

Geological Analysis Report

Announcement Title & Link - [Brumby Ridge Copper Discovery confirmed - 71m @ 2.8% Cu](#)

Company – Cooper Metals Ltd

ASX - CPM

Market Cap - \$16.2mil

Note - Undiluted market cap is reported at the time of announcement.

Headline Intercept

Cooper Metals Hits 71m @ 2.8% Copper including 24m @ 5.4% Copper in Maiden Drill Campaign

Cooper Metals Limited (**ASX: CPM**) announced today that significant assay results confirm a new copper discovery at the Brumby Ridge Prospect within the Mt Isa East Cu-Au Project. These have been very impressive results, along with previously announced intercepts on the 14th November 2013 of **50m @ 1.32% Cu from 80m**.

In the dynamic and ever-changing world of mineral exploration, uncovering economically viable deposits is an event of paramount significance, often compared to "Striking Gold". Recently, Cooper Metals Limited (ASX: CPM), announced the final batch of results of its inaugural drilling program at the Brumby Ridge Project, a key part of their extensive tenement in Queensland's renowned Mt Isa region, most famous for its Copper extraction (Figure 3). While the initial results appear promising, a thorough and nuanced analysis is essential to determine if this discovery meets the rigorous standards of a significant find, especially from an economic perspective. This comprehensive report aims to delve into the details provided, navigate the complexities of copper-gold exploration, and provide a critical evaluation of the Brumby Ridge Project's potential.

The recent announcement by Cooper Metals Limited regarding their discovery at Brumby Ridge, underscored by soil anomalies and geophysical data, has notably influenced the company's market performance. Following the announcement of these results, the company experienced a remarkable surge in its share price, increasing up to **+91%** (\$0.50) within just a few hours. This notable rise reflects a growing confidence among investors and a heightened interest in the company's stock, evidenced by the highest trading volume the stock has ever had. CPM later stabilized, closing the day at **+67%** (\$0.435) after opening at \$0.42.

Is the Brumby copper discovery a Tier 1 or 2 discovery?

It is crucial to recognize the inherent risks associated with investments in the mining sector, which include variables like fluctuations in commodity prices, exploration uncertainties, and operational challenges. Despite the initial optimism surrounding promising discoveries like Brumby Ridge, sustaining an upward trajectory in share price is contingent upon the economic viability of the discovery and the effectiveness of the company's management strategies. These factors play a critical role in navigating the potential setbacks and ensuring the long-term success of the company and its "Discovery".

Cooper Metals Limited's Brumby Ridge Copper Discovery: A Critical Analysis

Is Size the True Measure of a Mineral Discovery's Worth?

The recent announcement by Cooper Metals Limited (CPM) about the Brumby Ridge Prospect, part of the Mt Isa East Cu-Au Project, has garnered significant attention within the mineral exploration sector. The reported assay results, particularly the striking **71 meters at 2.8% copper**, including **24 meters at 5.4% copper**, have stirred some excitement and speculation, its not often grades and widths like these are intersected, especially in the first few holes.

However, in the complex world of mineral exploration, these initial high-grade results are just the beginning of an intricate and detailed evaluation process of an early stage "discovery" or deposits resource.

Discovery Alert has rigorous criteria in assessing new mineral discoveries, which emphasizes the importance of not just initial drill results but also their broader context. This report aims to dissect the Brumby Ridge discovery comprehensively, aligning the analysis with Discovery Alert's benchmarks and focusing on why size, alongside grade, is a critical determinant in a discovery's economic viability. The following lessons are highly insightful and go beyond many investors, including seasoned investors assessment, yet they are simple, however broadly overlooked.

The Brumby Ridge Discovery: A Promising Start - *But Is It Enough?*

The initial drilling results from Brumby Ridge, a part of Cooper Metals Limited's portfolio, are undeniably impressive. The discovery of **71 meters at 2.8% copper, including a segment of 24 meters at a higher 5.4% copper grade**, on top of previously released results announced on 14th November 2023, suggests a potentially significant copper deposit. Figure 1.

When compared against Discovery Alert's benchmark of more than **150gxm AuEq** for a new discovery, these results stand out as promising at a healthy **275gxm AuEq**. However, it's crucial to understand that high-grade results, while indicative of a rich mineral presence, are not solely sufficient in determining the economic viability of a deposit.

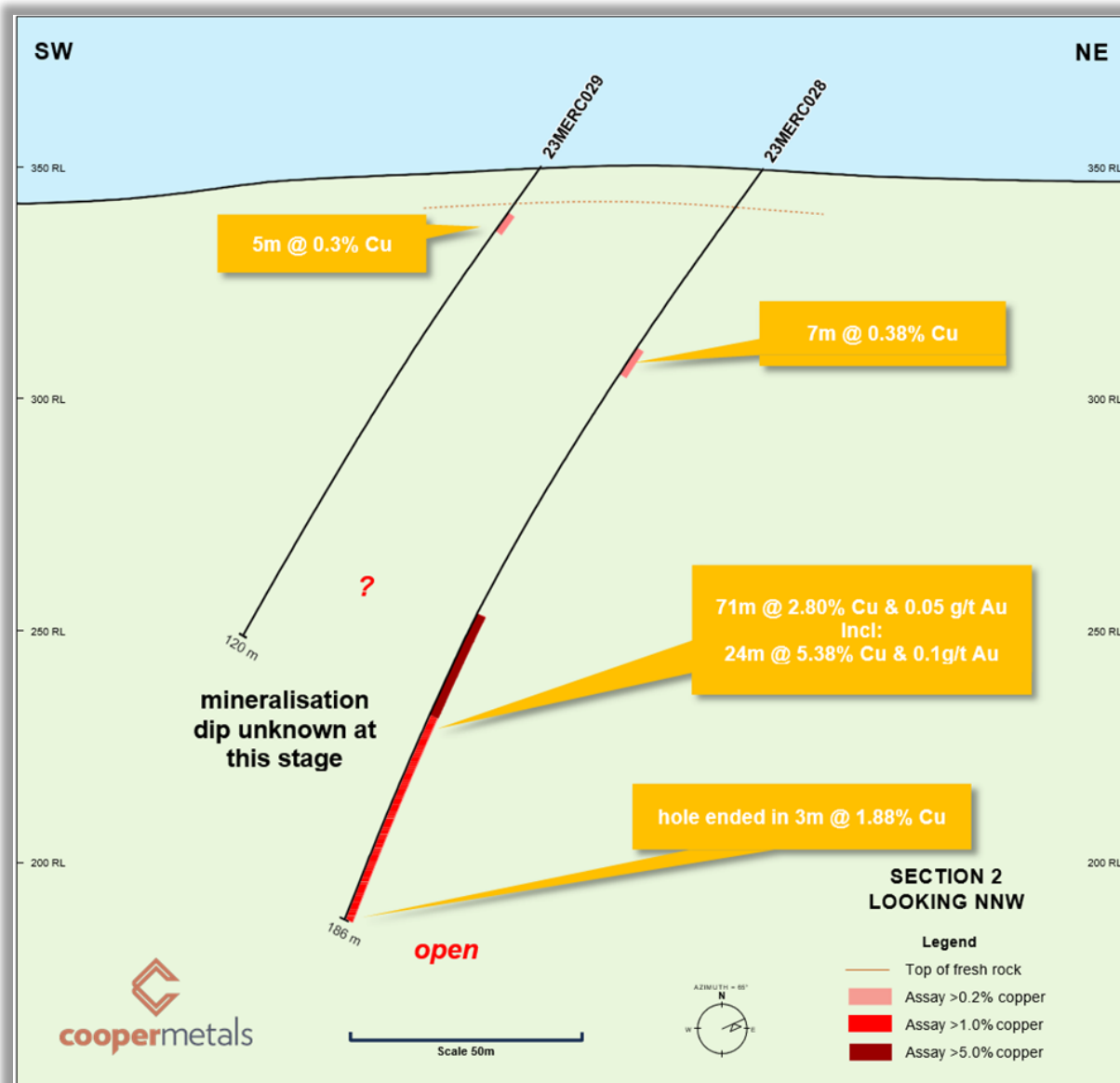


Figure 1: Brumby Ridge Cross Section 2 displaying today's results. The section line in plan is displayed on Figure2.

The journey of mineral exploration is replete with instances where initial high-grade intersections have not culminated in economically viable mines.

What are the key determining factor in these scenarios?

The size of the Brumby Ridge discovery results, albeit promising, necessitate a deeper analysis to ascertain their true potential and economic feasibility.

Size Matters: This is the Crux of Economic Viability in Mineral Deposits.

The evaluation of a mineral deposit's potential heavily hinges on its size and geometry.

This is where the Brumby Ridge discovery, despite its high-grade results, encounters its shortfall.

Dimensions and Continuity

The size and continuity of the identified mineralization is crucial. The dimensions of the mineralization discovered and reported (Figure 2):

Strike - Roughly 100m in confirmed strike, with the potential for 250m based of the soil anomaly. However, hole 23MERC025 is suggesting the mineralisation is become closed of with thickness and grade decreasing.

Depth – Mineralisation has been intersected down ~250m. However, it starts from about 80m depth. The depth extension is where the mineralisation is truly open & remain open for expansion down plunge, therefore, we have assumed 2x the depth extension in our assessment as there is nothing to suggest mineralisation doesn't continues at depth.

Thickness - Average of 70m thickness (not true thickness).

These dimensions raise valid questions around its economic potential to be a significant resource. Economically significant copper deposits often exhibit larger and more consistent dimensions. This discrepancy emphasizes the need for further evaluation and caution.

For a deposit to be classified as a Tier 1 (Giant) or Tier 2 (Major) deposit, it needs to demonstrate an insitu copper quantity significantly larger than what is currently estimated for Brumby Ridge.

Specifically, a Tier 1 deposit is defined as one with over 5 million tonnes of insitu copper, while a Tier 2 deposit requires between 1 to 5 million tonnes. As per current assessments, Brumby Ridge, with its constrained size and scope, aligns more closely with the bottom range of a Tier 3 classification. This category is reserved for deposits housing 100,000 to 1 million tonnes of insitu copper, highlighting a crucial limitation in its potential as a world-class deposit.

This high level assessment, while commonly overlooked even by the most seasoned investors highlights the importance of contextualising results based of their size as opposed to just the headline intercept. Achieving **>150gt AuEq** in your maiden campaign for a discovery hole is not the only factor and it certainly is not the deciding factor, over all else the size of the potential prize is the most significant factor. Many companies can overcome the first hurdle, it is often the second hurdle they fall short of and only achieve the T3 potential at best.

These sorts of discoveries (T3) offer good trading opportunities as many investors are dazzled by the headline numbers offering short term enthusiasm in the the share price.



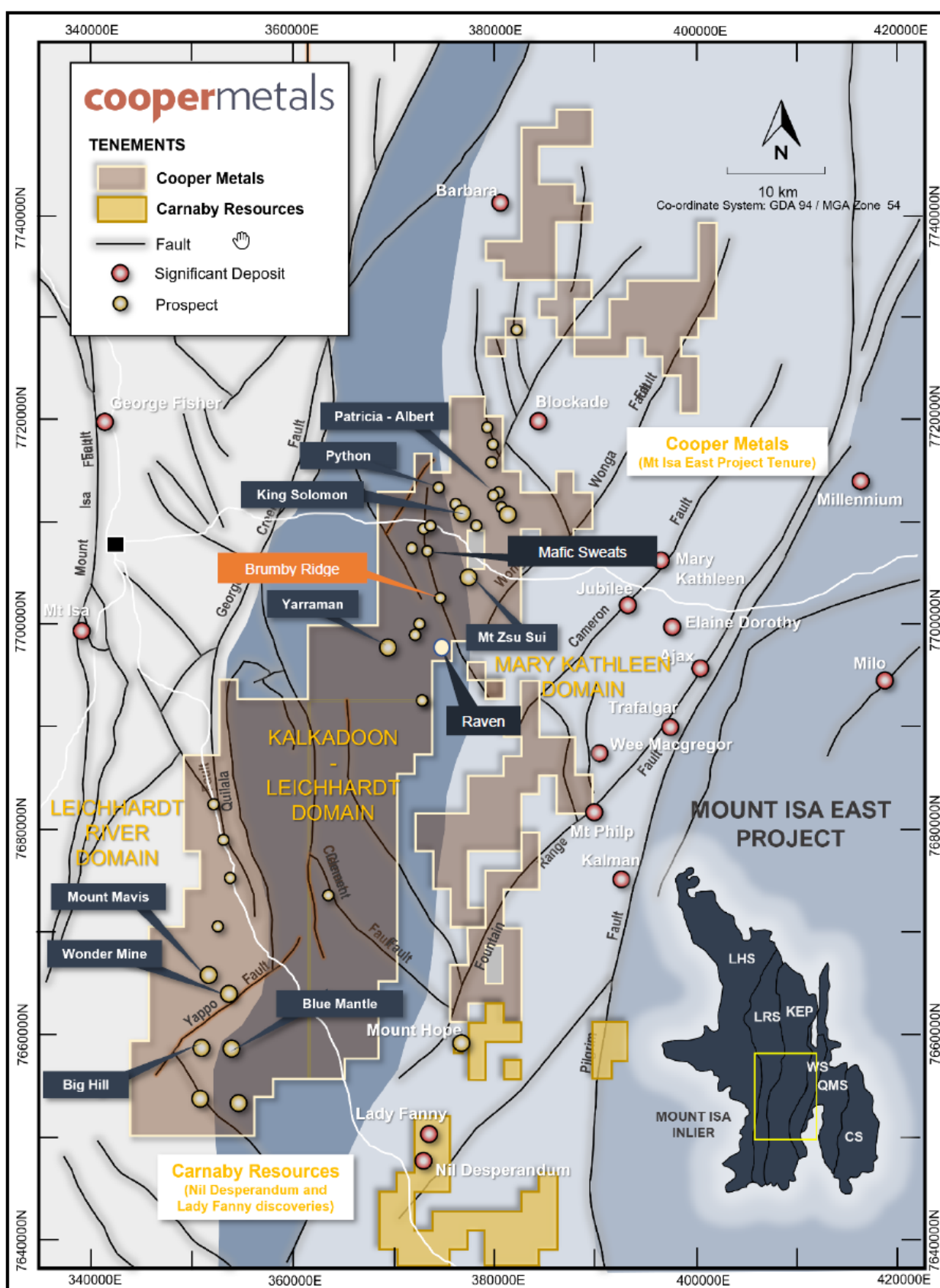


Figure 3: Mt Isa East Project Location over regional geology and main prospects and deposits in the region, including Carnaby Resources Limited delineated Cu-Au MRE.

Contextualizing Brumby Ridge Within the Copper Discovery Landscape of Mt Isa.

Carnaby Resources Limited (ASX: CNB) and its Greater Duchess Copper Gold Project, located near Cooper Metals Limited's Brumby Project, approximately 70km southeast of Mt Isa (Figure 3) in Queensland, offer a relevant comparison. Over the last two years, Carnaby has made three significant discoveries at Nil Desperandum, Lady Fanny, and Mount Hope, forming the basis of their maiden interim Mineral Resource. These discoveries, which remain open for expansion down plunge, are part of ongoing drilling efforts to further assess their potential. The mineralization within the Greater Duchess area primarily falls into the Iron Oxide Copper Gold (IOCG) style, with characteristics leaning towards structurally controlled Iron Sulphide Copper Gold (ISCG). Common features in these deposits include magnetite and K Feldspar alteration halos.

The total maiden Mineral Resource for the Greater Duchess Project stands at 21.8 million tonnes, with a copper grade of 1.3%, 0.2g/t gold, and 1.4% CuEq, amounting to 283,000 tonnes of copper, 148,000 ounces of gold, and 315,000 kt CuEq.

These discoveries were made between December 2021 and September 2022, with the interim Mineral Resource based on 260 RC holes and 106 DD holes, totalling 93,641 meters drilled.

The Brumby Ridge Copper Discovery by Cooper Metals shares similarities with the individual Carnaby's Greater Duchess deposits, both categorized as Tier 3 size resources, indicating a promising yet still-developing potential in this region.

Analysing the geological characteristics of Brumby Ridge is essential for a comprehensive evaluation. When compared with similar Tier 3 discoveries, like Carnaby Resources Limited's Greater Duchess deposits, the constraints of Brumby Ridge become more pronounced. Despite the high-grade results, its size and structural characteristics – particularly the breccia pipe they are reporting it to be – seem limited in strike and width. This limitation is a critical factor in assessing its overall potential and plays a decisive role in its possible classification as a Tier 3 deposit.

Location in Relation to Processing Facilities:

The location of mineral deposits in relation to nearby processing facilities is a critical factor in the development of resources. The recent mineralization discovery at Brumby Ridge benefits significantly from its proximity to existing processing infrastructure and roads. This advantageous positioning minimizes logistical challenges and potential additional costs associated with transporting materials for processing.

However, the feasibility of constructing a dedicated processing plant in the vicinity hinges on the scale of the resource. A considerable size of the deposit would be required to warrant such an investment. The presence of several deposits in the area, similar in both size and mineral composition, further enhances the prospects of the Brumby Ridge Project, suggesting a region rich in resources and conducive to mining operations.

Drilling and Exploration: Beyond the Initial Excitement

The exploration journey of Brumby Ridge has seen the very successful completion of soil sampling, geophysics, RC drilling and the anticipation of assay results for additional drill holes.

The findings from these explorations are pivotal in shaping the understanding of the deposit's potential. Notably, of the five drill holes completed to date, three have hit significant mineralization and ended in mineralized zones. This pattern suggests the presence of a consistent mineralized system, yet it also highlights the need for further exploration to fully grasp the extent and value of the deposit.

The use of downhole electromagnetic surveys (DHEM) at Brumby Ridge is an innovative step towards understanding the deposit's geometry and continuity. However, these techniques, while valuable, cannot replace the need for extensive drilling programs. The planned RC and diamond drilling at Brumby Ridge in the first quarter of 2024, aimed at chasing the higher-grade mineralization at depth and along strike, will be crucial in determining the true size and economic potential of this deposit. The DHEM will be the next clue as to Brumby Ridges size, which will likely show a depth extension.

Moving forward, other vital exploration criteria will include gathering and analysing structural data. This data is essential for accurately determining the geometry of the deposit.

Understanding the deposit's geometry will provide a clearer picture of its dimensions, which is crucial for assessing the extent and potential value of the deposit. A comprehensive analysis of the structural data will enable a more precise evaluation of the deposit's shape, size, orientation, and continuity, factors that are fundamental in guiding further exploration strategies and making informed decisions about the feasibility and economic viability of mining the deposit.

Conclusion

The successful exploration endeavours by Cooper Metals Limited at Brumby Ridge and Carnaby Resources Limited at the Greater Duchess Copper Gold Project exemplify the intricate and promising nature of Tier 3 mineral discoveries. While these discoveries may not yet meet the colossal size requirements of Tier 1 or Tier 2 deposits, their significance in the mining sector cannot be understated.

The proximity of these sites to existing infrastructure, the ongoing drilling and exploration efforts, and the potential for expansion all contribute to their appeal. However, it's crucial to approach such opportunities with a careful understanding of the inherent risks and the economic viability required for long-term success.

Discovery Alert recognizes the potential of these Tier 3 opportunities, not only for their mineral prospectivity but also for their appeal in the trading market. The broader market often overlooks the size aspect in early evaluations, focusing instead on the immediate potential. This tendency can create lucrative short-term trading opportunities, as these discoveries often generate significant excitement and are perceived as the "next big thing" in the market.

Discovery Alert is actively working on leveraging these opportunities, ensuring a strategic approach to capitalize on these emerging prospects. As part of our ongoing development of Discovery Alerts service, we are studying opportunities around T3 discoveries in order to alert subscribers of these potential short term trading opportunities.

Discovery Alert's AI-Powered Market Screener

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End

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