

Overview of the Business Segment IR Meeting on the Copper Business

1. **Date:** Thursday, April 13, 2023, 13:30 to 15:00

2. **Presenters:** Satoshi Koyama: Group CEO, Mineral Resources Group and Division COO, Mineral Resources Investment Div.
Taro Abe: General Manager, Base Metals Dept., Mineral Resources Investment Div., Mineral Resources Group

Questions and Answers

Q. How much capital have you invested in the copper business, including Quellaveco? Also, could you tell us about the future of this business? Do you expect revenues to decline over time as the grade of copper falls?

A.

- Total investment in the development of Quellaveco (100% basis) to date is around US\$5.5 billion. We cannot disclose specific figures, including for existing projects, but about half of all investments by the Mineral Resource Group is in the copper business.
- Generally speaking, at copper mines, the ore grade tends to decline as mining progresses, and with it, profit margin would decline as well. However, we plan to expand our equity-basis copper production volume going forward. The full start of production at Quellaveco will provide a sizable contribution to revenues, and at the same time, we will be working to maintain and expand our equity-basis production volume through other projects.

Q. Of your existing copper projects, which do you think have significant potential for increasing production or further development going forward?

A.

- All of our existing projects have options for maintaining or expanding production volume. Anglo American Sur, in particular, possesses abundant resource deposits, so we believe it has major potential for future expansion. As shown on the slide titled “MC’s Copper Business Strategy Based on the External Environment,” the reserves of our existing assets total about 9 million tons of copper content. Our attributable share of Anglo American Sur is included in that total.

Q. What is your view of the risk of rising royalties due to tax reforms in Chile? What impact do you expect these reforms to have on project expansion?

A.

- Over the last year in Chile, royalties have been the subject of ongoing debate that has included input from the industrial sector. Some reports suggest that royalties could be set at nearly 50%. Negotiations with industry players are now advancing toward finalization*.
- The rise in royalties will negatively affect our revenues. However, it is important to compare this effect with tax rates in other countries. In light of this, if the debate about tax reform in Chile settles the way it currently seems to be going, we do not expect the international competitiveness of the Chilean copper business to be largely damaged. From the government's perspective, copper is the country's greatest export and an important source of foreign currency. So, given that, and considering conditions in neighboring Peru, we think that they will set rates at a realistic level.

(*On May 17, 2023, the Chamber of Deputies of Chile approved a new mining royalty bill to set the overall tax burden at 46.5%, with the limit for producers of less than 80,000 metric tons of fine copper at 45.5%.)

Q. You said that you will increase your equity-basis production in the copper business. For expansion under Anglo American Sur, do you expect activity involving the undeveloped part of the Los Bronces mine, or are there other reserves that could be developed? Could you tell us about the potential for expansion at Quellaveco and when that could happen?

A.

- At Anglo American Sur, we will first increase production mainly by expanding the Los Bronces open pit. From there, over the long term we aim to develop the undeveloped portion of Los Bronces through underground mining. I won't go into the specifics of the development timeline.
- At Quellaveco, we expect average annual production of 300,000 tons (100% basis) over the first five years of production. As expected for copper mines in general, the grade of copper will likely decline over time, so we are considering options for maintaining or expanding production by expanding mining and plant operations. During the current fiscal year, we are first concentrating on achieving nameplate capacity production. The production guidance announced by Anglo American is 310,000 to 350,000 tons (100% basis) in 2023, and we are in discussions with Anglo American to aim for the top end of this range.

Q. For the Los Bronces expansion, I understand that there are abundant resource deposits in the area planned for underground mining, but development there has not yet begun. Is this due to some kind of problem?

A.

- The presence of resource deposits in the area designated for underground mining represent upside potential. However, there are a variety of technological options for underground mining, and we are thoroughly

reviewing these, which takes time. Also, we are concurrently advancing preparations for permits.

- It is true that, in general, getting the necessary permits and approvals for underground mining is becoming more difficult compared to the past, but we feel we have a duty to supply the abundant resources of the site to the world and will work together with Anglo American.

Q. Speaking of the need for permits and approvals, Los Bronces is neighbored by mines owned by other companies with whom you will need to cooperate. Where does progress stand on that front?

A.

- The permits and approvals we previously mentioned are those related to the options for expansion via underground mining. Your question pertains to expansion options for the open pit. For the open pit, we are already working in collaboration with the companies running the neighboring mines where possible.

Q. What initiatives are you implementing in the copper business that pertain to the EX-related investment mentioned in Midterm Corporate Strategy 2024? Could you tell us about the level of management resources you expect to allocate to the copper business going forward, including the potential for increasing your stake in projects? Also, under the value-added cyclical growth model, how is the copper business positioned within the overall mineral resources business?

A.

- We will advance focused investments as needed to maintain and expand the production of copper as a key resource for EX. The investments will be funded by the cash flows generated by the projects themselves and supplemented by cash outflows from MC as necessary.
- As for new copper projects, we are not currently at a point where we can disclose specific projects' names, but we are keeping a close watch on several projects with an eye toward investment. We seek to proactively invest in outstanding projects that meet the Mineral Resources Group's strategic and profitability requirements.
- After recording major impairment losses in the fiscal year ended March 2016, the Mineral Resources Group has worked to optimize its portfolio, selling more than half of the assets it held at the time. The cash generated from these sales has been invested in new growth, including the Quellaveco copper mine.
- We are currently conducting market testing for potential divestment of two of BMA's coal mines. If we do decide to divest, we will invest the cash generated by the sales in new growth fields, such as copper and battery-related resources.
- We expect operating cash flows generated by existing businesses as well as cash generated through asset replacement to provide all the cash necessary for the investments the Mineral Resources Group will make.

Q. Speaking of re-profiling the portfolio for the future, are you aiming to get into battery metals? What are your strategic decision criteria for battery metal projects? Why have you not yet reached a decision to get involved in projects in this area despite the market consensus that has formed regarding the importance of battery metals?

A.

- As for battery-related minerals, not only mining companies but also OEM companies and other players are looking for potential projects, especially for the critical minerals like nickel and lithium.
- Looking at nickel, MC has a 15% stake in the Turnagain nickel deposit development project in British Columbia, Canada, that is in a pre-feasibility study phase.
- Opportunities for investment in nickel are also limited due to geopolitical risk. We used to have investments in development projects in Indonesia. Today, however, development in Indonesia is currently dominated by Chinese companies.
- When starting up new projects going forward, access to renewable energy will be important as well as the location where we could secure both national/regional safety.
- As demand for lithium is expected to see explosive growth going forward, OEM companies are aggressively moving to secure their resources. However, when we look at the production process of lithium, including refining, there are constraints due to geopolitical factors for this critical mineral as well.
- We have not yet executed any investments in lithium, but we are considering multiple projects while taking into account technological risk, environmental risk in producing countries and the state of development of battery supply chains.

Q. In a few years, the balance of supply and demand for copper is expected to deteriorate, leading to a sharp increase in copper prices. What do you expect to happen if balance does deteriorate significantly?

A.

- I cannot tell you our long-term copper price forecasts, but across the industry in general, the grade of copper ore will decline, so companies will need to increase throughput and ore extraction, and the production costs of mining will increase overall.
- Due partly to inflation, the profitability of new projects is also being impacted significantly by rising costs. Keeping profit margins where they have been will require higher copper prices.
- Also, copper supply is generally expected to remain tight, even if some projects that are currently unlikely to proceed could be developed as a result of technological advances and rise in copper prices due to tightening supply. In this context, MC—with its portfolio of numerous outstanding, highly cost-competitive projects as well as the successful start of production at

Quellaveco—is well-positioned to steadily take in revenues.

Q. Please tell us your initiatives with Jetti and CiDRA, which have been cited as offering new technologies for improving copper recovery rates.

A.

- Jetti possesses technologies that improve the recovery ratio from low-grade ore and is advancing toward commercialization.
- CiDRA, meanwhile, has technology that enables the recovery of copper from ore particles that are coarser than usual.
- We are working with both Jetti and CiDRA not only to improve copper recovery ratio, but also to improve the production more sustainable way.

Q. What is the IRR for the Quellaveco copper mine? By my estimation, it seems that for the copper business the return on investment is low among the mineral resources businesses. Will this improve with the start of production at the Quellaveco copper mine? Will it be difficult to improve if there is no expansion at the Los Bronces copper mine?

A.

- Although we will refrain from disclosing specific revenue forecasts and IRR, the unit cost (C1 costs) of Quellaveco are at the 100¢/lb level. Even based on full costs that include other costs, we can still turn a profit considering the current price of copper is around 400¢/lb.
- Regarding the Los Bronces copper mine, we have expanded and extended the life of the current open-pit operation and are now examining its future potential.
- Our basic policy is to make effective use of our owned resource deposits.

Q. I realize that an important factor behind the successful delivery of Quellaveco is that the project did not incur cost overruns during its development. Some other mines that were being developed at the same time as Quellaveco incurred cost overruns due in part to pandemic-related factors. How were you able to keep Quellaveco on budget? Could you explain the strengths of MC that underpinned this success?

- The first main point is that we managed pandemic-related costs. During the early stages of the COVID-19 pandemic in Peru, we deployed significant manpower and funds to implement extensive measures to protect the health and well-being of our workers and their family. At the end, this prevented the spread of infections onsite, and of the total US\$5.5 billion in construction costs, pandemic-related costs were around US\$0.6 billion.
- Another major point is that we took the time needed to carefully examine our development plans before deciding to proceed the construction. For example, because we made detailed plans regarding the timing of getting

quotes for and the ordering and purchase of equipment and materials, we were able to lock in procurement costs before market prices surged.

- In addition, our relationships with local communities were incredibly important, because delivering equipment and materials from the ports to the Quellaveco Mine entailed long-distance land transport. We had promoted close engagement with local communities and government over the long term to address the concerns and demands of our host communities before we started full development of the mine.
- We believe that the project stayed on track as a result of the work we put into the preparation necessary to ensure smooth project development.

Q. Which of the assets owned have received The Copper Mark? How important is The Copper Mark certification for customers in the copper industry?

A.

- Several of MC's copper mines have already received The Copper Mark certification. There is indeed a trend across the industry to try to acquire certification, and we are continuously working to assess how end users in the copper supply chain perceive the certification and how it impacts sales. Certification is very important from the perspective of assuring trust in copper production processes, and our policy is to decide how to handle it through discussion with our partners.

Q Could you tell us about the operations of the Quellaveco copper mine going forward? Copper mine operations are occasionally impacted by water shortages, snow, lightning and other such issues. Since you conducted detailed assessments of not just development risks but also operational risks at the feasibility study stage, do you think you will be able to avoid some of those problems?

A.

- It is difficult to control the impact of weather events during the operations. Regarding the issue of water shortages, however, in addition to measures to maintain stable water intake, we are steadily taking measures to recycle as much water as possible within the site.
- As for other risks, I will not deny that there have already been some difficulties since we've started operations, but none have become critical problems. We expect to be able to achieve nameplate capacity production from this year, in line with our initial projections.
- While we will need to be constantly vigilant regarding political risks, we have so far been able to adequately manage the technical risks related to operations.