalmers in April 2024.

Key catalysts and news

2Q-3Q24: Drilling at Artillery Road and Develin Creek
2H24: Incorporation of Develin Creek into an integrated mine plan

Share price chart



Source: ASX

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QMines looks tremendously undervalued

The valuation framework is based on valuing QMines at a percentage of NPV prior to production and at a multiple of earnings once production commences. The market is currently valuing QMines at an EV of 4% of the Mt Chalmers PFS pre-tax NPV₈ of A\$373m, and ascribing no value to the potential for further growth at and around Mt Chalmers, Develin Creek, other deposits such as Mt Warminster and Botos, or to the potential at areas such as Artillery Road. This seems incredibly cheap for a compelling critical minerals project in a top-tier jurisdiction.

Most notably, Mt Chalmers:

- Looks likely to get into production in the next, say, three years; arguably this is a key factor that distinguishes QMines from some other aspiring ASX-listed copper developers
- Is an open-pit project with low upfront capital costs
- Is a former mine site (mining ceased in 1982)
- Has a number of significant environmental advantages
- Is likely to grow substantially as other deposits are brought into the mine plan
- Offers critical exposure to copper, which is widely expected to face a supply-side deficit before the end of the decade
- Is expected to receive strong support from potential funders in equity, debt, and offtake linked financing

Current valuation of A\$0.35/share (35 cents per share)

Valuing Mt Chalmers at 20% of pre-tax NPV₈, Develin Creek at A\$180/t of copper equivalent resource, in line with ASX-listed copper-dominant explorer and developer peers, which are trading at cycle lows, and accounting for the remaining cash (A\$1.3m) and shares payments (A\$1.0m) needed to fully acquire Develin Creek, suggests a current valuation of A\$0.35/share (35 cents per share). No value is ascribed to the smaller deposits at Mt Warminster or Botos, nor to the exploration portfolio that includes the highly prospective Artillery Road and Striker 1 assets. This valuation is 5x the current share price.

Figure 1: Current valuation

Project	Methodology	Value A\$ m
Mt Chalmers	20% of PFS pre-tax NPV ₈	74.7
Develin Creek	3.2Mt at 1.61% CuEq for 51,360 t CuEq at A\$180/t, 100% stake	9.2
Asset value		83.9
Net cash	Estimated, including the remaining payment for Develin Creek	(1.4)
Net asset value		82.5
Shares outstanding	Current shares, 225.4m, plus an estimate of 10.0m new shares at A\$0.1/share required to purchase the 49% minorities in Develin Creek	235.4
Current valuation	A\$/share	0.35

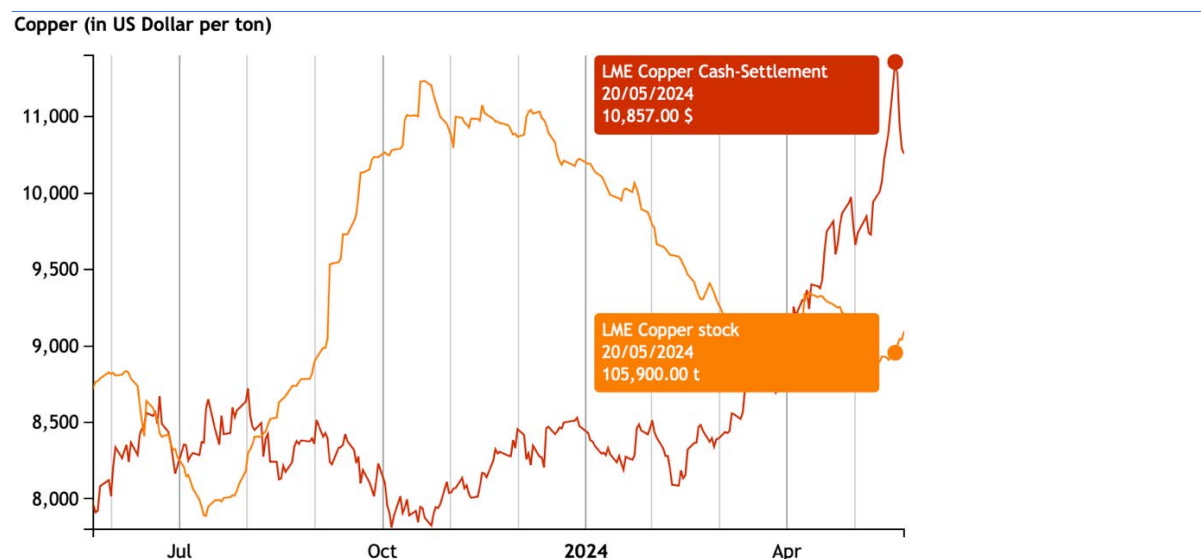
Source: Orior Capital

Copper prices are running

The Mt Chalmers NPV, and thus the valuation, are sensitive to metals prices, especially copper which accounts for more than 50% of the project revenues, and gold which accounts for almost 30%, based on PFS price assumptions. The PFS is based on a copper price of US\$9,850/t and a gold price of US\$2,350/oz. Prices have recently peaked above these levels. The LME spot copper price reached a high of US\$10,857/t last week, and gold peaked at approximately US\$2,440/oz. At these prices, Mt Chalmers would boast an estimated pre-tax NPV₈ of A\$443m.

Valuing Mt Chalmers on this higher NPV, and Develin Creek at A\$200/t CuEq resource, would underpin a current valuation of A\$0.41/share (41 cents a share).

Figure 2: Copper prices (red) and inventories (orange)



Source: Westmetall

3 years valuation, A\$0.81/share to A\$1.17/share

As QMines starts production, the company would be expected to be valued on earnings. According to the Mt Chalmers PFS, the project is expected to generate EBITDA (and pre-tax income) of A\$828m over an initial mine life of 10.4 years, or an average annual EBITDA of A\$79.6m. Assuming the upfront capital costs are financed 70% debt and 30% equity, with the shares issued at say, A\$0.30/share, applying an EV/EBITBA multiple of 6-8x could underpin a valuation of A\$0.81/share to A\$1.17/share. These valuations are approximately 12x to 17x the current share price.

If the market starts to value QMines on production in three years, around the time the project is expected to start up, and these valuations are achieved, it would represent an annual return in the shares of 126% to 156% over the next three years.

Again this is based on the price assumptions in the PFS. At recent high copper and gold prices, the project would be expected to generate an estimated A\$927m in EBITDA (and pre-tax income), or an annual average of A\$89.1m. In this case, the same EV/EBITDA multiples could support a valuation of A\$0.94/share to A\$1.35/share.

Figure 3: QMiner valuations

Shares on issue	millions	225.4	
Shares to acquire Develin Creek minorities	millions	10.0	Assume A\$1.0m at A\$0.10/share
Options and rights	millions	13.1	
Fully diluted shares, estimated	millions	248.5	
Development			
NPV ₈ , pre-tax	A\$ m	373.4	QMiner PFS, April 2024
Current valuation based on % of NPV			
10%	A\$/share	0.19	
15%	A\$/share	0.27	
20%	A\$/share	0.35	
25%	A\$/share	0.43	
30%	A\$/share	0.51	
Production			
Capex	A\$ m	191.9	QMiner PFS, April 2024
Debt	A\$ m	134.3	Assume 70% debt
Equity	A\$ m	57.6	Assume 30% equity
New shares	millions	191.9	Assume issued at A\$0.30/share
Total shares, fully diluted	millions	440.4	
Annual EBITDA	A\$ m	79.6	A\$828m over 10.4 years
EV/EBITDA valuations			
5x	A\$/share	0.63	
6x	A\$/share	0.81	
7x	A\$/share	0.99	
8x	A\$/share	1.17	
9x	A\$/share	1.36	
10x	A\$/share	1.54	

Note: Valuations per share include A\$0.034/share for Develin Creek, valued at A\$180/t resource.

Source: Orior Capital

PFS considered conservative

The Mt Chalmers PFS does not factor in:

- The processing or further material from Mt Chalmers which has a total Mineral Resource of 11.3Mt, and which remains open along strike and down plunge
- Any contribution from 1) Develin Creek, where further drilling and metallurgical studies are planned; 2) Woods Shaft (located 700m from Mt Chalmers); 3) exploration targets around Mt Chalmers including Botos and Mt Warminster; or 4) the new base metals discovery at Artillery Road
- Any escalation in metals prices; it is widely anticipated that the copper market will become increasingly tight over the next several years which is likely to drive higher prices
- Any further upside in realised prices from QMiner further beneficiating concentrates, especially for example, in zinc where metallurgical testing may result in improved concentrate composition, and in sulphur where there is strong demand from fertiliser producers and the metals and mining industry

The PFS underpins a current valuation of A\$0.35/share (35 cents a share) and a 3 year valuation of A\$0.81/share to A\$1.17/share on a fully diluted basis. These are considered ‘first pass’ estimates. There are a myriad of options to further develop the project and the copper market is expected to tighten, both of which are likely to lift valuations.

Snapshot of the PFS

The Mt Chalmers project is located approximately 17km northeast of Rockhampton in Central Queensland, Australia. The project is held under five exploration licences which were acquired by QMines in January 2021. The site is some 40 minutes by road from Rockhampton and easily accessible on sealed roads via either Emu Park Road or Yeppon Road.

The Mt Chalmers deposit was discovered in 1860. Small-scale underground gold and later copper mining was conducted periodically until 1943. Since 1960, extensive exploration culminated in Geopeko Ltd undertaking open pit mining between 1972 and 1982, with ore being transported by rail to Mt Morgan for processing. Total historical production at Mt Chalmers, until 1982, was 1.2Mt at 3.6 g/t Au, 2.0% Cu and 19 g/t Ag.

From April 2021 to December 2023, QMines undertook some 20,000m of confirmation and resource drilling. In November 2023, QMines released an updated Mineral Resource Estimate for Mt Chalmers of 11.3Mt at 0.75% Cu, 0.42 g/t Au, 0.22% Zn and 4.5 g/t Ag. The resource hosts contained metal of approximately 85,600 tonnes Cu, 153,000 oz Au, 24,400 tonnes Zn and 1.65 Moz Ag.

In March 2024, the company updated this resource to include sulphur, which enables the production of a pyrite concentrate. The updated resource includes 484,000 tonnes of sulphur.

The PFS, managed by COMO Engineers, was completed in April 2024. The PFS highlights a technically and financially robust project based on treating 1.0 Mtpa ore using standard crushing, grinding and flotation circuits to produce three concentrates being copper-gold, zinc-silver, and pyrite-gold.

Strong financials

The project boasts:

- A pre-tax NPV₈ of A\$373m and an IRR of 54%
- Total EBITDA (and pre-tax income) of A\$828m over a mine life of 10.4 years, equivalent to an average EBITDA of A\$79.6m pa
- Accumulated EBITDA of an estimated A\$341m in the first three years of operations as the project benefits from higher metals grades in the early years
- High EBITDA margins averaging 50% over the life of the project and 55% in the first three years of operations
- Total production of approximately 105,000 tonnes CuEq over the life of the project, including some 40,000 tonnes CuEq in the first three years of operations
- Low upfront capital costs of A\$191.9m, representing a capital intensity over life of mine production of just A\$1,830/t CuEq (US\$1,153/t CuEq)
- Low operating costs; plant operating costs are estimated at A\$32.86/t of ore treated and life of mine C1 costs are estimated at just US\$2.14/lb CuEq
- A payback period of less than two years

Figure 4: Key project parameters

Production parameters		
Mill throughput	Tonnes 000s pa	1,000
Life of mine	Years	10.4
Ore mined and processed	Tonnes 000s	10.39
Cu grade	%	0.63
Au grade	g/t	0.48
Ag grade	g/t	5.4
Zn grade	%	0.29
Pyrite mass pull	%	5.6
Contained metal		
Copper	Tonnes 000s	65.3
Gold	oz 000s	160
Silver	oz 000s	1,821
Zinc	Tonnes 000s	30.6
Pyrite	Tonnes 000s	583
Metal recovered for sale		
Copper	Tonnes 000s	62.9
Gold	oz 000s	130
Silver	oz 000s	1,612
Zinc	Tonnes 000s	28
Pyrite, sulphur, iron	Tonnes 000s	583
Metallurgical recovery		
Copper	%	96.4
Gold	%	81.1
Silver	%	88.5
Zinc	%	91.7
Pyrite, sulphur, iron	%	62.0
Financial parameters		
Mining and processing	A\$ m, life of mine	649.2
Treatment and refining	A\$ m, life of mine	35.1
Concentrate transportation	A\$ m, life of mine	12.6
General and admin	A\$ m, life of mine	40.0
Royalties	A\$ m, life of mine	72.3
C1 cost (CuEq)	US\$/lb	2.14
Initial capital costs	A\$ m	191.9
Plant operating costs	A\$/t	32.85
Revenues	A\$ m, life of mine	1,639
Pre-tax cash flows	A\$ m, life of mine	827.7
Cumulative cash flow	A\$ m, life of mine	635.8
NPV ₈ , pre-tax	A\$ m	373.4
IRR	%	54
Payback period	Year	1.84
Metal price assumptions		
Copper	US\$/t	9,850
Gold	US\$/oz	2,350
Silver	US\$/oz	28
Zinc	US\$/t	2,850
Pyrite, sulphur, iron	US\$/t	200
Fx rate, AUD:USD		0.63

Source: QMines

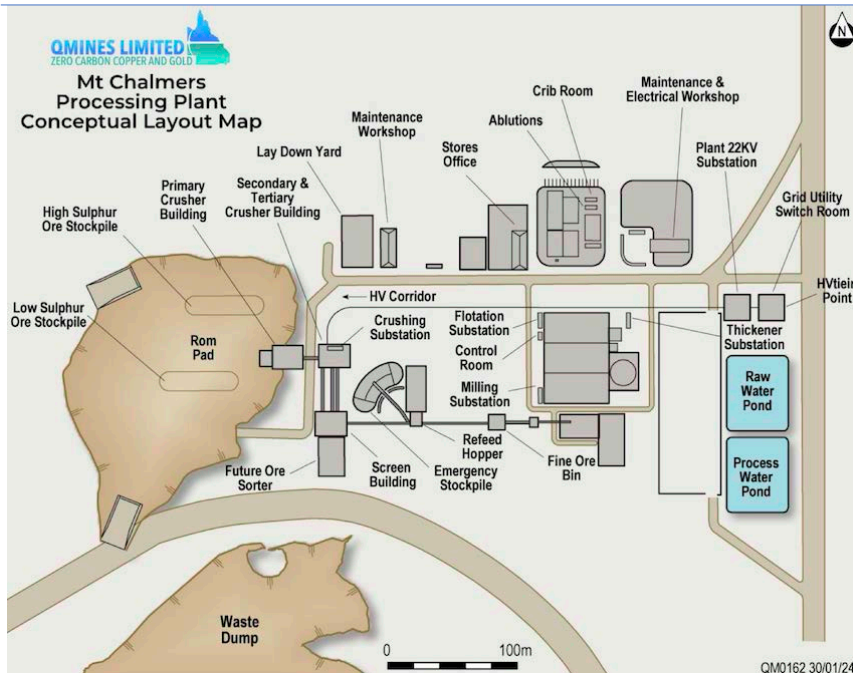
Low capex costs

The Mt Chalmers project is expected to benefit from low upfront capital costs of A\$191.9m. This is considered relatively low for a project of this scale. Capital intensity is considered likely to head lower still as the project is developed and other deposits are brought into the mine plan.

This low capex reflects a number of key advantages including

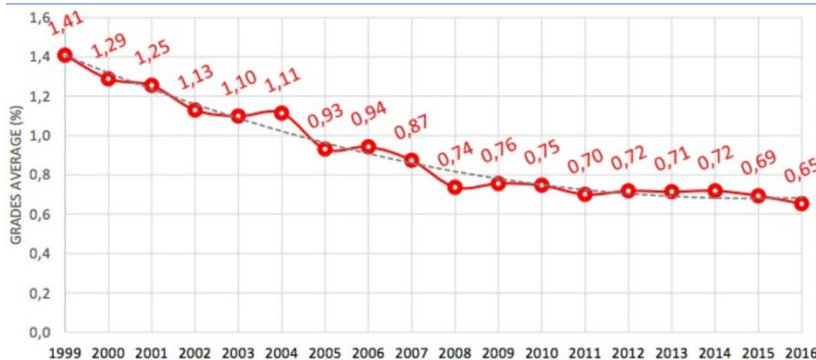
- Rockhampton is an established mining centre
- Excellent infrastructure; there are existing roads to the mine gate, grid power is available, there is no need for onsite staff quarters, and management believes there is sufficient water available, both from the existing pits and rain water, for processing
- The use of standard mining and processing equipment
- The project benefits from higher grades than those of many new copper projects
- Open-pit mining

Figure 5: Mt Chalmers conceptual project treatment plant design and site layout



Source: QMiner

Figure 6: Average mined copper grades, Chile, 1996-2016



Source: Cochilco

One of the biggest issues facing the copper industry is that ore grades are declining. In Chile, the world largest copper producing country, ore grades have more than halved in the past two decades from 1.41% copper in 1996 to 0.65% copper in 2016. In addition to lower ore grades, new projects are often located in more remote areas with less developed infrastructure.

Mining pits

QMines plans a three-stage open pit design that incorporates some 10.4Mt of Measured and Indicated Mineral Resources (approximately 91%) and Inferred Mineral Resources (approximately 9%). It is understood that the Inferred material is mostly situated beneath the current pit and has had less drilling than other areas. This material is expected to be upgraded to Measured and Indicated prior to mining commencing. The open-pit mine has an estimated depth of 220m.

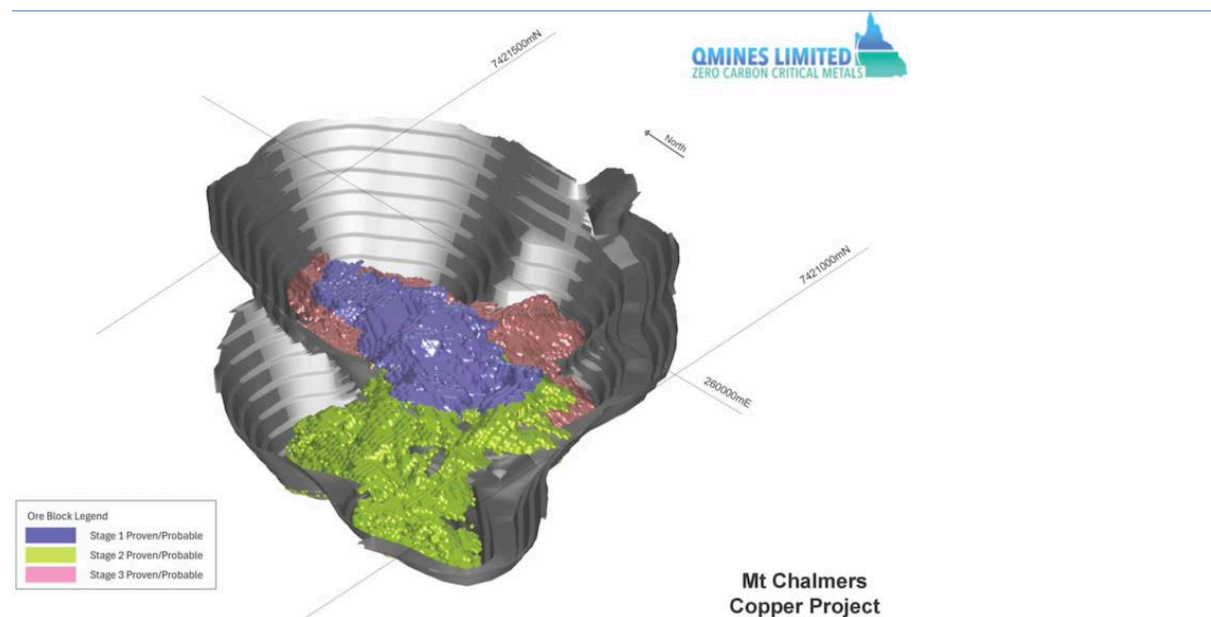
The three-stage design allows QMines to benefit greatly from mining relatively high grade material in the early part of the mine life, boosting the value of the project. **Stage 1, which comprises 3.4Mt, boasts grades of 0.91% Cu and 0.76 g/t Au.** It is this material that is expected to give rise to estimated cumulative EBITDA of A\$341m in the first three years of operations. Stage 2 comprises 1.9Mt, and Stage 3 a further 5.1Mt.

Figure 7: Mt Chalmers open pit designs

Mt Chalmers Open Pit Design	Production Target, Mt Chalmers Project						
	Volume	Tonnes	Cu Grade	Zn Grade	Au Grade	Ag Grade	S Grade
	(BCM)	(t)	(%)	(%)	(g/t)	(g/t)	(%)
Stage 1	1,020,318	3,364,715	0.91	0.24	0.76	6.3	5.3
Stage 2	586,630	1,929,355	0.45	0.52	0.48	7.0	4.6
Stage 3	1,615,102	5,115,931	0.50	0.25	0.27	4.3	3.6
Total	3,222,050	10,410,001	0.65	0.28	0.49	5.4	4.3

Source: QMines

Figure 8: Isometric view of the three-stage open pit



Source: QMines

Ore reserves

QMines has declared a maiden Ore Reserve of 9.6Mt at 0.63% Cu, 0.29% Zn, 0.48 g/t Au, 5.5 g/t Ag and 4.3% S (sulphur). The Ore Reserve contains 62,600 tonnes Cu, 25,700 tonnes Zn, 147,600 oz Au, 1,553,500 oz Ag, and 418,300 t S.

Figure 9: Mt Chalmers Ore Reserve Estimate

Mt Chalmers Open Pit Design	Ore Reserve Estimate							
	Ore Volume	Ore Tonnes	Waste Volume	Cu Grade	Zn Grade	Au Grade	Ag Grade	S Grade
	(BCM)	(t)	(BCM)	(%)	(%)	(g/t)	(g/t)	(%)
Stage 1	961,938	3,162,457	5,919,793	0.91	0.24	0.76	6.3	5.3
Stage 2	534,062	1,755,404	3,669,324	0.45	0.52	0.48	7.0	4.6
Stage 3	1,471,712	4,655,128	9,696,683	0.50	0.25	0.29	4.3	3.6
Total:	2,967,711	9,572,990	19,285,800	0.63	0.29	0.48	5.5	4.3

Source: QMines

Figure 10: Mt Chalmers Ore Reserve Estimate, Proved and Probable categories and contained metals and sulphur

Reserve Category	Tonnes (Mt)	Cu (t)	Cu Grade (%)	Zn (t)	Zn Grade (%)	Au (oz)	Au Grade (g/t)	Ag (oz)	Ag Grade (g/t)	S (t)	S Grade (%)
Proved	5.1	37,000	0.72	12,700	0.25	95,000	0.58	763,000	4.7	246,000	4.8
Probable	4.5	25,600	0.57	13,000	0.29	52,600	0.37	790,500	5.5	172,300	3.6
Total:	9.6	62,600	0.65	25,700	0.27	147,600	0.48	1,553,500	5.2	418,300	4.3

Source: QMines

Concentrates production

The Mt Chalmers project is expected to produce three concentrates. The copper concentrate will be marketed to third parties. The zinc and pyrite concentrates are expected to be processed through a carbon-in-leach (CIL) circuit to extract gold and silver before being marketed to third parties.

Some 96.4% of the copper, 81.1% of the gold and 88.5% of the silver will be recovered to these initial concentrates. Estimated metals reporting to the copper concentrate include 88.8% of the copper and 47.5% of the gold. The project is expected to generate some 582,000 tonnes of pyrite concentrates with an average grade of 5.6% pyrite. A further 21.2% of the gold, and 20.8% of the silver, is expected to report to the pyrite concentrate.

Figure 11: Estimated recoveries to the three concentrates

Recoveries to concentrates	Copper %	Zinc %	Gold %	Silver %
Copper concentrate	88.8	7.9	47.5	53.6
Zinc concentrate	3.6	81.3	12.4	14.1
Pyrite concentrate	4.0		21.2	20.8
Total recoveries to initial concentrates	96.4	89.2	81.1	88.5

Source: QMines

Of these amounts, QMines initial testing indicates that 71.3% of the gold and silver in the zinc concentrates, and 79.6% of the gold and silver in the pyrite concentrates, can be extracted through a CIL circuit to produce a gold-silver doré containing some 41,000 oz gold and 484,000 oz silver over the life of the mine. Overall, some 66% of the saleable gold and 62% of the saleable silver will be recovered to concentrates, the remaining being sold as doré.

Payability

QMines is expected to deliver concentrates to third parties who will process the material to recover the metals components. The payability is the portion of the contained metals delivered that QMines will be paid for. This is subject to negotiation between QMines and a purchaser.

The copper concentrate is assumed to attract payabilities of 93.3% for copper, 95% for gold and 90% for silver. The zinc concentrate is assumed to attract payabilities of 85% for the zinc, 71% for gold and 70% for silver. Payabilities in the pyrite concentrate are estimated at 100% for pyrite and 80% for gold. The pyrite concentrate is expected to be a ‘clean’ concentrate suitable for further processing for the sulphur, a key element used in the production of sulphuric acid.

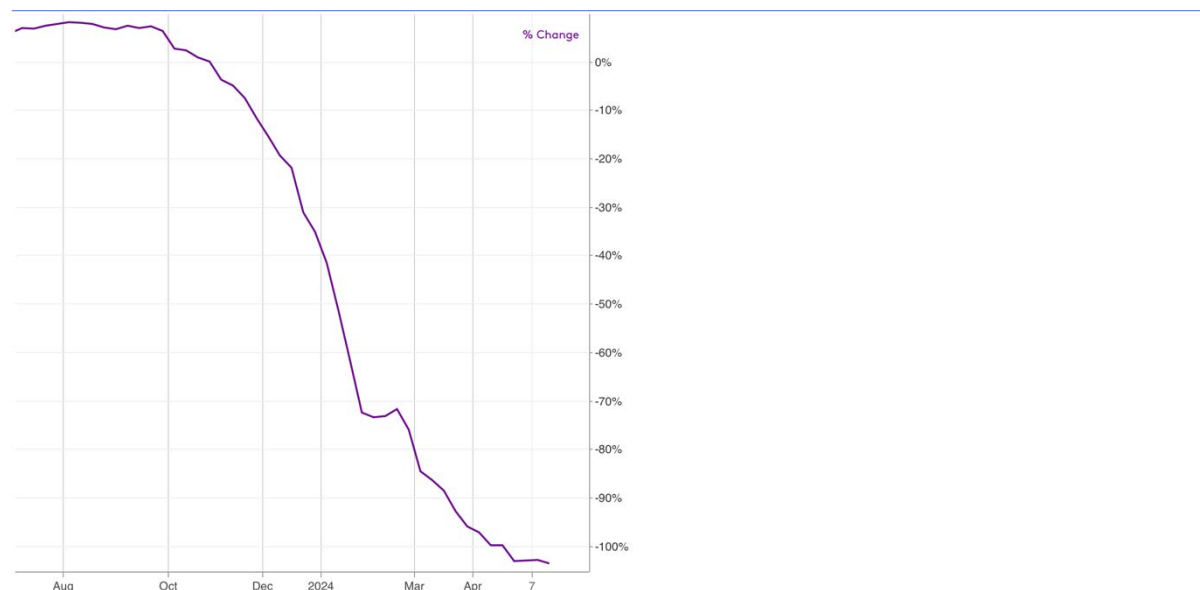
Treatment and refining charges

Treatment charges (TC) and refining charges (RC) are discounts to an exchange’s quoted metals prices that represent payments to smelters for processing the concentrates into refined metal. In November 2023, Chilean copper producer Antofagasta and China’s Jinchuan Group agreed a benchmark copper ‘TC/RC’ for 2024 of US\$80/t of concentrate and US\$0.08/lb of copper produced.

When the supply of concentrates is tight, smelters typically compete for material to refine by lowering these TC/RCS. In fact, treatment charges for copper reached a level of just US\$11.20/t of concentrate in March 2024, the lowest level since June 2013. This is important because copper concentrates are the primary source of revenue, representing approximately 65% of revenues over the life of the project.

The PFS is based on the following assumptions: treatment charges of US\$40/dmt and US\$0.04/lb payable copper, representing a significant premium to current market prices, refining charges of US\$5/oz gold and US\$0.5/oz silver, and zinc concentrate treatment charges of US\$159/t.

Figure 12: Copper concentrates TC index, cif Asia Pacific, \$/tonne



Source: Fastmarkets

Environmental

The Mt Chalmers project has several environmental advantages.

The project is not expected to draw water from any aquifers, and no water is expected to be discharged from site. Management believes that the water contained in the existing mining pits, and annual rainfall are sufficient for project purposes.

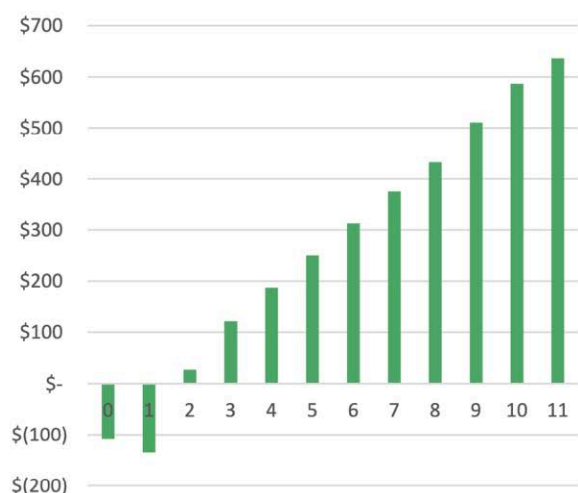
Recent metallurgical testing has examined the extraction of pyrite from the tailings. This is important because the sulphur in pyrite is acid forming, and because the pyrite is valuable. The tailings are expected to have less than 1% pyrite.

QMines plans to house the plant in sheds to reduce dust and noise transfer. Management is also examining the use of electric trucks and other mining equipment. Notably the project is already classified as carbon neutral by Climate Advice, a group backed by the Australian Government.

The project is expected to employ a simple flotation circuit.

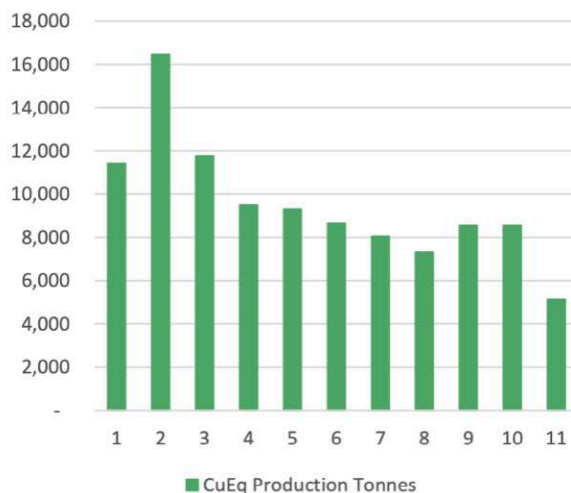
Further, Mt Chalmers is a former mine site. The mine operated as an open pit and underground mine between 1898 and 1982.

Figure 13: Cumulative free cash flow, A\$ m



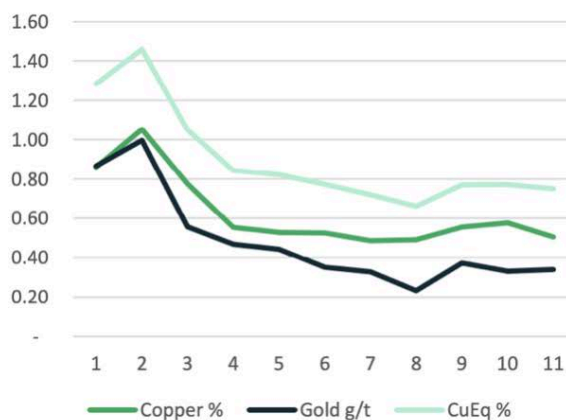
Source: QMiner

Figure 14: Annual production, copper equivalent



Source: QMiner

Figure 15: Life of mine ore grades



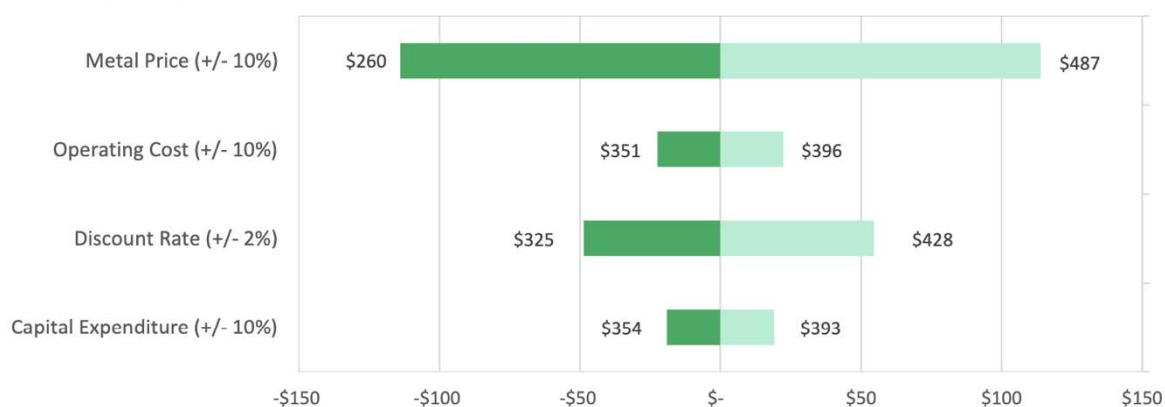
Source: QMiner

Figure 16: Annual cash costs versus spot price



Source: QMiner

Figure 17: Sensitivity analysis



Source: QMiner

Post-PFS workstreams

Now that the PFS has been released, management are expected to focus on further drilling at a number of targets, and to continue metallurgical test work. Notably, Mt Chalmers remains open along strike and down plunge suggesting additional material may be brought into the mine plan. Furthermore, the PFS does not factor in any contribution from the Sulphide City and Scorpion deposits at Develin Creek, the other deposits around Mt Chalmers (Woods Shaft is located 700m to the southwest), the new base metals discovery at Artillery Road, nor potential upside from the further processing of concentrates.

Taking the existing resources at Develin Creek and Woods Shaft, and the exploration targets at Botos and Mt Warminster, there is potentially 6.7Mt to 8.0Mt of material not included in the PFS. **This suggests there is excellent potential to further grow the size of the project.**

Figure 18: QMiner's Resources not included in the PFS mine plan, and exploration targets

Project	Stage	Tonnes Mt	Cu %	Au g/t	Zn %	Ag g/t
Develin Creek		3.15	1.1	0.2	1.3	5.7
Sulphide City	Indicated/Inferred	1.93	1.1	0.2	1.4	6.2
Scorpion	Indicated/Inferred	1.22	1.1	0.2	0.7	4.9
Mt Chalmers		3.54 – 4.84				
Woods Shaft	Inferred	0.54	0.5	1.0		
Botos	Exploration target	1.50 – 2.50	0.1 – 0.2	0.5 – 0.8	1.1 – 1.4	
Mt Warminster	Exploration target	1.50 – 1.80	0.1 – 0.2		0.5 – 0.7	
Total		6.7 – 8.0				

Source: QMiner

In addition to the above, QMiner announced, April 2023, that a VTEM Max survey flown over the Mt Chalmers area, comprising 1,814 line-km at 100m spacings, had identified 40 electromagnetic anomalies. So far, only four of these have been drilled. **Three are at Artillery Road where QMiner has made a potentially substantial discovery.** Drilling at a fourth anomaly, VT04, did not return compelling results. Tracker 1 looks interesting with the discovery of malachite and azurite bearing gossans returning results as high as 30.04% copper in pXRF, and electromagnetic anomalies that are consistent with historical copper soil anomalies and mapped structures.

In addition to drilling, another key work stream will be continued metallurgical test work, especially around extracting further precious metals from the zinc concentrates as discussed below.

Develin Creek

QMiner's 31 January announcement included a pit optimisation study for Develin Creek. It is based upon approximately 1Mt of material, in an open pit down to 150m depth with a strip ratio of 11.7:1. The company has said the Develin Creek optimisation "will not form part of the Mt Chalmers planned mining schedule until the final metallurgical test work has been completed and recovery to concentrates has been estimated". The company also said Develin Creek has the potential to extend the project by an initial 12 months, though it seems there is further growth potential that will require additional drilling.

Valuable blending material

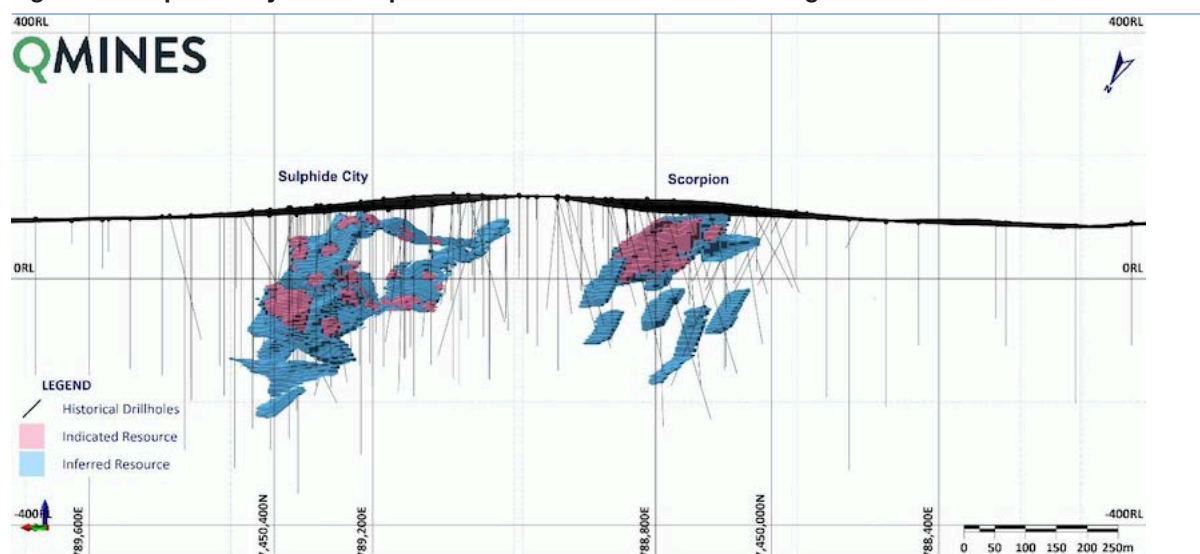
One of the key aspects of Develin Creek is that the mineralisation is all VMS. This contrasts with Mt Chalmers which is approximately 30% VMS and 70% stringer material, with the VMS essentially situated on top of the stringer material. Develin Creek has higher grades than Mt Chalmers. Although the material would have to be trucked, this may mean the Develin Creek mineralisation could be better used as a blending material. This could help QMines achieve a more consistent saleable concentrate as preferred by buyers. In that instance, development at Develin Creek could start some years into mining at Mt Chalmers.

The next stages are to conduct further drilling, both to expand and improve the quality of the resource, and to conduct metallurgical testing. Subsequently, QMines will be able to properly integrate Develin Creek into a combined mine plan. This is expected to be concluded with the DFS, probably sometime in 2025.

Develin Creek hosts two main ore bodies, Sulphide City and Scorpion. The orebodies are close together. Looking at the geometry, one option maybe to access the mineralisation at Scorpion by using a drive from the proposed open pit at Sulphide City, mining Scorpion from underground.

Develin Creeks hosts a current resource of 3.2Mt at 1.61% CuEq.

Figure 19: Sulphide City and Scorpion Resource block models showing Indicated and Inferred Resources



Source: QMines

Woods Shaft

Woods Shaft is located 700m southwest of Mt Chalmers and is at the same stratigraphic horizon being the middle of the rhyolite-shale series within the Chalmers Formation. It comprises an intense iron-barite alteration zone, developed within interbedded chert, slate and jasper. The sequence has been intruded by an antiformal dolerite sill, as well as a magnetic diorite plug. Woods Shaft is a gold/copper dominant VHMS deposit with geology that is similar to the Main Lode at Mt Chalmers, though historical drilling results suggest Woods Shaft is more gold dominant.

Drilling has defined mineralisation 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.

In November 2022, QMines announced a maiden Inferred Mineral Resource of 540kt at 0.5% Cu and 0.95 g/t Au for 2,700 tonnes Cu and 16,440 oz Au.

Figure 20: Woods Shaft Resource showing the Stringer and Massive Sulphide zones



Source: QMines

Figure 21: Mineral Resource Estimate for the Woods Shaft Deposit at different cut-offs, November 2022

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

Source: QMines

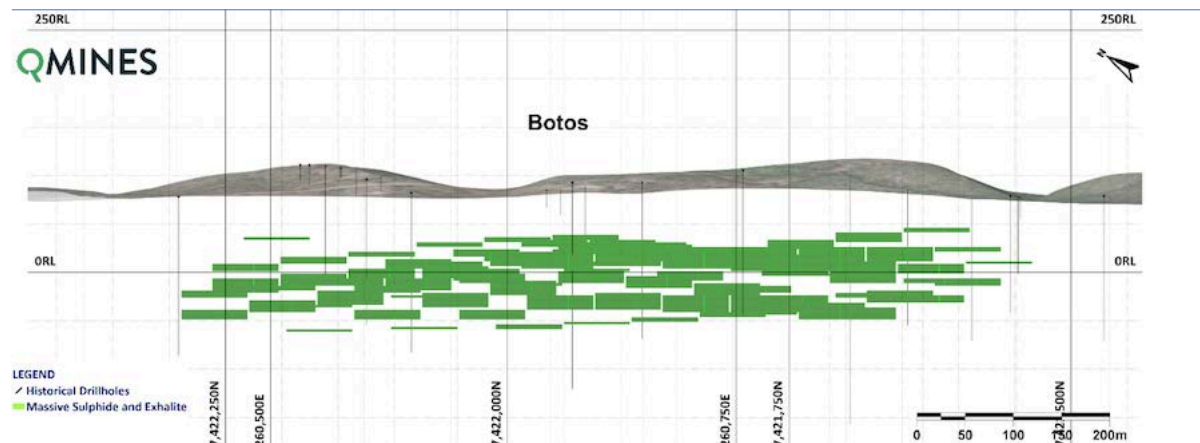
Botos

Botos is located 1km northeast of Mt Chalmers and is the same stratigraphic position, in the middle of a rhyolite-shale series within the Chalmers Formation, but on the eastern limb of a north-northwest trending syncline. It is characterised by extensive sericitic alteration. Geopeko Ltd drilled the area targeting copper-lead-gold soil anomalies. Notably, percussion hole **PDH13** intersected 21m at 0.9 g/t Au, 0.2% Cu, 63 g/t Ag, 2.8% Zn and 1.4% Pb. **Botos is also a highly prospective target with further drilling both warranted and highly anticipated.**

Exploration target

At the time of the IPO, QMines had identified 42 percussion, RC and diamond drill holes at Botos that were drilled by Geopeko for a total of 5,469m. The target is flat-lying, has a strike length of 750m, is 200m wide, with a thickness that varies from 4m to 10m. The 3D geological interpretation is based on 200m spaced sections. The target remains open along strike. **The exploration target is 1.5-2.5Mt at 0.5-0.8 g/t Au, 1.1-1.4% Zn, 0.5-0.7% Pb, 0.1-0.2% Cu and 30-50 g/t Ag.**

Figure 22: Botos exploration target

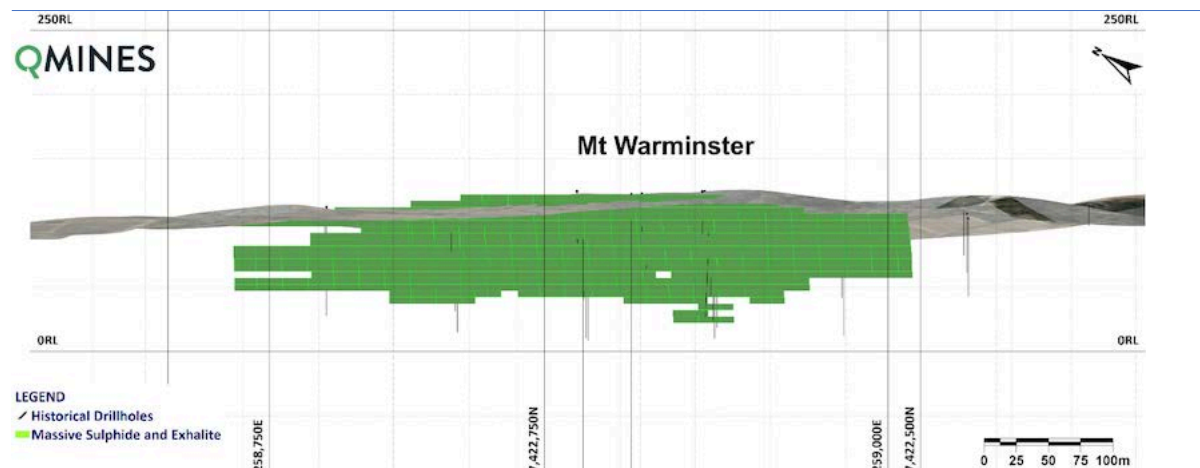


Source: QMines

Mt Warminster

Mt Warminster is a polymetallic prospect located about 2km northwest of the Mt Chalmers mine. The area between Mt Chalmers and Mt Warminster demonstrates silicification and has an associated magnetic anomaly, and anomalous lead-zinc soil geochemistry results. Historical drilling by Geopeko indicated that mineralisation is centred around the historical workings. Based on historical drilling of 59 holes (mainly Geopeko) for a total of 3,194m, the deposit has a strike length of 500m, measures 120m to 350m wide, and is 6m to 40m thick.

Figure 23 Long section showing the Mt Warminster Exploration Target block model



Source: QMines

Exploration target

The JORC 2012 compliant exploration target at Mt Warminster has a strike length of 500m, is 120m to 350m wide, and is 6m to 40m thick. It is based on 50m spaced sections and a cut-off of 1% zinc equivalent. **The target is 1.5-1.8Mt at 0.5-0.7% Zn, 0.1-0.2% Cu, 0.25-0.35% Pb and 8-12 g/t Ag.**

Artillery Road

In September 2023, QMines announced that a maiden 13 drill hole program for 2,373m conducted at Artillery Road had intersected a large sulphide bearing zone. All drill holes intersected mineralisation. The zone, up to 25m wide, 700m long and 250m deep, remains open along strike and at depth. Mapping shows mineralisation over an area of 1.4km by 450m. Significant drill intersections, announced in November, include:

ARRC002: 1.0m at 1.02% CuEq from 105m

ARRC005: 12m at 0.41% CuEq from 34m, including 2m at 1.46% CuEq from 44m

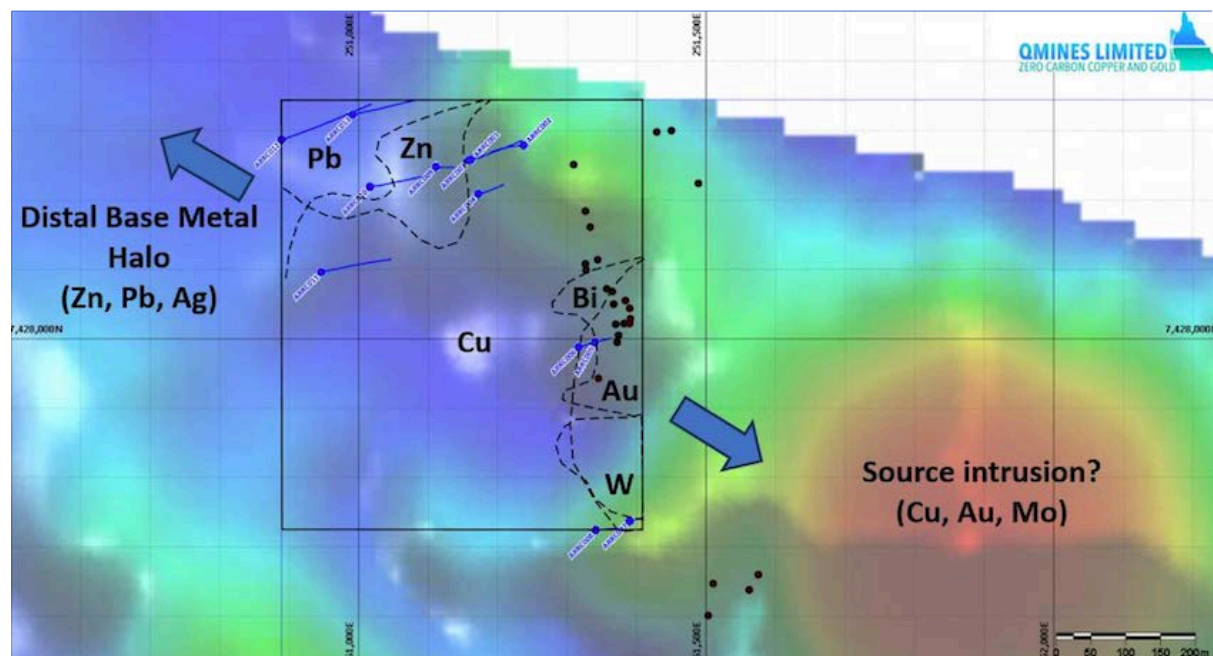
ARRC010: 23m at 0.56% CuEq from 205m, including 5m at 0.82% CuEq from 223m

ARRC013: 15m at 1.01% CuEq from 29m, including 5m at 1.46% CuEq from 220m

The initial drill holes, ARRC001 to ARRC008, targeted strong VTEM plate conductors and intersected low-grade copper mineralisation within the discovery skarn. Typical intercepts, such as 10m at 0.15% CuEq in hole ARRC007, demonstrated low-grade background copper over a strike length of 600m. Hole ARRC0009 returned visible sphalerite, and effectively refocused the drilling further west.

At this stage, Artillery Road appears to demonstrate the metal zoning of a typical skarn model, with elevated zinc and lead in the northwest distal to an interpreted intrusion (Figure 25), and bismuth (Bi) and tungsten (W) to the southeast. Copper appears widespread in the central area. The best gold results achieved so far are in the southeast, closest to the interpreted intrusion, and coincident with Bi and W.

Figure 24: Drillhole geochemistry map area over QMines' RTP aeromagnetics, and gossans

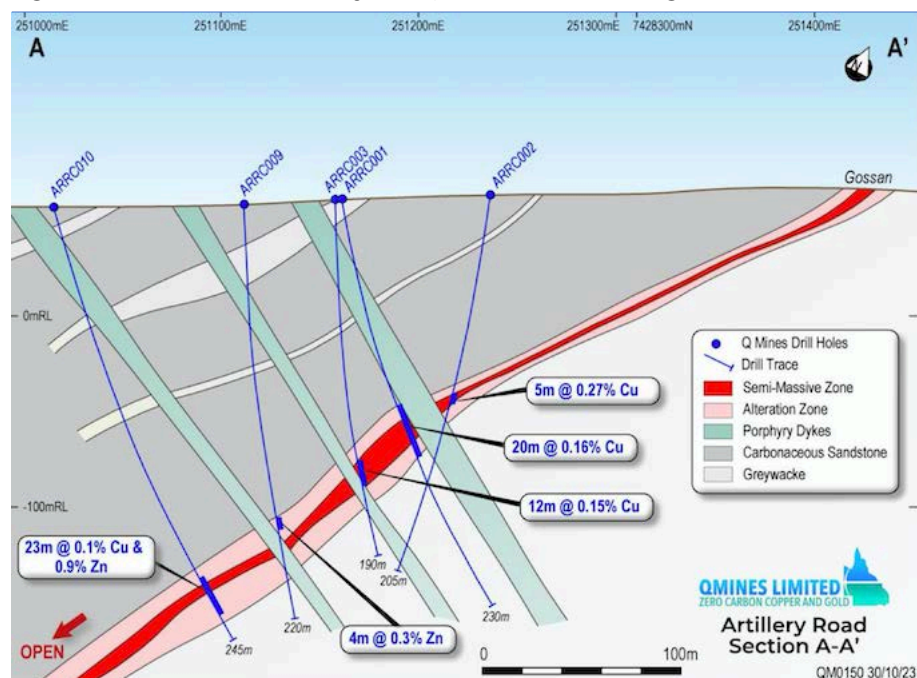


Source: QMines

Management notes that a large magnetic body to the southeast of the drilling is evident in the aeromagnetic data. This is interpreted to be a fertile intrusion and potentially, the source of the mineralising fluids, and is a target for exploration drilling.

One advantage of Artillery Road is that it is only 10-12km from Mt Chalmers. It will require substantial drilling, but ultimately, if QMiner is successful in developing a major resource, this could either supplement material from Develin Creek for blending or justify a larger plant.

Figure 25: Section A-A' Artillery Road, first round of drilling 2023



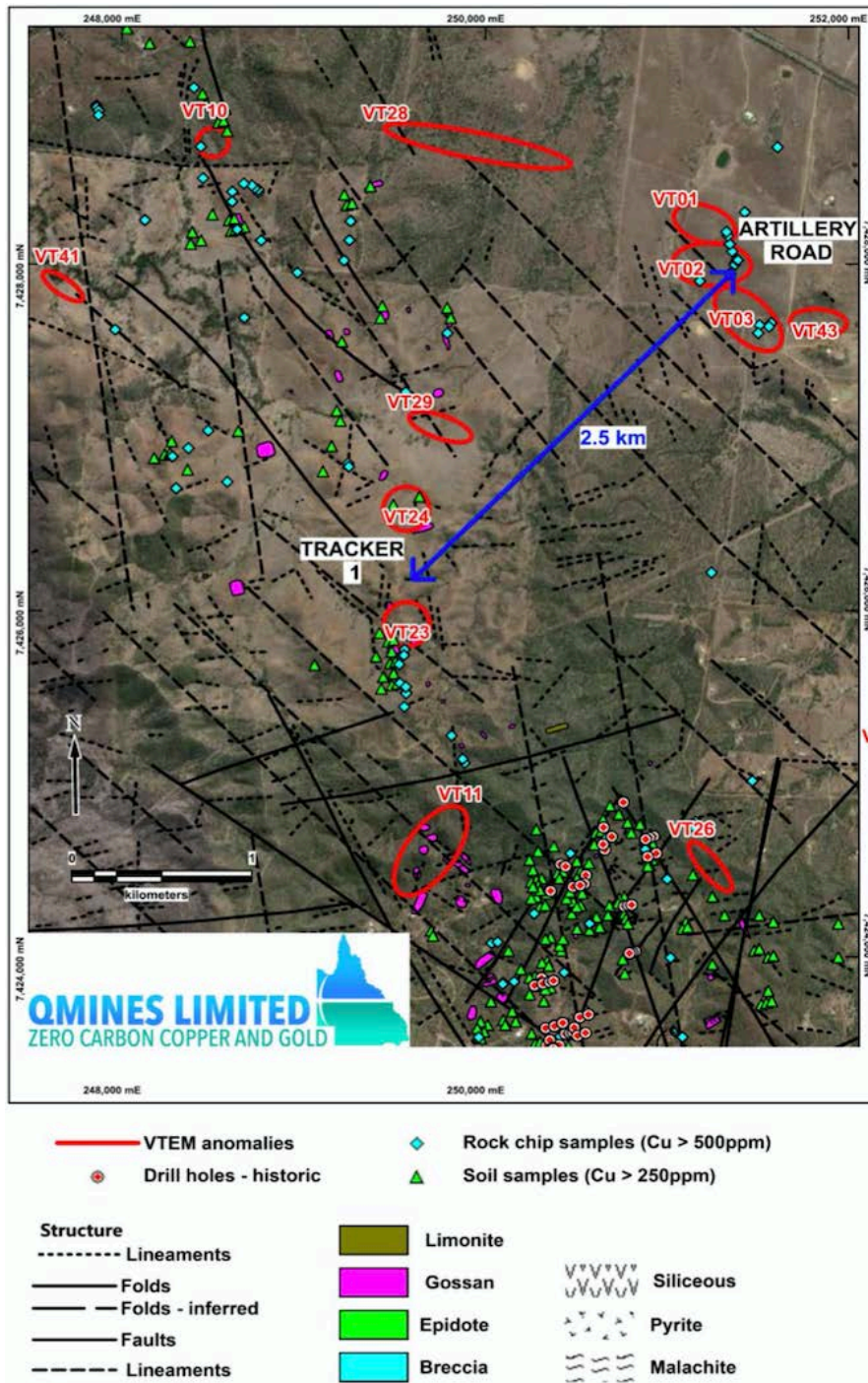
Source: QMiner

Tracker 1

Tracker 1 is located some 2.5km southwest of Artillery Road. It was identified as a series of VTEM anomalies in the survey flown in February 2023. In May 2023, during follow-up field assessments, aimed at prioritising drill targets, QMiner identified previously unrecorded historical prospecting pits with azurite and malachite bearing weathered gossan and breccia. Rock chip samples from the gossan assayed up to 2.67% Cu.

Tracker 1 is a large prospect area that demonstrates a number of mineralised zones. The most prospective area identified to date, VT23, hosts a copper-bearing stringer zone and outcropping gossan with a consistent copper-in-soil envelope over a strike length of more than 300m. Management has said the north-south trending zone resembles the sulphide stringer zone that underlies the Volcanic Massive Sulphide (VMS) zone at Mt Chalmers. **It is regarded as a priority target for further exploration.**

Figure 26: VTEM anomalies (red ovals), aerial image, faults and rock chip samples at Tracker 1



Source: QMines

Sulphur

Pyrite production from Mt Chalmers, as modelled, is expected to be 496,000 tonnes over the project life. Yet, no pyrite potential has yet been factored in from Develin Creek. Develin Creek is a VMS deposit and is considered highly likely to host pyrite and sulphur. If so, there may be an opportunity for further downstream processing of the Mt Chalmers and Develin Creek pyrite to produce sulphuric acid. This is something to be examined ahead of the DFS.

Metallurgical test work

Metallurgical test work programs are expected to focus on finessing the concentrates expected to be produced at Mt Chalmers, the details of which were included in the 31 January announcement.

Figure 27: metallurgical recoveries achieved for the three Mt Chalmers concentrates

Concentrate	Mass	Copper		Lead		Zinc		Sulphur		Iron		Silver		Gold		Cyanide
		%	%	% dist	%	% dist	%	% dist	%	% dist	%	% dist	ppm	% dist	ppm	% dist
Copper	2.74	26.0	88.8	11.1	78.1	3.21	7.86	32.9	14.9	25.9	10.7	149.7	53.6	26.1	47.5	35.7
Zinc	1.88	1.53	3.58	1.24	5.99	48.5	81.3	35.2	10.9	9.92	2.81	57.5	14.1	9.98	12.4	71.3
Pyrite	11.11	0.25	3.98	0.21	6.58	0.27	2.47	32.1	61.95	29.7	51.82	13.6	20.76	2.13	21.24	79.6
Tails	84.27	0.03	3.62	0.04	9.30	0.12	8.39	0.84	12.30	2.62	34.63	1.00	11.58	0.25	18.88	Untested
Reconstituted Feed	100.0	0.80	100.0	0.39	100.0	1.16	100.0	31.82	100.0	23.05	100.0	53.04	100.0	6.32	100.0	42.7

Source: QMines, 31 January 2024

The copper concentrate is expected to contain 26% Cu, 26.1 g/t Au and 149.7 g/t Ag. Gold and silver in copper concentrates are highly valued and attract high payabilities. This is not usually the case with zinc concentrates. At Mt Chalmers, the zinc concentrate is expected to contain 9.98 g/t Au. Further metallurgical test work, undertaken for the DFS, may focus partly on reducing this gold content in the zinc concentrates.

Appendix: Mineral Resources

Figure 28: Mineral resource Estimate including Sulphur

	CUT-OFF	VOLUME	SUMMARY	Copper	Lead	Zinc	Gold	Silver	Sulphur *
	(Cu %)	Cubic Metres	Tonnes	(Cu %)	(Pb %)	(Zn %)	(Au g/t)	(Ag g/t)	(S %)
Measured	0.15	1,955,115	6,254,960	0.672	0.099	0.247	0.516	4.379	4.802
	0.20	1,697,766	5,438,196	0.747	0.096	0.235	0.571	4.539	4.995
	0.30	1,312,671	4,212,846	0.893	0.092	0.230	0.686	4.928	5.372
	0.40	1,051,346	3,379,094	1.028	0.088	0.228	0.793	5.254	5.693
	0.50	869,130	2,796,250	1.149	0.086	0.226	0.893	5.508	5.980
	0.60	726,734	2,338,925	1.267	0.081	0.221	0.987	5.668	6.249
Indicated	0.15	3,157,048	10,009,032	0.487	0.068	0.184	0.215	3.720	3.457
	0.20	2,594,918	8,249,032	0.554	0.070	0.192	0.234	3.870	3.567
	0.30	1,813,575	5,786,122	0.686	0.074	0.206	0.276	4.141	3.777
	0.40	1,316,866	4,213,915	0.812	0.076	0.210	0.318	4.363	3.960
	0.50	967,711	3,109,037	0.942	0.078	0.212	0.360	4.689	4.144
	0.60	728,419	2,346,093	1.071	0.081	0.217	0.401	4.995	4.333
Inferred	0.15	915,709	2,939,491	0.384	0.120	0.250	0.170	4.683	3.133
	0.20	677,200	2,179,463	0.458	0.129	0.269	0.178	5.058	3.132
	0.30	399,213	1,284,591	0.608	0.135	0.281	0.188	5.591	3.029
	0.40	274,293	882,796	0.726	0.150	0.311	0.204	6.109	2.985
	0.50	202,231	649,670	0.826	0.150	0.308	0.208	6.074	2.929
	0.60	148,082	475,235	0.927	0.158	0.325	0.209	6.264	2.886
Total	0.15	6,027,871	19,203,483	0.532	0.086	0.215	0.306	4.082	3.846
	0.20	4,969,883	15,866,691	0.607	0.087	0.217	0.342	4.263	3.996
	0.30	3,525,459	11,283,560	0.754	0.088	0.223	0.419	4.600	4.287
	0.40	2,642,505	8,475,805	0.889	0.088	0.228	0.495	4.900	4.550
	0.50	2,039,072	6,554,957	1.019	0.088	0.227	0.572	5.176	4.807
	0.60	1,603,235	5,160,253	1.146	0.088	0.229	0.649	5.417	5.068
	0.70	1,278,621	4,122,828	1.273	0.088	0.230	0.734	5.661	5.343

*5 x 8 x 2.5m blocks within defined majority Cu wireframes above a nominal ~0.2% Cu cut-off and from surface down to - 240mRL.
 *No rounding used.

Source: QMines

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