

February 22, 2022

**Kamoa Copper to expand processing capacity of Kamoa-Kakula's Phase 1 and Phase 2 concentrators by 21%, to a combined total of 9.2 million tonnes of ore per year**



**Copper production from Kamoa Copper's first two phases projected to exceed 450,000 tonnes per year by Q2 2023, positioning Kamoa Copper as the world's fourth largest copper producer**



**Construction of Kamoa-Kakula's Phase 2 concentrator almost complete and early-stage commissioning activities underway; first concentrate production expected in April 2022**



**Engineering and early works for the Phase 3 expansion progressing quickly, with a third, significantly larger concentrator expected to be commissioned in Q4 2024**

**KOLWEZI, DEMOCRATIC REPUBLIC OF CONGO – Ivanhoe Mines (TSX: IVN; OTCQX: IVPAF) Co-Chairs Robert Friedland and Yufeng “Miles” Sun announced that Kamoa Copper has approved a de-bottlenecking plan for Kamoa-Kakula to increase the combined design processing capacity of the Phase 1 and Phase 2 concentrator plants by approximately 21%, to 9.2 million tonnes of ore per year (Mtpa), up from 7.6 Mtpa, once steady-state production is achieved at both concentrators.**

**The de-bottlenecking initiative is expected to increase Kamoa-Kakula's Phase 1 and Phase 2 annual copper output to **more than 450,000 tonnes by Q2 2023** — **positioning Kamoa-Kakula as the world's fourth largest copper producer.****

**Mark Farren, Kamoa Copper's CEO, said: “Kamoa-Kakula is blessed with an incredible endowment of high-grade copper resources. Given that our underground mine development and ore production are both progressing well ahead of schedule, the plant expansion will allow the operations team to process significantly more high-grade copper ore directly from the Kakula Mine in the years ahead.**

“Our orebody has a huge advantage in allowing us to adapt our mining cut-off to mine larger tonnages very efficiently, while maintaining grades above a desired level. The expansion also provides the team with the flexibility to utilize our surface stockpiles, for which the mining is already paid for, that totalled more than 4.4 million tonnes grading 4.61% copper at the end of January.”

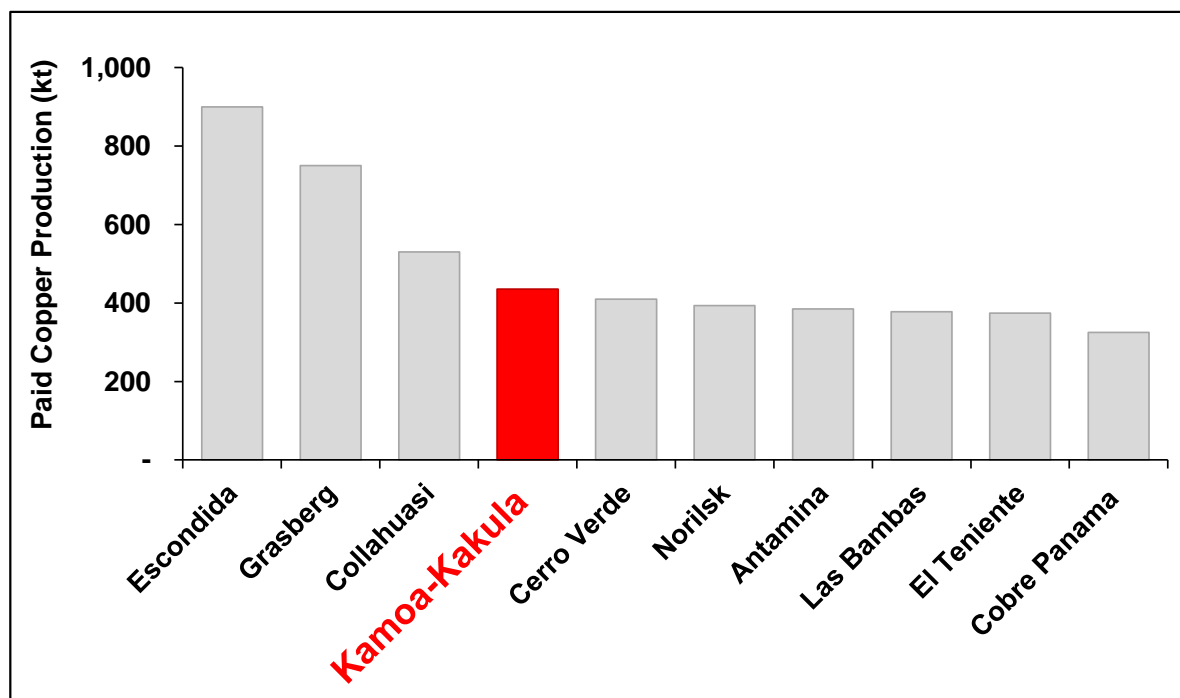
Construction of Kamoakakula’s Phase 2, 3.8-Mtpa concentrator plant almost is complete with early-stage commissioning activities now underway. Hot commissioning of the concentrator with first ore and initial copper concentrate production are both on track for April 2022.

Engineering and early works for the Phase 3 expansion, including a new box cut and twin declines to access new mining areas, is progressing quickly. A third, significantly larger concentrator is being designed and is expected to be commissioned in Q4 2024. An updated pre-feasibility study, including the Phase 3 expansion, is expected in Q3 2022. Also underway are early works on a direct-to-blister flash smelter at Kamoakakula that will incorporate leading-edge technology supplied by Metso Outotec of Finland, and have a nameplate capacity of 500,000 tonnes a year of approximately 99%-pure blister copper.

The Phase 1 concentrator currently is running at a throughput that is in excess of its 3.8-Mtpa design capacity **by more than 22%**, with 112% of design throughput achieved in January. **Copper recoveries of above 87%** also are consistently being achieved that are in excess of design recovery of 85.6%, depending on feed grade, with January’s recoveries approximately 2.7% higher.

Despite the Phase 1 concentrator incurring significant downtime for critical tie ins and changes required for the commissioning of the Phase 2 concentrator, the copper in concentrate produced in January totalled **18,824 tonnes** – almost the same as December’s record production of **18,853 tonnes**. January’s impressive operating performance of the Phase 1 concentrator is continuing in February. On February 7th, the concentrator set a new daily ore throughput record with 13,498 tonnes milled.

**Figure 1: Kamo-Kakula’s base-case, pro-forma copper production (after de-bottlenecking is complete) relative to the world’s projected top 10 producing mines in 2022 by paid copper production.**



Source: Company filings, Wood Mackenzie (February 2022). Note: Kamo-Kakula production of 435 kt paid copper production, or 450 kt copper in concentrate, is based on expected Phase 1 and 2 steady state production, following de-bottlenecking of both Phase 1 and 2 concentrators.

**Steve Amos, Ivanhoe Mines’ Head of Projects, DRC, commented: “After successfully operating the Phase 1 concentrator for more than eight months, we’ve identified a number of relatively minor modifications to the concentrator that should increase ore throughput from the current design of 475 tonnes per hour to 580 tonnes per hour. These modifications include increasing the diameter of a number of pipes, replacing a number of motors and pumps with larger ones and installing additional flotation, concentrate-thickening, concentrate-filtration and tailings-disposal capacity.**

**“We expect the de-bottlenecking project to cost approximately US\$50 million and take approximately 12 months to complete. These modifications will allow the team to consistently operate the concentrator plant at the increased throughput without compromising plant availability, copper recovery or copper concentrate grade. Engineering design is under way and procurement of long-lead items already has started. We expect to be in a position to increase Kamo-Kakula’s combined processing capacity to 9.2 million tonnes of ore a year by Q2 2023.”**

**As announced earlier this year, the 2022 production guidance for the Kamo-Kakula Copper Complex is between 290,000 to 340,000 tonnes of copper in**



concentrate. The figures are on a 100%-project basis and copper reported in concentrate is prior to refining losses or deductions associated with smelter terms.

**The Kamo-Kakula Mining Complex, with the Phase 1 and Phase 2 concentrator plants circled in red.**



**Another view of the Kamo-Kakula Mining Complex, with the Kakula North ore stockpiles in front and the Phase 1 and Phase 2 concentrators in the rear.**





**Commissioning team observing the delivery of first ore to Kamo-Kakula's Phase 2 high-pressure-grinding-rolls (HPGR) stockpile on February 18th.**



**Assembly of Kamo-Kakula's Phase 2 flotation cells now is complete and early-stage commissioning activities are underway.**





**Mill operator Rachel Museka, collecting pulp-density samples at Kamoakakula's Phase 1 concentrator.**



**Gracia Mbaka Indundu, Senior Operator, at the first two concentrate filter presses, which were supplied by Metso Outotec of Espoo, Finland.**





**Priscille Mandandj, Rachel Museka, Esther Kabiz and Flora Kaj Somp, celebrating the completion of construction of the Phase 2 ball mills.**



**Excavating crew at Kamoakakula's new box cut for the twin declines that will provide access to the Phase 3 mining areas. (L-R) Katshaba Gracien, Milto Bikos, Nkulu Mwepu, Maseo Kabey, Mandew Jean, and Mutomb Jasue.**





**Excavation work is advancing quickly at Kamoakakula's new box cut for the twin declines that will provide access to the Phase 3 mining areas.**



### **About the Kamoakakula Copper Complex**

**Kamoakakula is the world's fastest growing major copper mine. Kamoakakula began operations in May 2021 and produced approximately 106,000 tonnes of copper in concentrate in 2021. Kamoakakula's 2022 production guidance is between 290,000 to 340,000 tonnes of copper in concentrate.**

**Based on independent benchmarking, the project's phased expansion scenario to 19 Mtpa would position Kamoakakula as the world's second-largest copper mining complex, with peak annual copper production of more than 800,000 tonnes.**

**The Kamoakakula Copper Project is a joint venture between Ivanhoe Mines (39.6%), Zijin Mining Group (39.6%), Crystal River Global Limited (0.8%) and the Government of the Democratic Republic of Congo (20%). A 2020 independent audit of Kamoakakula's greenhouse gas intensity metrics performed by Hatch Ltd. of Mississauga, Canada, confirmed that the project will be among the world's lowest greenhouse gas emitters per unit of copper produced.**



## Qualified Persons

Disclosures of a scientific or technical nature regarding development scenarios at the Kamo-Kakula Project in this news release have been reviewed and approved by Steve Amos, who is considered, by virtue of his education, experience and professional association, a Qualified Person under the terms of NI 43-101. Mr. Amos is not considered independent under NI 43-101 as he is Kamo-Kakula Copper's Head of Projects. Mr. Amos has verified the technical data disclosed in this news release.

Ivanhoe has prepared an independent, NI 43-101-compliant technical report for the Kamo-Kakula Project, which is available on the company's website and under the company's SEDAR profile at [www.sedar.com](http://www.sedar.com):

- Kamo-Kakula Integrated Development Plan 2020 dated October 13, 2020, prepared by OreWin Pty Ltd., China Nerin Engineering Co., Ltd., DRA Global, Epoch Resources, Golder Associates Africa, KGHM Cuprum R&D Centre Ltd., Outotec Oyj, Paterson and Cooke, Stantec Consulting International LLC, SRK Consulting Inc., and Wood plc.

The technical report includes relevant information regarding the assumptions, parameters and methods of the mineral resource estimates on the Kamo-Kakula Project cited in this news release, as well as information regarding data verification, exploration procedures and other matters relevant to the scientific and technical disclosure contained in this news release.

## About Ivanhoe Mines

Ivanhoe Mines is a Canadian mining company focused on advancing its three principal projects in Southern Africa: the development of major new, mechanized, underground mines at the Kamo-Kakula copper discoveries in the Democratic Republic of Congo and at the Platreef palladium-rhodium-platinum-nickel-copper-gold discovery in South Africa; and the extensive redevelopment and upgrading of the historic Kipushi zinc-copper-germanium-silver mine, also in the Democratic Republic of Congo.

Kamo-Kakula began producing copper concentrates in May 2021 and, through phased expansions, is positioned to become one of the world's largest copper producers. Kamo-Kakula is being powered by clean, renewable hydro-generated electricity and is projected to be among the world's lowest greenhouse gas emitters per unit of metal produced. Ivanhoe Mines has pledged to achieve net-zero operational greenhouse gas emissions (Scope 1 and 2) at the Kamo-Kakula Copper Mine. Ivanhoe also is exploring for new copper discoveries on its Western Foreland exploration licences in the Democratic Republic of Congo, near the Kamo-Kakula Project.

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## Forward-looking statements

Certain statements in this release constitute “forward-looking statements” or “forward-looking information” within the meaning of applicable securities laws. Such statements and information involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the company, its projects, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as “may”, “would”, “could”, “will”, “intend”, “expect”, “believe”, “plan”, “anticipate”, “estimate”, “scheduled”, “forecast”, “predict” and other similar terminology, or state that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved. These statements reflect the company’s current expectations regarding future events, performance and results and speak only as of the date of this release.

Such statements include without limitation, (i) statements regarding plans to expand processing capacity of Phase 1 and Phase 2 concentrators by 21%, to a combined total of 9.2 million tonnes of ore per year; (ii) statements regarding the copper production from the first Kamoia Copper’s two phases projected to exceed 450,000 tonnes per year by Q2 2023, positioning Kamoia Copper as the world’s fourth largest copper producer; (iii) statements regarding hot commissioning of the Phase 2 concentrator with first ore and initial copper concentrate production are both on track for April 2022; (iv) statements regarding the 2022 production guidance for the Kamoia-Kakula Copper Complex is between 290,000 to 340,000 tonnes of copper in concentrate; (v) statements regarding expectations that the de-bottlenecking project will cost approximately US\$52 million and take approximately 12 months to complete; (vi) statements regarding the Phase 3 expansion is expected to be commissioned in Q4 2024; (vii) statements regarding an updated pre-feasibility study for the Kamoia-Kakula Project, including the Phase 3 expansion, is expected in Q3 2022; (viii) statements regarding Kakula is projected to be the world’s highest-grade major copper mine, with an initial mining rate of 3.8 Mtpa at an estimated, average feed grade of more than 6.0% copper over the first five years of operations and 5.9% copper over the initial 10 years of operations; (ix) statements regarding based on independent benchmarking, the project’s phased expansion scenario to 19 Mtpa would position Kamoia-Kakula as the world’s second largest copper mining complex, with peak annual copper production of more than 800,000 tonnes; and (x) statements regarding Kamoia-Kakula will be among the world’s lowest greenhouse gas emitters per unit of copper produced.

Forward-looking statements and information involve significant risks and uncertainties, should not be read as guarantees of future performance or results and will not necessarily be accurate indicators of whether or not such results will be achieved. A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements or information, including, but not limited to, the factors discussed below and under “Risk Factors”, and elsewhere in this release, as well as unexpected changes in laws, rules or regulations, or their enforcement by applicable authorities; the failure of parties to contracts with the company to perform as agreed; social or labour unrest; changes in commodity prices; and the failure of exploration programs or studies to deliver anticipated results or results that would justify and support continued exploration, studies, development or operations.



Although the forward-looking statements contained in this release are based upon what management of the company believes are reasonable assumptions, the company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this release and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this release.

The company's actual results could differ materially from those anticipated in these forward-looking statements as a result of the factors set forth below in the "Risk Factors" section in the company's 2021 Q3 MD&A and its current annual information form.