CLA AU | **Mining & Metals**

Source: Bloomberg

Market data

Price (A$)	0.02
Valuation (A$)	0.12
12m High (A$)	0.05
12m Low (A$)	0.02
Shares (m)	1,221
Mkt Cap (A$ m)	24.4

Company summary

Celsius owns a suite of highly prospective copper-gold properties in the Philippines. This includes the flagship MCB project, a high-grade porphyry deposit with a JORC compliant resource that Celsius is now advancing through feasibility study and permitting with a view to fast-tracking to production.

Management

Chairman	Martin Buckingham
Managing Director	Robert Gregory
Operations Director	Peter Hume

Analyst contact

Nick Chalmers
Email: nchalmers@altrescap.com
Tel: +44 (0) 20 7186 9003
Mob: +44 (0) 7559 910874

Broking contacts

Alex Wood
Email: awood@altrescap.com
Tel: +44 (0) 20 7186 9004
Mob: +44 (0) 7559 910872

Keith Dowsing
Email: kdowsing@altrescap.com
Tel: +44 (0) 20 7186 9005
Mob: +44 (0) 7559 910873

Celsius Resources*

Latest drilling points to further upside potential at MCB

Results from the latest completed drill hole on Celsius' flagship MCB copper-gold project in the Philippines confirm and extend several previously identified high-grade occurrences, including the presence of mineralisation near to surface. MCB's high-grade core was the focus of last year's positive scoping study, and these latest drill results strengthen our belief that there is potential for further enhancement to the mine plan envisaged in that study, which in turn could positively impact the already robust project economics. The MCB scoping study demonstrated the project's potential to be developed as a low-cost, long-life copper-gold operation for a capital outlay modest by the standards of porphyry projects globally. Indeed, the robust economics (C1 cash costs of well under US$1.00/lb copper over the first ten years, net of gold credits) could offer the potential for the project to be significantly debt levered – the US$253m estimated initial capital outlay would be recovered in under three years at commodity prices below current spot levels. Yet Celsius' market valuation languishes at a heavy discount to both NPV and market peers, most of whom have much more capital-intensive projects. Further positive drilling news and feasibility study and licensing progression over the coming months should act as catalysts to drive the shares towards a more sensible valuation, while anticipated metallurgical progress at the company's giant Opuwo cobalt resource in Namibia offers the prospect of further upside.

- **High-grade results keep on coming:** Hole MCB-037 intersected extensive copper mineralization from near surface to a depth extent of 529m, with almost the entire hole mineralised. The 548m hole intersected 0.55% Cu and 0.19g/t Au from 20m down hole, with multiple higher-grade sections, including: 16m at 1.02% Cu and 0.07g/t Au from 20m; 42m at 0.87% and 0.05g/t from 93m; and 150m at 0.86% and 0.47g/t from 360m.

- **Positive implications for mine plan and project economics:** The latest results confirm the presence of several high-grade areas that were a focus for the modelled early years of mining in the underground mine plan developed for last year's scoping study of MCB. However, the latest drilling also suggests that these positions may extend further than previously defined, and that near-surface mineralisation may be more widespread than thought. We think this could have positive implications for the mine plan and scheduling as engineering studies progress through full feasibility study. This in turn could enhance the already robust economics concluded by the scoping study, which demonstrated the potential for MCB to be developed as a 25-year, low-cost underground mining operation focused on exploiting the high-grade core of the porphyry deposit. The study called for average production of 16kt pa of copper and 19koz pa gold (contained in concentrate) over the full life-of-mine, and 22kt pa and 27koz pa of copper and gold respectively over the first ten years. Benefitting from forecast average copper grades of over 1% in the first decade, and anticipated high process copper recovery rates of 94%, C1 cash operating costs of just US$0.73/lb Cu (net of gold credits at US$1,695/oz) are believed possible over the first ten years (US$1.29/lb over the LOM).

- **Low capital intensity a key point of difference:** Such a low operating cost structure would drive strong cash flow in the mine's early years, with the estimated US$253m of initial capex (low compared with typical porphyry projects) repayable in under three years. We believe such robust economics, particularly over the first ten years, should assist future efforts to secure construction financing. At Celsius' base-case commodity price assumptions of US$4.00/lb Cu and US$1,695/oz Au, the study concluded pre- and post-tax $NPV_{8\%}$ estimates of US$618m and US$464m respectively, and a post-tax IRR of 31%. The latter is higher than the rates of return typically expected of porphyry projects, reflecting MCB's above-average copper grade (and thus potential for low-operating costs to be achieved at a more modest production scale than typically required by porphyries).

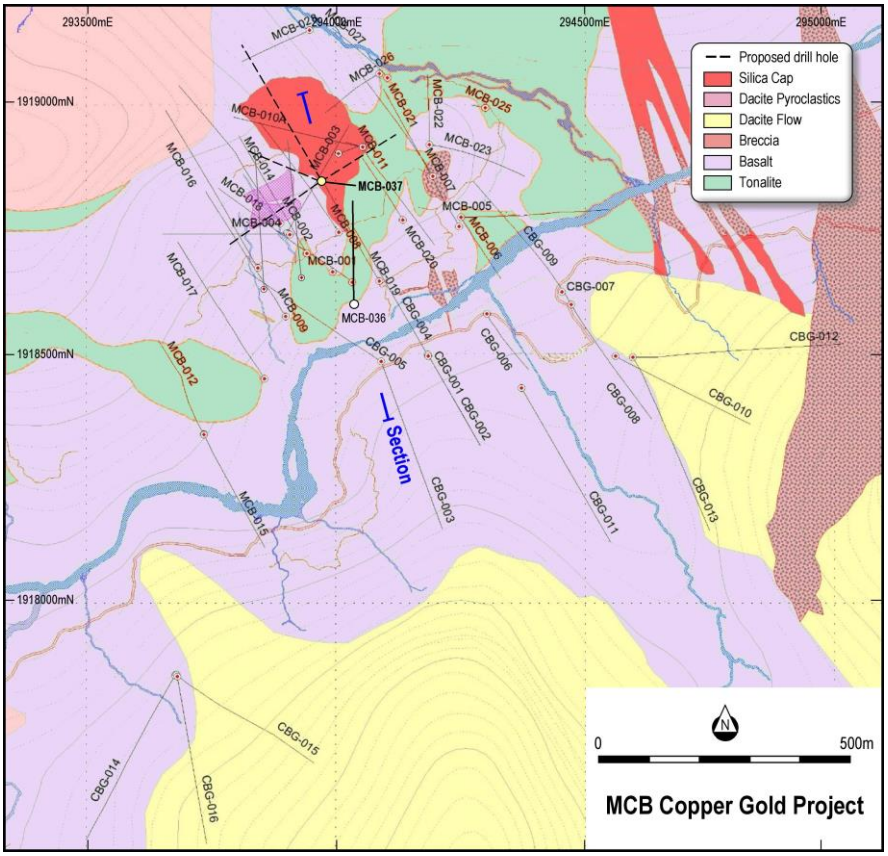
- **Valuation:** Our A$0.12/sh target – incorporating a heavily-risked NPV estimate of MCB at conservative metal price assumptions of US$3.50/lb Cu and $1,650/oz gold – is six times the company's current share price. The latter offers a bargain entry point to a porphyry story that is significantly differentiated from market peers given its low capital intensity (and therefore potential to be funded and developed independently), and which we estimate could generate EBITDA of cUS$140m pa once in production. With our un-risked NAV at A$0.36/sh, we see scope for even greater upside over the longer term.

MCB drilling update

Celsius has announced further positive results from the ongoing drilling programme at its flagship Maalinao-Caigutan-Biyog (MCB) copper-gold project in the Philippines that confirm the presence – and expand the extent – of several previously identified high-grade positions which are the focus of the early part of the proposed mine plan as defined in a recently completed project scoping study.

Hole MCB-037 (see Figure 1 for location) was drilled to test a hypothesis developed from earlier drilling that relatively shallow-lying high-grade mineralisation exists as near horizontal trends extending laterally into the surrounding host rocks away from a genetically-related tonalite intrusion (see Figure 3 for schematic cross-section).

Figure 1: MCB surface geology with localities of drill holes completed to date



Source: Celsius Resources

The resulting assay results from, and geological analysis of, the MCB-037 drill core has confirmed both the presence of near-surface mineralisation and multiple occurrences of relatively shallow-lying high-grade copper-gold mineralisation that appear to become thicker (and higher in gold content) with depth. Moreover, the latest assay results suggest that these high-grade zones extend further than previously defined.

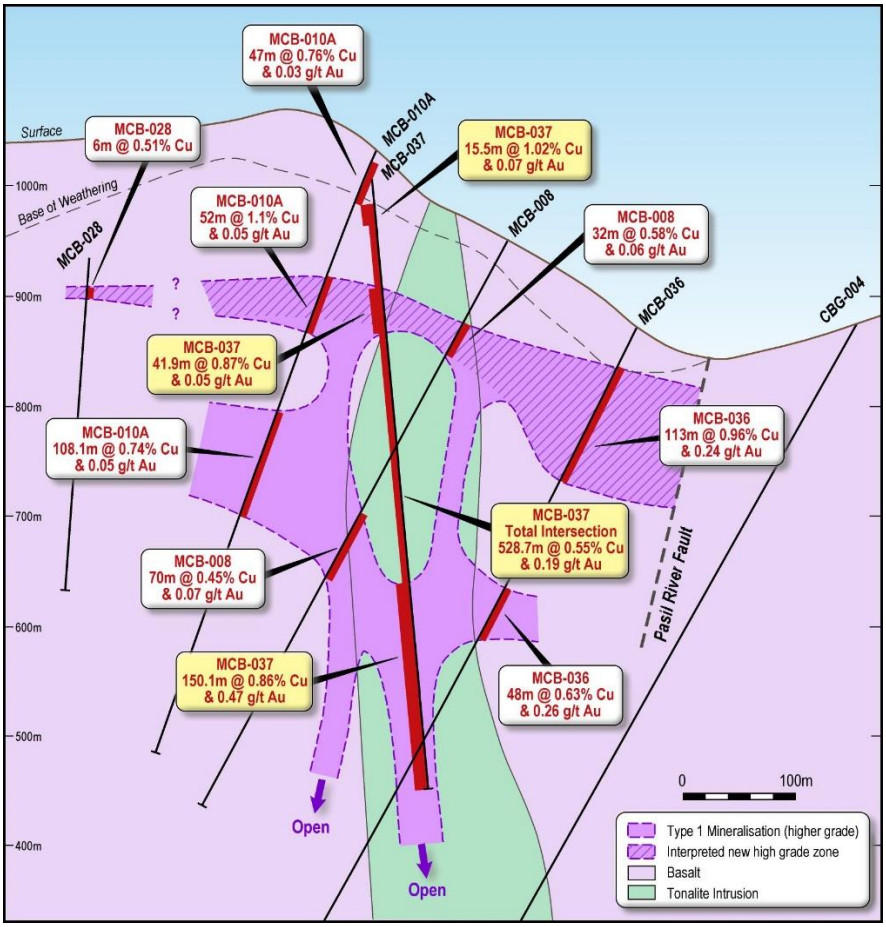
The broader interpreted envelope of the copper mineralisation is also now thought to be substantially larger, with almost the entire MCB-037 intersection containing copper mineralisation above a lower cut-off of approximately 0.2% copper. The higher-grade intercepts are reported to a nominal cut-off of 0.5% copper.

Figure 2: Drill hole MCB-037 highlights

Total depth	From	To	Length	Copper	Gold
m	m	m	m	%	g/t
548.2	19.5	548.2	528.7	0.55	0.19
incl.	19.5	35.0	15.5	1.02	0.07
incl.	93	134.9	41.9	0.87	0.05
incl.	359.9	510.0	150.1	0.86	0.47

Source: Celsius Resources

Figure 3: Schematic cross section of hole MCB-037 and interpreted geology



Source: Celsius Resources

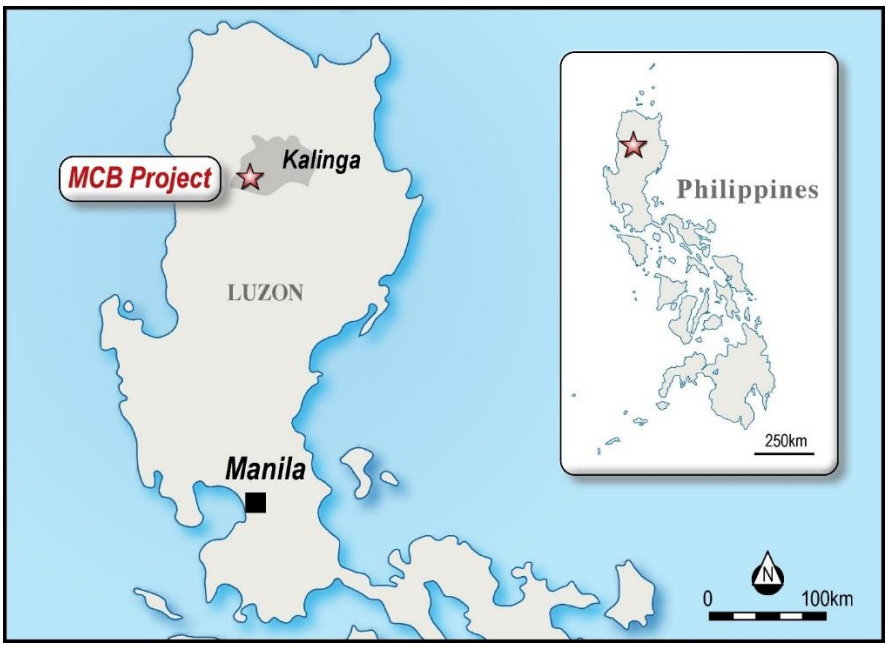
Drilling of hole MCB-038 is underway and is currently at a depth of 579m. This hole is designed to cut across the identified high-grade zones to confirm the geological resource model, as well as providing samples for geotechnical evaluation.

Celsius is modifying the next phase of drilling to focus on the additional shallow lying high-grade copper-gold mineralization, as resources defined here will likely have a positive impact on potential future production options in the planned mine schedule.

MCB scoping study – a refresher

As reported in our note of 2 December 2021, late last year Celsius completed a scoping study of MCB that demonstrated the potential of developing the project as a long-life, low-cost underground mining operation producing high-quality copper-gold concentrate via conventional flotation-based processing techniques. Using US$4.00/lb copper and US$1,695/oz base-case commodity price assumptions, the study concluded a post-tax project $NPV_{8\%}$ of US$464m and an IRR of 31%. The latter compares favourably with the rate of returns typically expected of porphyry projects, a reflection of the high grade of MCB's core versus most porphyry deposits.

Figure 4: MCB is located on the north Philippines island of Luzon



Source: Celsius Resources

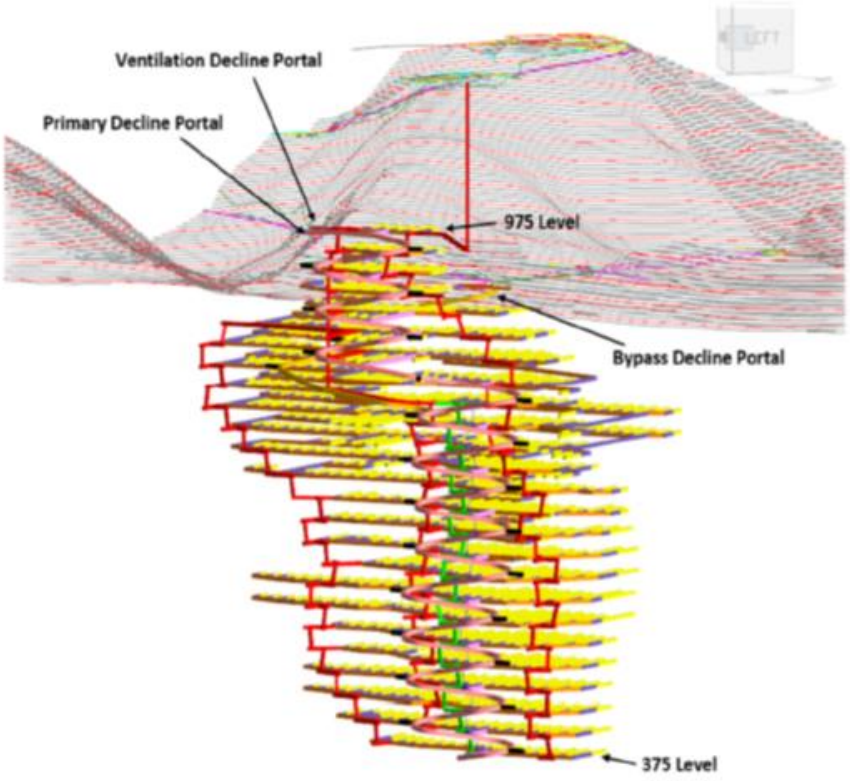
Sub-level open stoping mining envisaged

Earlier last year Celsius had declared a maiden resource estimate for MCB of 314Mt at 0.5% Cu and 0.2g/t Au, within which a high-grade core of 94Mat at 0.8% Cu and 0.3g/t Au was estimated at a higher copper cut-off grade. The optimised mine plan considered in the scoping study focused on a 49Mt portion of the latter grading 0.85% Cu and 0.41 g/t Au, all of which is classified in the higher-confidence indicated category. This equates to just 28% of the project's total currently delineated resource by contained copper (or 56% of the high-grade core).

Mining trade-off studies identified sub-level open stoping as the most technical and cost-efficient mining method given the wide, broader zone of sub-vertical mineralisation, but also given geotechnical considerations. The scoping study contemplated a nominal underground mining rate of 2.3Mt pa, with single decline access to a maximum depth of 600m below the proposed surface portal at RL 975.

The underground mining plan was scheduled to optimise cash flows in the first ten years of operations through preferential mining of the high-grade, sub-vertical core of the deposit above a copper equivalent grade of 0.8%. The decline will then be utilised in the latter years of the operation to access larger tonnages of medium-grade (>0.6% copper equivalent) material adjacent to the high-grade zone.

Figure 5: Scoping study underground mine design



Source: Celsius Resources

Amenable to conventional flotation processing techniques

The scoping study contemplated a conventional process flow sheet for Cu-Au porphyries – milling, rougher flotation, re-grind milling and cleaner flotation. Preliminary metallurgical test work undertaken to date demonstrate the potential for overall copper and gold recoveries of 94% and 79% respectively (across a range of feed grades) to a mixed copper-gold concentrate grading 25.8% Cu and 6.5g/t Au. The concentrate is expected to be free of deleterious elements and thus attractive to smelters.

The scoping study envisaged a plant capacity feed rate of up to 2.4Mt pa. At the assumed average steady-state operating rate of 2.3Mt pa, it predicted average annual production of copper contained in concentrate of 22kt during the first ten years of operations (when >1% Cu grade material is mined and processed), and 16kt over the 25-year life of operation. Gold-in-concentrate production was concluded to average 27koz pa and 19koz pa over the first ten years and full mine life respectively.

Sustainable tailings treatment and storage

The sub-level open stoping mining method contemplated in the scoping study incorporated paste backfill of tailings. A tailings-reclaim paste backfill plant will be installed to produce the required volume of backfill material, drawing upon dry-stacked tailings from a planned tailings filtration plant to be built adjacent. Acid mine drainage prediction testing of two composite tailings samples from the rougher flotation test work suggests that the tailings will not be acid-generating.

Developing a mining and processing operation at MCB will require the refurbishment of a section of the local electricity grid to provide power to the plant and amenities.

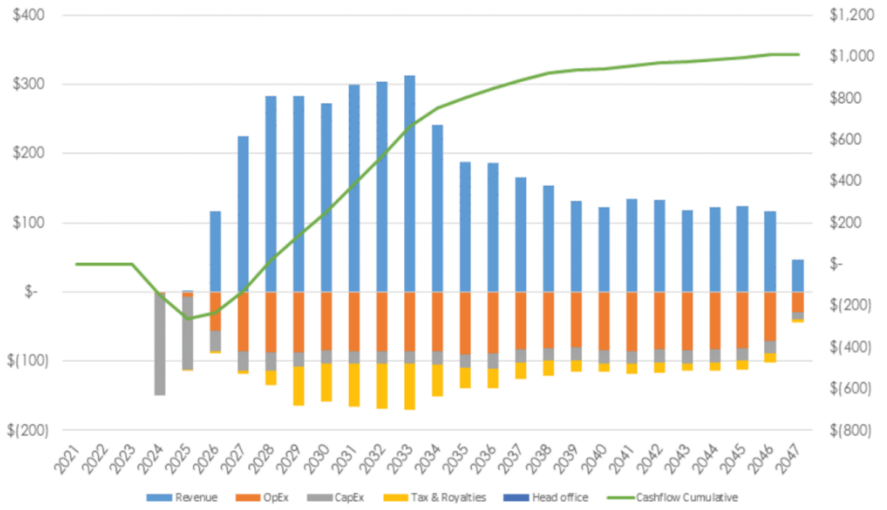
Electrical transmission towers and supply lines installed for use by the nearby Batung Buhay mine in the 1990s are currently being utilised to provide power to local communities. Celsius believes that, once upgraded, this infrastructure could be utilised to supply MCB's estimated 12MW total power requirement.

A portion of the local road network will similarly need upgrading to provide a suitable access route for concentrate transport to the nearest port (Port Samalogue, 180km northwest of the MCB project area).

Economic outcomes and upside potential

The scoping study estimated an initial capital expenditure requirement to construct the project of US$253m, with a deemed accuracy level of +/- 30%. The single largest component is the process and paste plants and associated infrastructure, at US$148m. The two-stage mining plan described above optimises cash flow in the early years such that upfront capital is expected to be repaid in under three years at the company's base-case commodity price assumptions (Figure 6).

Figure 6: MCB scoping study modelled cash flow generation profile (US$m)



Source: Celsius Resources

Operating costs estimates were similarly estimated to an accuracy level of +/ 30%, with metrics derived by desktop studies and industry cost comparisons (Celsius engaged independent technical consultants with specialisms in the key mining and processing disciplines). These input cost driver estimates yield a forecast C1 cash cost output of just US$0.73/lb copper over the first ten years of operations, net of gold credits calculated at US$1,695/oz. The average estimated C1 cash cost (net gold credits) across the full 25-year life of mine is US$1.29/lb.

We believe the post scoping study drilling success – and in particular the high-grade zones identified closer to surface – should have positive implications for the modelled mine schedule as MCB advances through feasibility study, which in turn could enhance the overall project economics compared with the scoping study.

Moreover, given the scoping study considered the exploitation of just over half of the contained copper in the currently-delineated MCB high-grade core resource (and under one third of the contained copper in the project's global resource base delineated at a lower 0.2% copper cut-off) – and noting that significant potential remains to increase the resource given mineralisation is considered open both along strike and down dip of the current limits of drilling – we believe there could be

further upside over time through lifting of average grades at the back end of the proposed mine life and/or mine extension/expansion opportunities.

Next steps

Celsius' near-term priority is completing the current drill programme and updating the project resource model, after which it will appoint a lead manager for the full feasibility study. In parallel with this it is progressing ongoing geotechnical, hydrological, environmental work, the latter including completing the 'Free and Prior Informed Consent' process and EIS with the local community.

Over the coming months the company will begin the 'Declaration of Mine Feasibility' process with the Philippine Authorities and convert the MCB licence from its current Exploration Permit status to a Mineral Production Sharing Agreement (MPSA). It will also look to lock in key infrastructure agreements (roads, ports and power) and further discussions with potential concentrate off-take counterparties.

Other projects progressing

Initial results of drilling at Sagay highly encouraging

Celsius has a second copper-gold project called Sagay located on the central Philippines island of Negros. Similar to MCB, this project's database benefits from significant historic exploration expenditure (cUS$8.5m) by previous owners.

A relatively small-scale (4,400m) drilling programme initiated by Celsius to confirm the general geological interpretation of copper mineralisation has recently been completed. The company reports that the drilling successfully confirmed the broad dip and strike of what it believes is a sizeable porphyry body of mineralisation at depth, but that it also identified new, shallower areas of mineralisation that are considered open. It is awaiting the results of assaying of these shallower drill intercepts before finalising future work programmes.

We believe Sagay could emerge as a substantial porphyry resource, but that it also holds potential for discrete, higher-grade vertical cores of mineralisation to be delineated, similar to MCB.

Opuwo – new approach to metallurgy could unlock substantial value

Celsius holds a 95% interest in the Opuwo cobalt project in north-western Namibia, an asset that pre-dates its acquisition of the Philippines portfolio.

The project hosts a sizeable resource (which last year the company announced a doubling of, to 226Mt grading 0.12% cobalt, 0.43% copper and 0.54% zinc), but past attempts at progressing it through development studies were hindered by what the company now considers to have been a sub-optimal approach to dealing with the project's relatively complex sulphide metallurgy.

Past work focussed on a – likely high-cost – pressure oxidation process route. However, subsequent independent metallurgical study work suggests that there is a high cobalt-zinc association in the orebody (rather than the previously thought association with copper-iron minerals), which opens the possibility of applying a more tailored metallurgical process route (potentially involving more cost and environmentally-efficient hydrometallurgical process technology).

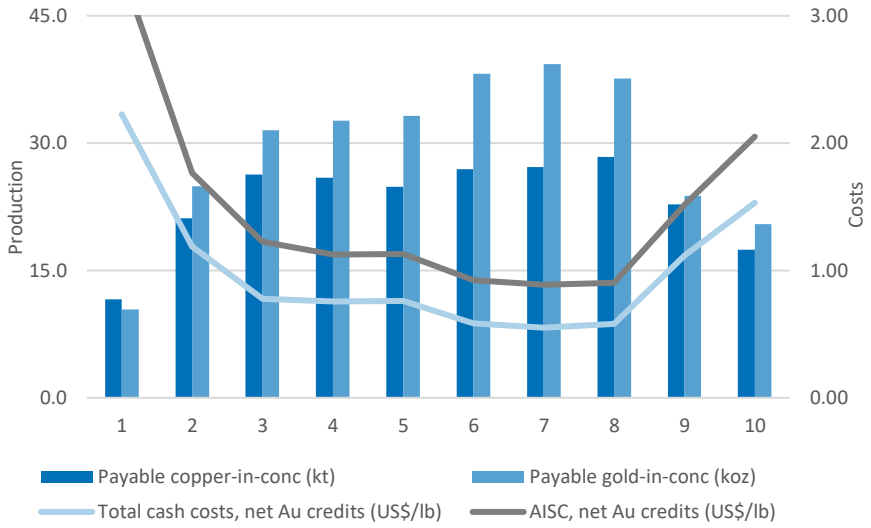
Celsius has commenced a diamond-core drill campaign to provide fresh representative ore samples to undertake a new metallurgical test work programme later this year.

With demand for cobalt rising as the 'green-tech' revolution gathers pace (cobalt is a vital component of most lithium-ion battery technology for electric vehicles) and concerns over concentration of supply from unstable jurisdictions, we think Opuwo holds potentially significant value if its metallurgy can be unlocked given its scale and location in a mining-friendly, politically stable jurisdiction with access to already installed infrastructure.

Valuation

Our A$0.12/share company valuation continues to be based on a risked NPV estimate of the future cash flowing potential of MCB incorporating the key operating and cost parameters concluded by last year's scoping study. At our house commodity price assumptions of US$3.50/lb copper and US$1,650/oz gold, our model forecasts average operating EBITDA of over US$140m pa over the first ten years (for a margin of approximately 60%).

Figure 7: First ten years potential production and cost profile – ARC forecast

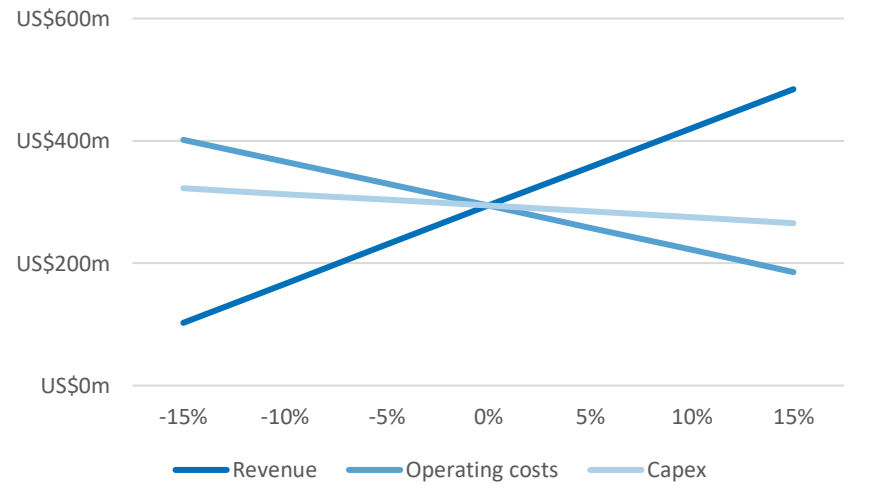


Source: ARC estimates

On this basis we estimate a project level post-tax $NPV_{8\%}$ of US$294m and an IRR of 24%. These outcomes rise to US$527m and 32% respectively if we run our model at current spot copper (US$4.20/lb) and gold (US$1,840/oz) pricing.

Figure 8 below illustrates the sensitivity of our MCB project NPV to revenue, opex and capex flex from our base-case assumptions.

Figure 8: MCP project $NPV_{8\%}$ sensitivity – ARC estimates



Source: ARC estimates

Shares trading at heavy discount to fundamental NPV-based valuation

Our NPV estimate translates to A$0.34 per Celsius share, 17x the group's current share price. Pre-production mining equities typically trade at a steep discount to NPV reflecting the significant hurdles that must be overcome prior to the full assessed value being realised (notably detailed engineering, permitting, financing – which could be dilutive depending on equity levels and pricing – and construction). But we think Celsius' current share price is overly discounting risk – we suggest 0.3x NPV is fair today given the stage of MCB's evolution.

After also incorporating some nominal value for the Sagay and Opuwo projects, our risked target valuation is thus A$0.12/share (Figure 9). This equates to 6x Celsius' current share price – we would expect the market discount to our target to narrow as MCB progresses through feasibility study and permitting/licencing, and with further positive exploration news flow from across Celsius' wider asset base. Longer term we see potential for re-rating closer to our un-risked full NAV as MCB is taken through financing, construction and, ultimately, into production.

Figure 9: Sum-of-the-parts valuation

		Unrisked		Multiple	Risked	
		US$m	A$/sh	x	US$m	A$/sh
MCB project, Philippines	$NPV_{8\%}$	294	0.34	0.3x	88	0.10
Sagay project, Philippines	nominal	10	0.01	1.0x	10	0.01
Opuwo project, Namibia	nominal	10	0.01	1.0x	10	0.01
NAV		**314**	**0.36**		**108**	**0.12**

Source: ARC estimates

The sensitivity tables in Figures 10 and 11 below illustrate how our un-risked and risked company NAV estimate vary with discount rate and copper price assumption.

Figure 10: Un-risked NAV (A$/share) sensitivity to copper price and discount rate

		Copper price assumption				
		$3.00/lb	$3.25/lb	$3.50/lb*	$3.75/lb	$4.00/lb
Discount rate	12%	0.11	0.17	0.23	0.28	0.34
	10%	0.15	0.22	0.29	0.36	0.42
	8%*	0.20	0.28	**0.36**	0.44	0.52
	6%	0.25	0.35	0.45	0.55	0.64
	4%	0.31	0.43	0.55	0.67	0.79

**Valuation base case* *Source: ARC estimates*

Figure 11: Risked NAV (A$/share) sensitivity to copper price and discount rate

		Copper price assumption				
		$3.00/lb	$3.25/lb	$3.50/lb*	$3.75/lb	$4.00/lb
Discount rate	12%	0.05	0.07	0.08	0.10	0.12
	10%	0.06	0.08	0.10	0.12	0.14
	8%*	0.07	0.10	**0.12**	0.15	0.17
	6%	0.09	0.12	0.15	0.18	0.21
	4%	0.11	0.15	0.18	0.22	0.25

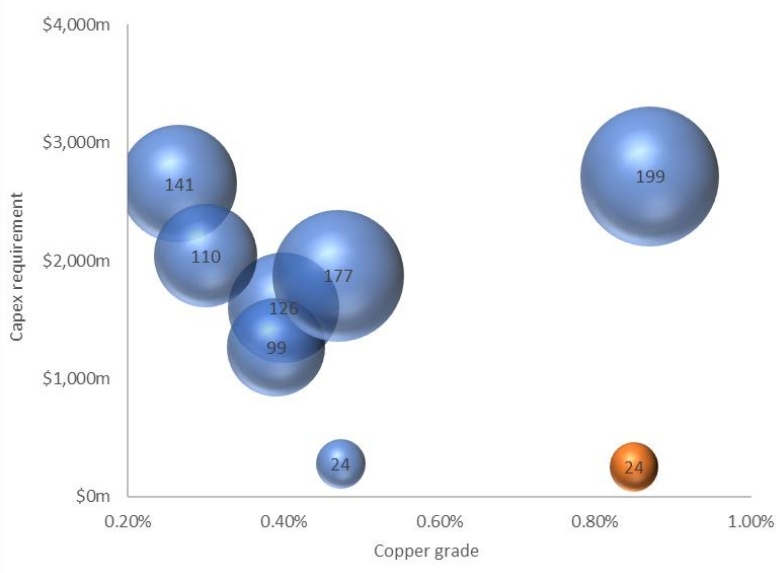
**Valuation base case* *Source: ARC estimates*

Compares favourably against market peers

MCB's significantly above-average copper grades relative to other porphyry projects being assessed by juniors (Figure 12) gives it a significant advantage in terms of attracting construction finance, in our view. MCB's upfront capex requirement (as estimated by the scoping study) is markedly lower than most undeveloped peer projects held by quoted junior companies, a result of its above-average grades (which enable a sustainably low operating cost structure to be achieved at a more modest production scale than might typically be expected of a porphyry project).

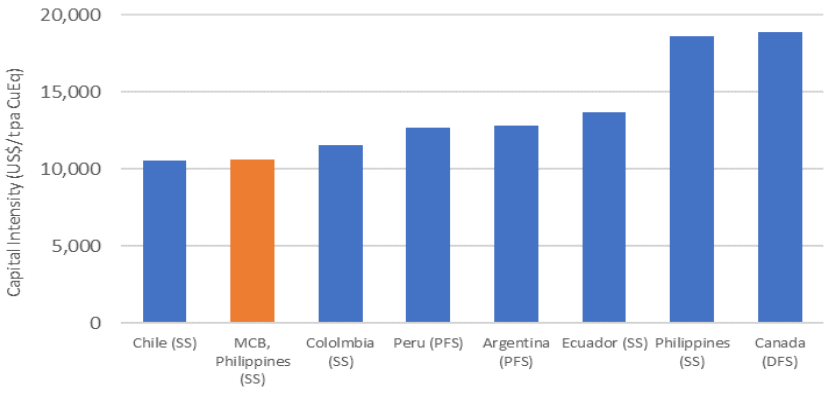
And grade-driven strong early-year cash flows means that the upfront capital outlay could be recovered quickly, a key consideration for potential debt providers. Most other porphyry projects in the market have much greater upfront capital requirements than MCB, and higher capital intensities (Figure 13). In contrast to our view of Celsius and MCB, we think many of these projects may find it difficult to secure construction funding without the help of a larger development partner.

Figure 12: MCB (in orange) ranked against peer copper porphyry projects by copper grade (x-axis), estimated development capital requirement (y-axis) and expected kt pa of copper equivalent production (bubble size)*



**CuEq production calculated at $4.20/lb Cu, $1,840/oz Au Source: Company presentations*

*Figure 13: MCB has a low capital intensity relative to undeveloped porphyry peers**

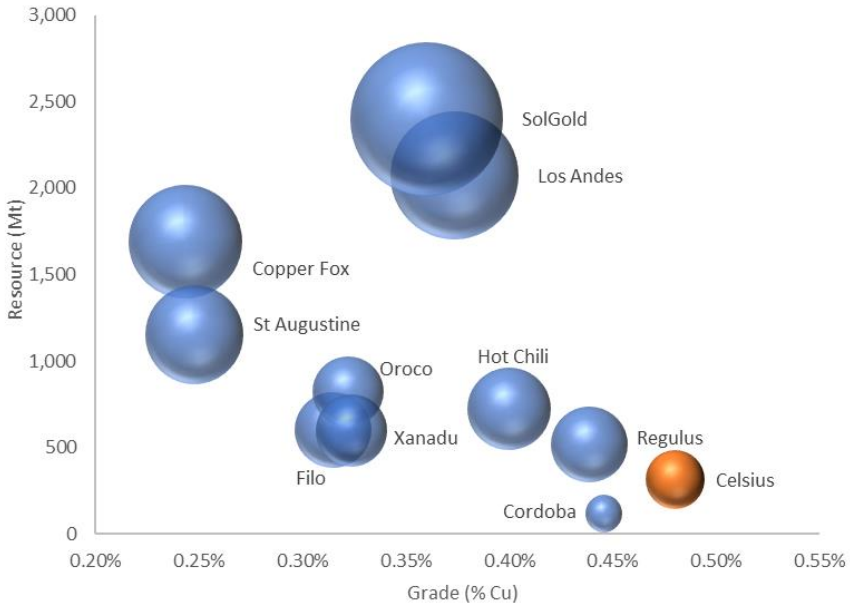


**CuEq production calculated at $4.20/lb Cu, $1,840/oz Au Source: Company presentations*

Yet despite these favourable characteristics, Celsius looks significantly undervalued compared with most other publicly-quoted porphyry project developer peers (Figure 14). At just US$10/t of contained copper equivalent in MCB's current global resource estimate, it is trading at a heavy discount to the average EV/t resource value of US$44/t that we calculate from a selected peer group of ten other independent porphyry project developers.

Applying the peer-group average to MCB's total copper equivalent resources – and adding back our assumed nominal US$20m of value for Celsius' other projects – would imply a fair valuation for Celsius today by this market comparable metric of A$0.12/share. This is in-line with our risked-NPV based valuation.

Figure 14: MCB ranked relative to porphyry developer peers by resources (bubble size represents total contained CuEq metal in resource)



**CuEq production calculated at $4.20/lb Cu, $1,840/oz Au* *Source: Company documents*

Disclaimer

This document has been prepared and issued by Alternative Resource Capital, a trading name of Shard Capital Partners LLP ("Alternative Resource Capital"), which is authorised and regulated by the Financial Conduct Authority (FRN: 538762).

Celsius Resources is a corporate client of Alternative Resource Capital, and Alternative Resource Capital is contractually engaged and paid by Celsius Resources to produce marketing communications on an ongoing basis. In addition, Alternative Resource Capital may from time to time receive additional compensation from Celsius Resources for provision of other advisory services, including fundraising services. This document constitutes a minor non-monetary benefit.

This document is a marketing communication and not independent research. As such, it has not been prepared in accordance with legal requirements designed to promote the independence of investment research.

This document is published solely for information purposes and is not to be construed as a solicitation or an offer to buy or sell any securities, or related financial instruments. It does not constitute a personal recommendation as defined by the Financial Conduct Authority, nor does it take account of the particular investment objectives, financial situations or needs of individual investors. The information contained herein is obtained from public information and sources considered reliable. However, the accuracy thereof cannot be guaranteed.

The information contained in this document is solely for use by those persons to whom it is addressed and may not be reproduced, further distributed to any other person or published, in whole or in part, for any purpose, at any time, without the prior written consent of Alternative Resource Capital. This document is not intended for retail customers and may not be distributed to any persons (or groups of persons) to whom such distribution would contravene the UK Financial Services and Markets Act 2000. Moreover, this document is not directed at persons in any jurisdictions in which Alternative Resource Capital is prohibited or restricted by any legislation or regulation in those jurisdictions from making it available. Persons into whose possession this document comes should inform themselves about, and observe, any such restrictions.

Alternative Resource Capital or its employees may have a position in the securities and derivatives of the companies researched and this may impair the objectivity of this report. Alternative Resource Capital may act as principal in transactions in any relevant securities, or provide advisory or other service to any issuer of relevant securities or any company connected therewith.

Neither Alternative Resource Capital nor any of its directors, officers, employees or agents accept any responsibility or liability whatsoever for any loss however arising from any use of this document or its contents or otherwise arising in connection therewith. The value of the securities and the income from them may fluctuate. It should be remembered that past performance is not a guarantee of future performance. Investments may go down in value as well as up and you may not get back the full amount invested. The listing requirements for securities listed on AIM or ISDX are less demanding and trading in them may be less liquid than main markets. If you are unsure of the suitability of share dealing specifically for you then you should contact an Independent Financial Adviser, authorised by the Financial Conduct Authority.

By accepting this document, the recipient agrees to the foregoing disclaimer and to be bound by its limitations and restrictions.

Shard Capital Partners LLP
23rd Floor,
20 Fenchurch St,
London, EC3M 3BY

T +44 (0)207 186 9900
F +44 (0)207 186 9979
E info@shardcapital.com
W shardcapital.com